

MINFILE NUMBER: **082FNE001**

NATIONAL MINERAL INVENTORY:

NAME(S): **AILS**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 31 48 N
LONGITUDE: 116 23 58 W
ELEVATION: 2000 Metres

NORTHING: 5486549
EASTING: 543458

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Molybdenum Lead Tungsten Tin

MINERALS

SIGNIFICANT: Molybdenite Galena Scheelite Stibnite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stratiform Vein
CLASSIFICATION: Skarn Porphyry
TYPE: K07 Mo skarn L05 Porphyry Mo (Low F- type)
 L07 Porphyry W I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Biotite Hornfels
Siliceous Siltstone
Quartzite
Phyllite
Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The property is underlain by siltstones, quartzites and phyllites of the Proterozoic Aldridge and Creston formations (Purcell Supergroup), intruded by a small quartz monzonite stock of possible Cretaceous age. the sediments adjacent to the intrusion have been altered to produce concentric zones of biotite hornfels and siliceous siltstone. mineralization in the form of molybdenite, scheelite, stibnite and galena occur in a narrow zone near the contact of the intrusion.

BIBLIOGRAPHY

EMPR ASS RPT 8509
EMPR OF 1991-17

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/16

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE002**

NATIONAL MINERAL INVENTORY:

NAME(S): **TRUE BLUE (L.4859)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 53 06 N
LONGITUDE: 116 57 28 W
ELEVATION: 1800 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5525845
EASTING: 503033

LOCATION ACCURACY: Within 500M

COMMENTS: Located east of Kootenay Lake, 5 kilometres southwest of Kaslo.

COMMODITIES: Copper Silver Gold Zinc Lead
Cobalt

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Galena Sphalerite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Volcanogenic
TYPE: G04 Besshi massive sulphide Cu-Zn

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian	Kaslo	Undefined Formation	
Mississippian	Milford	Unnamed/Unknown Formation	

LITHOLOGY: Sericitic Schist
Mafic Volcanic
Argillite
Limestone
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The True Blue is located east of Kootenay lake, 5 kilometres southwest of Kaslo. It was discovered and explored with 125 metres of underground workings near the turn of the century. Between 1898 and 1902, 96 tonnes produced 8544 kilograms of copper, 5629 grams of silver and 124 grams of gold.

A massive sulphide horizon, averaging 1.2 metres thick, occurs along the contact between volcanic (Permian Kaslo Group) and sedimentary (Upper Mississippian-Permian Milford Group) rocks. Mineralization consists of pyrite, pyrrhotite and chalcopyrite and minor galena and sphalerite hosted in sericite schist. Chip sampling averaged 6.75 per cent copper, 2.76 per cent zinc, 0.12 per cent lead, 37.7 grams per tonne silver, 0.9 gram per tonne gold and 0.05 per cent cobalt (GCNL #182 (September 22), 1998).

Sultan Minerals Inc. optioned the property in 1998 and drilled one hole in 1999.

BIBLIOGRAPHY

EMPR AR 1898-1083; 1899-596; 1901-1030; 1902-302; 1922-354
EMPR ASS RPT 7587
EMPR BC METAL MM01442
EMPR EXPL 1979-72; 1998-71-72
EMPR INDEX 3-216
EMPR OF 1999-2; 1998-10
EMPR PF (Sultan Minerals Inc. Website (May 1999): True Blue Property, 2 pages)
GCNL #182 (Sept.22), #222(Nov.19), 1998
PR REL Sultan Mines Inc., Sept.8, Nov.17, 1998; Apr.6, June 21, July 6,15, 1999
WWW <http://www.langmining.com/sultan/main.htm>;
<http://www.infomine.com/>

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 3
REPORT: RGEN0100

BIBLIOGRAPHY

Orr (1971): MSc Thesis, University of B.C.

DATE CODED: 1985/07/24
DATE REVISED: 1998/11/26

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE003**

NATIONAL MINERAL INVENTORY: 082F15 Ag3

NAME(S): **SILVER COIN**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 47 54 N
LONGITUDE: 116 57 58 W
ELEVATION: 1166 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

UTM ZONE: 11 (NAD 83)

NORTHING: 5516209
EASTING: 502439

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite Argentite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

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

LITHOLOGY: Argillite
 Quartzite
 Limestone
 Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The country rocks are argillite, quartzites, limestone and schists of the Upper Triassic Slocan Group. Small quartz stringers 1 to 15 centimetres wide occur in a steep dipping fracture zone in calcareous black argillite. These stringers carry small amounts of galena, sphalerite, tetrahedrite and argentite.

The property is located on the north side of Woodbury Creek about 6.4 kilometres by road from the main highway. Development work has apparently been confined to two periods, the first from 1938-40, the last in 1946. This was carried out by a number of different owners and leasers. Four adits have been driven on the fracture zone. The two upper adits are about 15.2 metres vertically apart and mineralized stringers occur in both. In the two lower adits the fracture zone is barren.

In 4 years from 1938 to 1946, 29 tonnes of ore were mined. From this ore 142,980 grams of silver were produced, 3,225 kilograms of lead and 889 kilograms of zinc.

BIBLIOGRAPHY

EMPR AR 1938-A35, 1939-38, 1940-25,81, 1946-35,151
GSC MEM 228-79
EMR MRD RES FILE MC 167-S5-2
EMPR ASS RPT 11250
EMPR ASS RPT 11654
EMPR ASS RPT 12896

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/16

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE004**

NATIONAL MINERAL INVENTORY:

NAME(S): **JODI, SLY, BAKER,**
JODI/SLY

MINING DIVISION: Fort Steele

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 36 30 N
LONGITUDE: 116 39 22 W
ELEVATION: 2000 Metres

NORTHING: 5495142
EASTING: 524845

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Molybdenum Tungsten

MINERALS

SIGNIFICANT: Molybdenite Scheelite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Stockwork Stratabound
CLASSIFICATION: Skarn Replacement Porphyry
TYPE: L05 Porphyry Mo (Low F- type) K07 Mo skarn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Mount Nelson	
Cretaceous			Bayonne Batholith

LITHOLOGY: Quartzite
Quartz Monzonite
Phyllite
Schist
Argillite
Dolomite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Jodi property is predominantly underlain by a northerly-trending sequence of argillite and quartzite units of the Mt. Nelson Formation. This assemblage abuts the older conglomerate unit of the Toby Formation to the west. Molybdenite mineralization occurs in a quartz-pyrite-minor molybdenite stockwork in quartzite and quartz monzonite.

The owner/operator of the Jodi/Sly project is a 50:50 joint venture of Barkhor Resources Inc. and Newen Enterprises Inc. They are testing the old Baker occurrence found and drilled by Cominco almost twenty years ago. Cominco had outlined a strong molybdenum-tungsten-zinc soil anomaly which is 200 metres wide and at least 1200 metres long. The 1997 drilling is systematically testing the area of the anomaly. By year end a total of about 2500 metres had been completed in nine holes on the property. The last seven holes which were drilled on the anomaly all contain visible molybdenite but the only assays reported so far are from the sixth hole in which a 29.0 metre interval averaged 0.0769 per cent molybdenum (Exploration in BC, page 49). The best molybdenite mineralization occurs in a stockwork of very thin quartz veins in a shattered, sericite-rich, phyllitic, white quartzite, which is interbedded with pyroxene-garnet skarn-altered dolomite containing disseminated scheelite. Aplite and quartz monzonite dikes and plugs are numerous and suggest that the altered Mt. Nelson rocks are underlain by an offshoot of the Cretaceous Bayonne batholith.

BIBLIOGRAPHY

EM EXPL *1997-49
EMPR ASS RPT 7416, 8628, 11604, 12935
GCNL #238 (Dec.11), 1997; #23 (Feb.3), 1998

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/03

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE004**

MINFILE NUMBER: **082FNE005**

NATIONAL MINERAL INVENTORY: 082F15 Pb4

NAME(S): **VIGILANT**, LULU, DIXIE FR.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 54 N
LONGITUDE: 116 54 28 W
ELEVATION: 666 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

UTM ZONE: 11 (NAD 83)

NORTHING: 5514360
EASTING: 506639

COMMODITIES: Lead Silver Zinc Gold Cadmium

MINERALS

SIGNIFICANT: Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

Replacement

J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic

GROUP

Lardeau

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Schist
Quartzite
Limestone
Pegmatite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The host rocks of the Vigilant deposit are micaceous and chloritic schists, quartzites and limestones of the Middle Cambrian to Middle Devonian Lardeau Group. Some pegmatitic sills intrude the schist. Many steep fractures containing narrow widths of quartz occur. These veins locally contain lenses of galena with some sphalerite. Veins widths vary up to about 1 metre.

From 1949 to 1953, a total of 4684 tonnes of ore were mined from which 423,467 grams of silver, 62 grams of gold, 319 kilograms of cadmium, 381,669 kilograms of lead and 167,453 kilograms of zinc were recovered.

The Vigilant and Lulu claims lie to the east of Woodbury Creek, between the creek and the Ainsworth-Kaslo highway. The adjoining claims are the Zoa, Diamond Jubilee, Duplex No. 2 and the Dixie Fraction. The claims in this area were originally staked by the King Solomon Mining Co. Ltd. in about 1904. A small amount of exploratory work was done at this time and a few tons of sorted ore shipped. Most of the present claims are relocations of cancelled Crown-grants bearing same name.

All the above claims, along with the August Fraction and Nameless Fraction were obtained by Dr. L.D. Besecker of Woodbury Creek in 1949. This group of claims became known as the Woodbury Group. A lease on the property was obtained by Privateer Mines Ltd. later that same year. About 46 metres of tunnel was driven and 635 tons of ore shipped but the returns were less than expected and the operation was abandoned.

In 1950 J.A. Cooper obtained the Vigilant and Zoa claims on a lease-purchase agreement. On the Vigilant claim, two adits, 190 metres above the creek on the east bank are collared 5 metres apart and follow two steeply dipping quartz veins in a general easterly direction. The veins join and the two adits come together about 12 metres in. The old adits were found to contain replacement ore. Stopping was done over a 46 metre length in the old adit and the tunnel was extended to a total length of 88 metres. Another adit was collared 30 metres above the old adit and the tunnel driven for 96 metres. The vein narrowed toward the face of the tunnel but near the portal it warranted stopping through to the surface. Work on this

MINFILE NUMBER: **082FNE005**

CAPSULE GEOLOGY

claim ceased in 1953. The present tunnel faces are somewhere near the claim boundary.

On the Lulu claim the extension of the fissure vein developed on the adjoining Vigilant claim was traced along strike. An adit was driven to a point below a good surface exposure but the vein was almost barren at this horizon.

On the Dixie Fraction claim some trenching and shallow tunneling was done to investigate a vein which is exposed on the adjoining Budweiser No. 2 claim.

BIBLIOGRAPHY

EMPR PF (Map - Surface Geology, North Fork - Woodbury Creek (1"=300'), Cominco Ltd, 1957; 1978 MEIP report, Verna, Dorothy and other claims, Cascadia Resources)
EMPR BULL 53-115
EMPR ASS RPT 6582
EMPR EXPL 1977-E53, 1978-E65
EMPR AR 1903-242, 1949-181, 1950-136, 1952-169, 1953-133
GCNL JULY 31,1979
GCNL #8,1980
GSC MAP 603A
U OF ALBERTA MSC THESIS, BRAME 1979
UBC MSC THESIS, ORR 1971
GSC MEM 117

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/16

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE006**

NATIONAL MINERAL INVENTORY: 082F15 Pb3

NAME(S): **NAMELESS**, NELLIS, AUGUST FR.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 42 N
LONGITUDE: 116 54 10 W
ELEVATION: 591 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

UTM ZONE: 11 (NAD 83)

NORTHING: 5513990
EASTING: 507000

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic	Lardeau	Unnamed/Unknown Formation	

LITHOLOGY: Chlorite Schist
 Quartzite
 Limestone
 Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The country rocks are chloritic schist, quartzites, limestones and paragneisses of the Cambrian to Devonian Index Formation (Lardeau Group). The ore occurs in quartz veins and as replacement bodies adjacent to the veins. The veins have a general east-west strike and vary in width from 2 to 45 centimetres. The Nameless Fraction has two veins situated about 14 metres apart. The best showing of ore is an oreshoot 60 metres long and averaging 45 centimetres.

From 1950 to 1953, a total of 2792 tonnes of ores was mined from the Nameless deposit. From this 154,954 grams of silver, 165,014 kilograms of lead and 107,408 kilograms of zinc were recovered.

The claims are located on a bluff at the lake shore about 0.4 kilometre north of the mouth of Woodbury Creek. The August Fraction, Zoa, Lulu, Dixie Frac Fraction, Vigilant, Budweiser and Superior are all relocations of cancelled Crown grants bearing the same names. These claims were originally staked by the King Solomon Mining Co. in the early 1900s but very little work was done on them at that time.

Dr. Besecker obtained the Zoa, Lulu, Dixie Frac., Vigilant, Diamond Jubilee, Duplex No. 2, August Frac. and Nameless Frac. claims in 1949. These came to be known as the Woodbury Group. Privateer Mines Ltd. held an option on this group of claims for a year. During the following years the August Frac. was worked by Dr. Besecker while the Nameless Frac. was under lease to C.A. McLeish and V. McCulloch of Kaslo. Dr. Besecker drove a 61 metre tunnel on a fissure vein, known as the "A" vein, which is about 114 metres south of the "B" and "C" veins of the Nameless Fraction.

On the Nameless Fraction claim two adits were collared above the high water mark. The adit on "B" vein was extended for 8709 metres. Near the end of the drift a raise was put up about 15 metres in low grade replacement ore. Ore was removed from the floor of the tunnel by means of an incline that starts just inside the portal and extends for 36 metres at an angle of about 25 degrees. The adit on "C" vein was extended until it joined the adit on "B" vein at about 30 metres from both portals. This property was abandoned early in 1953 after taking some ore from a sublevel at the bottom of the incline. The lower workings are now flooded.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 9
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1949-181, 1950-136, 1951-33,161, 1952-169, 1953-133
U OF ALBERTA MSC THESIS BRAME 1979
EMPR BULL 53-115
GSC MEM 117
GSC MAP 603A, 1742

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/16

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE007**

NATIONAL MINERAL INVENTORY: 082F15 Pb2

NAME(S): **AMAZON, NELLIS, BLUE STAR,
AMAZON BLACK FOX**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 46 36 N
LONGITUDE: 116 54 34 W
ELEVATION: 633 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5513804
EASTING: 506520

COMMODITIES: Lead Zinc Silver Gold Cadmium

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn
DIMENSION: 12 x 6 x 1 Metres STRIKE/DIP: 070/80S TREND/PLUNGE:
COMMENTS: The extent of the dolomitized zone is not known, but may be the key to finding new veins. The rake of the ore is 70 degrees east.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic	Lardeau	Index	

LITHOLOGY: Calcareous Mica Schist
Garnet Mica Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

This group of claims is located near the mouth of Woodbury Creek. Originally staked by the Canadian Pacific Mining & Milling Co. of Minneapolis in 1896, the group consists of the Amazon, Budweiser No. 2, Superior and Wakefield claims. Three tunnels were driven on the Budweiser claim, one on a fault plane, the other two along fissures. On the Amazon claim a 36.5 metre tunnel was driven on a vein dipping 70 degrees to the south. On the Wakefield claim a 43 metre shaft was put down on a vein containing galena and gold. Apparently no further work was done on this property for about 40 years. In 1939 the owner of the Amazon claim is recorded as J.R. Tuikess of Kaslo. By 1941 ownership of this claim had passed to T. E. Levasseur of Nelson. A leasee worked the property that summer, obtaining 286 tonnes of ore from the old workings.

The Kaslo Base Metals Co. of Vancouver obtained the Budweiser No. 2, Amazon, Superior and Superior Fraction claims in 1951. They did some exploratory work on the Amazon and Budweiser No. 2 claims. The property was taken over by the Woodbury Mines Co. Ltd. in 1952. A tunnel was begun on the Superior claim just above the highway, the proposal being to drive 366 metres of tunnel in order to intersect several veins at a lower depth. By the end of the following year about 244 metres of the proposed tunnel had been completed. The project was abandoned by this company and no further work was done on it until 1956 when the property was taken over again by Kaslo Base Metals Co. Ltd. The exploratory tunnel was extended by 56 metres. At 276 metres from the portal a new vein was intersected. It contained 7 to 10 centimetres of galena and replacement ore extended into the walls to a width of 0.6 metre. At 302 metres from the portal the downward projection of a fissure vein exposed in Woodbury Creek canyon was intersected. This vein had been followed by old drift workings which extended east and west from the canyon 43 and 1 metres respectively. A raise was driven from the Superior tunnel to the west drift, 4.5 metres vertically above. No further work has been done.

Quartz tension veins occur in the Middle Cambrian Index

CAPSULE GEOLOGY

Formation ('Early Bird Formation') (Lardeau Group). Calcareous mica schist cuts a lamprophyre dyke. Other veins are in a dolomitized area. The veins are short, en echelon down dip. The rake of the ore is to the east 70 degrees as derived from a slope area and bearing of a calcite vug. A garnet mica schist with Meta autunite is present near the portal.

In 3 years between 1939 and 1965 a total of 2,987 tonnes of ore were produced. From this 83,388 grams of silver, 93 grams of gold, 274 grams of cadmium, 39,733 kilograms of lead and 54,306 kilograms of zinc were produced.

BIBLIOGRAPHY

EMPR AR 1896-93, 1939-37, 1940-8, 1951-39, 1952-169, 1953-133, 1956-92
EMPR BULL 53
EMPR PF
GSC MAP 603A, 1742, 1704
GSC MEM 117
GSC P 44-13
UBC MSC THESIS, ORR 1971
Starr, C.C. (1930): Report of Preliminary Examination of Superior Group (5 pages)

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE008**

NATIONAL MINERAL INVENTORY: 082F15 Pb13

NAME(S): **NOAH**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 14 N
LONGITUDE: 116 54 37 W
ELEVATION: 783 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5513124
EASTING: 506461

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite
COMMENTS: Sphalerite is assumed to occur.
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Lardeau	Index	

LITHOLOGY: Limestone
Schist
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Noah deposit is hosted in schist, quartzite and limestone of the Middle Cambrian to Middle Devonian Index Formation, Lardeau Group. Quartz and galena occur in a fissure vein that varies in width up to 25 centimetres. Ore, varying in width up to 60 centimetres occurs in limestone adjacent to the vein.

In 1952, 349 tonnes of ore was mined and 15,614 grams of silver, 14,696 kilograms of lead and 9,444 kilograms of zinc were recovered.

This claim is located on the lakeshore just South of Woodbury Creek. It was Crown granted to the King Solomon Mining Co. in 1904 but apparently was not worked prior to 1951. Western Mines Ltd. acquired the claim, along with the Florence, and a number of others, and did a small amount of development work on it during 1951-52. A 9-metre adit was driven 6 metres below the highway in an effort to intersect a fissure vein exposed on the hillside above. During 1952 the adit was extended to a length of 5 metres.

BIBLIOGRAPHY

EMPR BULL 53
UBC MSC THESIS, ORR 1971
GSC MAP 603A, 1742
EMPR AR 1904-297, 1951-159, 1952-164

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/17

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE009**

NATIONAL MINERAL INVENTORY: 082F15 Pb2

NAME(S): **WAKEFIELD, BUDWEISER - AMAZON, BUDWEISER (L.714),
 AMAZON FR. (L.14384), SUPERIOR (L.746)**

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 082F15W
 BC MAP:
 LATITUDE: 49 46 24 N
 LONGITUDE: 116 54 58 W
 ELEVATION: 2000 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS:

MINING DIVISION: Slocan
 UTM ZONE: 11 (NAD 83)
 NORTHING: 5513433
 EASTING: 506040

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite
 ASSOCIATED: Quartz Siderite
 MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Replacement Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic	Lardeau	Index	

LITHOLOGY: Limestone

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1952
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	99.4300 Grams per tonne
Lead	11.4000 Per cent
Zinc	6.9000 Per cent

COMMENTS: Sample taken across a width of 70 centimetres.
 REFERENCE: C.C. Starr, 1952 (Property File).

CAPSULE GEOLOGY

The Wakefield showing is underlain by the Early Bird Formation, equivalent to the Middle Cambrian to Middle Devonian Index Formation (Lardeau Group). Several quartz-siderite veins in limestone host galena, sphalerite and pyrite. The bedding of the formation strikes nearly north-south and dips westerly at about 45 degrees. The veins cut across the formation at right angles and dip steeply south. The property was first developed in the 1890s and at least three main veins have been developed by tunnels. A Sample from one of the tunnels assayed 11.40 per cent lead, 6.90 per cent zinc and 99.43 grams per tonne silver across 70 centimetres (Starr, 1952 (Property File)).

This group of claims is located near the mouth of Woodbury Creek. Originally staked by the Canadian Pacific Mining & Milling Co. of Minneapolis in 1896, the group consists of the Amazon, Budweiser No. 2, Superior and Wakefield claims. Three tunnels were driven on the Budweiser claim, one on a fault plane, the other two along fissures. On the Amazon claim a 36 metre tunnel was driven on a vein dipping 70 degrees to the south. On the Wakefield claim a 43 metre shaft was put down on a vein containing galena and gold. Apparently no further work was done on this property for about 40 years. In 1939, the owner of the Amazon claim is recorded as J.R. Tuikess of Kaslo. By 1941, ownership of this claim had passed to T. E. Levasseur of Nelson. A leasee worked the property that summer, obtaining 286 tonnes of ore from the old workings.

The Kaslo Base Metals Co. of Vancouver obtained the Budweiser

CAPSULE GEOLOGY

No. 2, Amazon, Superior and Superior Fraction claims in 1951. They did some exploratory work on the Amazon and Budweiser No. 2 claims. The property was taken over by the Woodbury Mines Co. Ltd. in 1952. A tunnel was begun on the Superior claim just above the highway, the proposal being to drive 366 metres of tunnel in order to intersect several veins at a lower depth. By the end of the following year about 244 metres of the proposed tunnel had been completed. The project was abandoned by this company and no further work was done on it until 1956 when the property was taken over again by Kaslo Base Metals Co. Ltd. The exploratory tunnel was extended by 56 metres. At 276 metres from the portal a new vein was intersected. It contained 7 to 10 centimetres of galena and replacement ore extended into the walls to a width of 0.6 metre. At 302 metres from the portal, the downward projection of a fissure vein exposed in Woodbury Creek canyon was intersected. This vein had been followed by old drift workings which extended east and west from the canyon 43 and 1 metres respectively. A raise was driven from the Superior tunnel to the west drift, 4.5 metres vertically above. No further work has been done.

BIBLIOGRAPHY

EMPR AR 1896-93; 1939-37; 1940-8; 1951-39,161; 1952-169; 1953-133;
1956-92
EMPR PF (*Starr, C.C. (1952): Report on the Budweiser Group of Mineral
Claims (3 pages)
GSC MAP 603A, 1704
GSC MEM 117
GSC P 44-13
Bull *53, pp. 44,76,115

DATE CODED: 1985/07/24
DATE REVISED: 1999/10/27

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE010**

NATIONAL MINERAL INVENTORY: 082F15 Ag2

NAME(S): **SILVER GLANCE**, TRIUMPH, HERCULES

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 46 18 N
LONGITUDE: 116 56 22 W
ELEVATION: 1000 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5513246
EASTING: 504360

COMMODITIES: Lead Zinc Gold Silver

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite Marcasite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Schist
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Silver Glance area is underlain by schist and limestone of the Mississippian to Lower Permian Milford Group. Several quartz-bearing fissures are mineralized with galena, sphalerite, pyrite and marcasite. Assays from 1896 are reported to be high in silver and gold.

No record of production exists but the Annual Report for 1898 mentions that 163 tonnes was sorted for shipment.

This group of claims lies along the western edge of the Highland and Florence properties and covers an area extending from near Cedar Creek to the South Fork of Woodbury Creek.

The group consists of the Hercules, Sullivan, Noranda, Silver Bell, Glen Ellen, Harrison, Free Silver and Silver Glance claims. Three of the claims, formerly called the Pataha, Bugaboo and Ellen were relocated in 1951 under the respective names of Hercules, Sullivan and Noranda.

Most of the development work on the Hercules claim was done about 1890. The workings now consist of 36.5 metres of tunnel in two adits, a shaft 4.5 metres feet deep and some trenching. On the Sullivan claim a 23 metre shaft was put down about 1895. Apparently no work has been done on the Noranda claim. Nubar Mines Ltd. of Toronto hold an option on the claims in 1951 and are reported to have done some diamond drilling. The Asbestos-Corporation Ltd. did about 914 metres of diamond drilling in 30 holes in 1952. The results of this work have apparently not been released by the company.

The Silver Glance claim, which lies astride the South Fork of Woodbury Creek, about 3 kilometres from its mouth, has had the most development work done on it. The property was located in 1896 and was apparently worked intermittently for about 4 years. A tunnel at creek level follows the vein in a 110 degree direction for 66 metres. Here the vein splits and is followed by two branches of the tunnel, one going 85 degrees for 23 metres, in which the vein appears to pinch out, the other branch extending for 18 metres at 110 degrees with the vein still in the face.

In 1952 Guichon Mine Ltd., owners of the Buckeye claim, held an option on all the above claims, however their work was apparently confined to the Buckeye.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 16
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (WORKINGS PLAN)
EMPR AR 1896-93, 1899-698, 1951-160, 1952-165, 1954-133, 1955-58,
1956-92, 1957-50
EMPR GEM 1970-459
EMPR BULL 53-108
GSC MAP 603A
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/17

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE011**

NATIONAL MINERAL INVENTORY: 082F15 Ag2

NAME(S): **SULLIVAN**, HERCULES, SILVER GLANCE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 45 54 N
LONGITUDE: 116 56 04 W
ELEVATION: 1200 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5512505
EASTING: 504721

COMMODITIES: Lead Zinc Gold Silver

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite Marcasite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Schist
Limestone

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

This group of claims lies along the western edge of the Highland and Florence properties and covers an area extending from near Cedar Creek to the South Fork of Woodbury Creek. Refer to the Silver Glance group (082FNE010) and the Noranda (082FNE038) for details of the deposit description.

The group consists of the Hercules, Sullivan, Noranda, Silver Bell, Glen Ellen, Harrison, Free Silver and Silver Glance claims. Three of the claims, formerly called the Pataha, Bugaboo and Ellen were relocated in 1951 under the respective names of Hercules, Sullivan and Noranda.

Most of the development work on the Hercules claim was done about 1890. The workings now consist of 36.5 metres of tunnel in two adits, a shaft 4.5 metres feet deep and some trenching. On the Sullivan claim a 22.8 metre shaft was put down about 1895. Apparently no work has been done on the Noranda claim. Nubar Mines Ltd. of Toronto hold an option on the claims in 1951 and are reported to have done some diamond drilling. The Asbestos-Corporation Ltd. did about 914.4 metres of diamond drilling in 30 holes in 1952. The results of this work have apparently not been released by the company.

The Silver Glance claim, which lies astride the South Fork of Woodbury Creek, about 3.2 kilometres from its mouth, has had the most development work done on it. The property was located in 1896 and was apparently worked intermittently for about 4 years. A tunnel at creek level follows the vein in a S 70° E direction for 65.6 metres. Here the vein splits and is followed by two branches of the tunnel, one going N 85° E for 22.8 metres, in which the vein appears to pinch out, the other branch extending for 18.2 metres S 70° E with the vein still in the face.

In 1952 Guichon Mine Ltd., owners of the Buckeye claim, held an option on all the above claims, however their work was apparently confined to the Buckeye.

BIBLIOGRAPHY

EMPR PF (WORKINGS PLAN)
EMPR AR 1896-93, 1899-298, 1951-160, 1952-165, 1954-133
EMPR GEM 1972-54, 1973-67

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
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PAGE: 18
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 53
GSC MEM 228-61
GSC MAP 603A

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/17

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE012**

NATIONAL MINERAL INVENTORY:

NAME(S): **CROWN**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 45 24 N
LONGITUDE: 116 57 04 W
ELEVATION: 1512 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5511578
EASTING: 503521

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite
ASSOCIATED: Calcite Siderite Quartz
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Crown occurs at the contact of grey and white limestone with dark grey to black limey argillite. The area is mapped as rock of the Missippian to Lower Permian Milford Group. The property was developed by two adits and a number of open cuts.

The No. 1 adit follows closely spaced branching faults that strike northwest and dip steeply southwest. Locally they carry white quartz and pyrite. The No. 2 adit follows the contact of argillite and limestone. Gossanous rock is exposed in the adit and trenches to the north. This gossan contains a few narrow calcite-siderite veins and locally minor pyrite, galena and sphalerite. The workings from which gossanous rock run 3291 grams per tonne silver were collected are located 100 metres south of adit No. 2 (Bulletin 53).

In 4 years from 1962 to 1972, 139 tonnes of ore were shipped from the Crown property. From this ore, 158,377 grams of silver, 4,477 kilograms of lead and 5,961 kilograms of zinc were recovered.

BIBLIOGRAPHY

EMPR AR 1912-147, 1922-354, 1968-258
EMPR GEM 1971-413, 1972-60
EMPR BULL 53, p. 77
GSC MEM 117, p. 54
GSC MAP 1742
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/20

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE013**

NATIONAL MINERAL INVENTORY:

NAME(S): **LET HER GO GALLAGHER**, GALLAGHER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 45 42 N
LONGITUDE: 116 56 22 W
ELEVATION: 1280 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5512134
EASTING: 504361

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite
ASSOCIATED: Calcite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Gallagher property, located 2.5 kilometres west of the Florence townsite, was worked from 1888 to 1890 and again from 1907 to about 1920. A number of shafts and open pits and one adit were excavated.

The property occurs in a thick mass of fine-grained grey and white limestone of the Mississippian to Lower Permian Milford Group. Production has consisted of high-grade silver ore, mainly from pods of rusty gossan near the surface. One pit exposed a narrow sheared zone striking 050 degrees and dipping 30 degrees to the north along which galena and minor chalcopyrite are scattered. One of the dumps contain blocks of vein calcite with clusters of galena and reddish sphalerite.

BIBLIOGRAPHY

EMPR AR 1907-95, 1908-92, 1914-285, 1915-120, 1917-153
EMPR BULL *53, p.81
GSC MEM 117, p. 54, 228, p. 80
GSC MAP 1742
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/20

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE014**

NATIONAL MINERAL INVENTORY: 082F15 Pb9

NAME(S): **BUCKEYE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 45 42 N
LONGITUDE: 116 55 58 W
ELEVATION: 1200 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

UTM ZONE: 11 (NAD 83)

NORTHING: 5512134
EASTING: 504841

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite
ASSOCIATED: Calcite Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Replacement Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Undefined Formation

LITHOLOGY: Limestone
Argillite
Quartzite
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The country rock of the Buckeye area is reported to be argillite, limestone, quartzite and schist of the Mississippian to Lower Permian Milford Group. The ore is associated with a system of northwest striking fissures but occurs as replacement in the north-south striking limestones in the zones of intersection. The ore consists of pyrite, sphalerite, galena and their oxidation products in a gangue of silicified limestone, calcite and quartz.

In 1953 and 1954, a total of 498 tonnes of ore was mined, from which 35,644 grams of silver, 25,902 kilograms of lead and 24,578 kilograms of zinc were recovered.

The Buckeye and Buckeye No. 2 claims are located north of Cedar Creek and just to the west of the Highland property (082FNE015). They were Crown granted to Dalglish and Parker in 1904 and have been worked infrequently since that time.

Development work in 1918 consisted of 2 inclined shafts, 30 metres apart, each about 12 metres deep, and one tunnel 61 metres long driven in under the shafts. The tunnel, which is about 23 metres below the surface showings, was driven as a crosscut for 21 metres. At that point a body of zinc ore was intersected and followed for 14 metres. A second tunnel, driven 30 metres below the outcrop was not extended far enough to reach the limestone.

Guichon Mine Ltd. acquired the claims along with an option on the Silver Bell, Ellen Glen, Free Silver, Harrison and Silver Glimmer. In 1952 the main adit was extended along what appears to be the most easterly of three narrow cross-fissure veins in echelon to the northwest. Two narrow, bedded fissure veins appear to displace the cross-fissure for a metre at 12 and 73 metres respectively from the portal. At 73 metres from the portal a raise was driven 24 metres to connect with the bottom of one of the shafts. A sublevel was started 12 metres below the surface and replacement ore, to a width of 4.5 metres, was mined adjacent to the shaft. Diamond drilling completed during the year amounted to 287 metres in 9 holes. In 1954 leasers drove a short drift to investigate the diamond drill results.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 22
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF
EMPR AR 1898-1072, 1900-981, 1904-296, 1931-143, 1952-165, 1953-133
EMPR BULL 53
GSC MEM 117-58, 228
GSC P 44-13
GSC MAP 603A
EMR MP CORPFILE (BUCKEYE MINES LTD.)
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/20

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE015**

NATIONAL MINERAL INVENTORY: 082F15 Pb6

NAME(S): **HIGHLAND (L.258)**, JOSEPHINE (L.522)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 45 12 N
LONGITUDE: 116 55 44 W
ELEVATION: 1066 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5511208
EASTING: 505122

LOCATION ACCURACY: Within 1 KM

COMMENTS: Series of dumps and small adits but major workings not found.

COMMODITIES: Silver Lead Zinc Cadmium Gold

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz Siderite Fluorite
COMMENTS: Lamprophyres and hornblende schist bleached.
ALTERATION TYPE: Leaching Silicification
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Discordant Massive
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Fractured
DIMENSION: 500 x 225 Metres STRIKE/DIP: 315/75E TREND/PLUNGE:
COMMENTS: Thickness not reported.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian-Triassic	Kaslo	Undefined Formation	
Upper Paleozoic	Milford	Undefined Formation	

LITHOLOGY: Mica Schist
Hornblende Schist
Mica Lamprophyre
Lamprophyre
Mica Quartzite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Slide Mountain Kootenay
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Amphibolite

CAPSULE GEOLOGY

The Highland claim, Crown granted to J.C. Rykert in 1891, is located about 1.6 kilometres west of Kootenay Lake and 300 metres north of Cedar Creek, at about the 900 metre elevation. A main haulage tunnel was driven on the vein for about 207 metres. A second tunnel, 30 metres above the first, was driven for 27 metres. A raise was driven on an ore shoot connecting the two tunnels.

The Highland Mining Co. Ltd. of London, England, took over the claim in 1900 and worked it through 1904. In 1905 the property was leased to P. Burns and Co. The Highland-United Co. secured a lease on the mine in 1909 and operated it for part of the year. In 1910 the mine was reopened by the Kootenay Silver Lead Mines Ltd. of Vancouver and their operations continued through 1912.

The Consolidated Mining & Smelting Co. Ltd. acquired the property in 1914 and operated it more or less continuously for the next 13 years. Development work in 1919 included 998 metres of diamond drilling. The mine closed in 1927 and remained idle until 1940 when lessors became interested in working it. The tailings dump was dredged from Kootenay Lake and shipped to the mill. Other groups of leasers removed ore from the old mine workings in 1950-52.

In 1956 Cominco did 600 metres of diamond drilling to check on electromagnetic results. The workings at the present time consist of 5 tunnels along the strike of the vein, the upper three approximately 30 metres apart and two lower about 61 metres apart, thus giving a depth of 214 metres below the outcrop. The total length of the workings is approximately 4000 metres, part of this being on the

CAPSULE GEOLOGY

adjoining Josephine claim.

The Highland occurrence is hosted by micaceous quartzites of the Mississippian to Lower Permian Milford Group and hornblende schists of the Permo-Triassic Kaslo Group. The rocks are cut by bedding-parallel "mica" or "non-mica" dykes (lamprophyres). Close to the veins, hornblende schists and dykes are highly altered to soft whitish yellow material and quartzites are silicified.

The vein system consists of a series of related discontinuous faults with senestral lateral displacements of 3 to 40 metres. The faults with largest displacement appear to contain more ore. The orebodies occur as tabular masses located preferentially close to the hornblende schists-quartzite contact. Wall rock of hornblende schists are badly decomposed whereas those in quartzite are regular and well defined. Good ore shoots in hornblende schist pass rapidly to narrow and less mineralized veins in the quartzites. The ore consists of coarse to fine-grained, sheared galena with locally abundant sphalerite in banded, comb-textured to massive quartz with some siderite and locally fluorite.

From 1896 until 1954, 88,127 tonnes of ore was mined from the Highland. Commodities recovered included 10.5 million grams of silver, 9.4 million kilograms of lead, 0.38 million kilograms of zinc, 548 kilograms of cadmium and 62 grams of gold.

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EMPR AR 1894-736; 1895-681; 1896-92; 1897-527; 1900-848; 1901-1029;
1905-158; 1908-93; 1909-105; 1910-96; 1912-146; 1913-123; 1914-
289,5099; 1915-119,445; 1916-196,516; 1917-155; 1918-159; 1919-
153; 1920-4,119,144; 1921-130,134; 1922-194; 1924-188; 1925-231,
237; 1927-282; 1940-25,81; 1942-71; 1947-167; 1948-139; 1949-179;
1950-135; 1951-39,160; 1952-42,165; 1953-133; 1954-50,133; 1956-91
EMPR PF (Richardson, J. (1957): Summary Report of Highland Mines
EMPR BULL 53
GSC MEM 117, pp. 37,228
GSC MAP 1742; 603A; 1784
GSC PAPER 44-13
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 1988/09/22

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNE016**

NATIONAL MINERAL INVENTORY: 082F15 Pb5

NAME(S): **KOOTENAY FLORENCE**, FLORENCE, LAKESHORE,
LAURA M, TWIN, HOPE FRACTION,
ILLINOIS

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 45 54 N
LONGITUDE: 116 55 04 W
ELEVATION: 750 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Entrance of adit #9.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5512506

EASTING: 505921

COMMODITIES: Silver

Lead

Zinc

Gold

Cadmium

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite
ASSOCIATED: Calcite Quartz Fluorite
ALTERATION TYPE: Chloritic Silicific'n
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Concordant Discordant Massive
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: J01 Polymetallic manto Ag-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
DIMENSION: 5 Metres STRIKE/DIP: 090/42S TREND/PLUNGE:
COMMENTS: Average strike is east-west.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Upper Paleozoic

GROUP

Milford

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Schist
Hornblende Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Pre-mineralization

GRADE: Amphibolite

CAPSULE GEOLOGY

This Kootenay Florence property lies along the west side of Kootenay Lake between Cedar Creek and the South Fork of Woodbury Creek. The mining operations have been confined largely to the Florence Fraction, Laura M., Twin, Hope Fraction and Illinois claims.

Some of these claims were staked as early as 1899 but apparently little development was done until 1911. The Florence Mining Co. of Spokane took over the property in 1912 and operated it more or less continuously until 1923. Five levels were established, the lowest one (No. 5) was the main haulage level. Considerable stoping was done between No. 5 and No. 4 levels and above No. 2 level. Leasers operated the mine in 1923-24.

In 1926 the Kootenay-Florence Mining Co. Ltd. acquired 18 claims in the area, including those listed above. A new low level tunnel (No. 9 level) was driven for 2433 metres to explore the downward continuation of the orebodies found in the old workings. A raise was driven from No. 9 to No. 5 level, partly for ventilation purposes. Intermediate levels were established from this raise. Most of the stoping was done between No. 9 and No. 8 levels.

The mine closed down late in 1929 and was not opened again until 1942 when it was taken over by the Wartime Metals Corporation. They continued operations until May 1944 when operations ceased. Ainsmore Consolidated Mines Ltd. owned and operated the mine from 1945 through 1950.

Western Mines Ltd. of Vancouver obtained the property in 1951. The Consolidated Mining and Smelting Co. Ltd. obtained an option on the property and carried out a geological and geophysical survey of the surface. A diamond drilling program, totalling 7010 metres, was carried out to investigate a gentle arc in the limestone beds. Very little ore was found so the option was dropped. Leasers carried out small scale mining operations on the Lakeshore and Florence claims in

MINFILE NUMBER: **082FNE016**

CAPSULE GEOLOGY

1958-1960.

The Florence occurrence is hosted by limestones, schist and greenstones of the upper part of the Mississippian to Lower Permian Milford Group. A series of parallel fissures striking east-west and dipping 40 degrees south, cut the rocks. Two types of ore deposits occur. Replacements in limestone usually occur at the contact of the limestone with the overlying schist. fissure vein ore occurs at the contact of the quartz and the schist and in sheared greenstone. The ore is coarsely crystalline galena and sphalerite with some pyrite and chalcopyrite. The gangue is altered limestone, calcite, quartz and fluorite.

The ore consists of pods and lenses, up to 5 metres thickless evenly distributed in the veins in a gangue of quartz and calcite. Where the veins intersect limestone beds, replacement occurs along the walls. Replacement is reported to be more extensive in the upper parts of the deposit. Vein and replacement bodies are surrounded by a halo of silicified and chloritized host rocks.

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GSC P 44-13
GSC MEM 117, pp. 40,228
EMPR INDEX 3-196; 4-121
EMPR BULL *53
EMPR GEM 1972-61
EMPR AR 1899-844; 1913-420; 1914-285; 1916-195,516; 1917-155,448; 1918-158,192; 1919-119; 1920-119; 1921-130,134; 1922-189,194; 1923-207; 1924-188; 1926-259; 1927-281; 1928-298; 1929-322; 1942-252; 1949-178; 1950-133; 1951-156; 1952-42,163; 1953-131; 1954-132; 1955-58; 1956-91; 1957-50; 1958-43; 1959-66; 1960-74
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNE017**

NATIONAL MINERAL INVENTORY: 082F15 Pb7

NAME(S): **EARLY BIRD**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 45 36 N
LONGITUDE: 116 54 40 W
ELEVATION: 1340 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5511951
EASTING: 506402

COMMODITIES: Lead Zinc Silver Fluorite Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Fluorite
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Lardeau	Index	

LITHOLOGY: Calcareous Siliceous Mica Schist
Greisen
Limy Silicate Gneiss
Limestone
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Early Bird area is underlain by micaceous and chloritic schist, quartzite and limestone of the Middle Cambrian to Middle Devonian Index Formation, Lardeau Group. Two parallel fissures, striking 285 degrees and dipping 80 degrees south are exposed. Near the portal of a tunnel, stringers of ore several centimetres wide are found. In the last 15 metres of the adit the fissure is tight and no ore is visible. The ore consists of quartz, calcite, galena and sphalerite with minor amounts of pyrite and chalcopyrite. The vein is in calcareous and siliceous mica schists and limy silicate gneiss.

The Early Bird produced 137 tonnes of ore from 1914 to 1916 (inclusive). A total of 47,276 grams of silver, 57,643 kilograms of lead and 1,264 kilograms of zinc were recovered.

This claim, located on the shore of Kootenay Lake about 2.4 kilometres north of Ainsworth, was Crown granted to J.L. Retallack in 1895. The records of the development work done on this claim are incomplete. Apparently the original owner drove about 23 metres of tunnel on the property in 1896. The next mention of the property is in 1914 when leasers made a trial shipment of 25 tons of ore.

In 1916 the Wolverine Mining and Development Syndicate operated the Early Bird, Carey Fraction and Nicolet claims. Their operations were largely confined to the Carey Fraction and only about 4.6 metres of tunnel was driven on each of the other two claims.

In 1921 the Lakeshore Mining Co. acquired about 12 claims running from the lakeshore up the hill and covering a strip of ground between the Florence and Highland properties. The Early Bird claim may have been included in the Lakeshore Co. property. The Kootenay-Florence Mining Co. Ltd. acquired the property of the Lakeshore Mining Co. in 1928.

The owner of the property in 1949 was a Mr. Pringle of London, England. He gave an option to F.W. Robinson. An old adit beside the highway was reopened and extended to a length of 24 metres. An adit was collared 18 metres lower in slide rock below the highway. This adit was driven until it broke into the old workings. A drift on the vein was extended an additional 23. Work ceased in the fall of 1951. The owners of the property at this time was Messrs. Robinson, Watson

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 28
REPORT: RGEN0100

CAPSULE GEOLOGY

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GSC MEM 117-41
EMPR BULL *53, p. 79
EMPR INDEX 3-194
EMPR AR 1896-558, 1914-285, 1916-195, 1917-187, 1949-181, 1951-159
EMPR OF 1992-16

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE018**

NATIONAL MINERAL INVENTORY: 082F15 Pb7

NAME(S): **LAKESHORE**, KOOTENAY FLORENCE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 45 30 N
LONGITUDE: 116 55 04 W
ELEVATION: 890 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

UTM ZONE: 11 (NAD 83)

NORTHING: 5511765
EASTING: 505922

COMMODITIES: Lead Zinc Silver Cadmium

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite Pyrrhotite
ASSOCIATED: Knebelite
ALTERATION: Chlorite Carbonate
ALTERATION TYPE: Chloritic Carbonate
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: J01 Polymetallic manto Ag-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

On the Lakeshore property, sulphide mineralization occurs in limestone of the Mississippian to Lower Permian Milford Group. Hosting the ore are fractures that strike about 290 degrees and dip about 65 degrees to the south. These are tight fractures containing clusters, pods and grains of galena, sphalerite, pyrite and pyrrhotite, generally without quartz and carbonates. A green manganese-iron silicate, knebelite (generally associated with pyrrhotite) as well as chlorite and iron carbonate are minor alteration products.

The Lakeshore workings are mainly on the Carey Fractional Crown-granted claim a few hundred feet south of Princess Creek. The early work on the Lakeshore mine was done between 1916 and 1928, and the property gained its name from the Lakeshore Mining Company, of Spokane, which owned it between 1921 and 1923. By the end of 1929, the Lakeshore was added to the Florence group (082FNE016).

In 1954, Cominco Ltd. made an agreement for eventual control of the property. Geological and geophysical surveys were done in 1954 followed in 1956 and 1957 by diamond drilling totalling 7000 metres, mainly from surface. This work was designed to test for replacement ore in the limestones like that at Bluebell, and initial results were encouraging.

In 1957, Cominco extended the lower Lakeshore adit by a total of 230 metres of drifts, crosscuts, and raises and drilled eight holes totalling 427 metres from underground. This work exposed fractures in limestone adjacent to which there is a limited amount of replacement mineralization. Some of this mineralization was mined by leases in 1958 and 1959 and no work has been done since then.

A total of 714 tonnes of ore production is recorded for the Lakeshore deposit in four years from 1926 to 1959, with 653 tonnes produced in 1959 alone. From this, 45,969 grams of silver, 70,157 kilograms of lead, 33,359 kilograms of zinc and 100 kilograms of cadmium were recovered.

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 30
REPORT: RGEN0100

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1925

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE019**

NATIONAL MINERAL INVENTORY:

NAME(S): **NICOLET**, KOOTENAY FLORENCE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 45 18 N
LONGITUDE: 116 55 04 W
ELEVATION: 900 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5511394
EASTING: 505923

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Zinc Silver Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Pyrrhotite Chalcopyrite
ASSOCIATED: Siderite Quartz Calcite Knebelite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: J01 Polymetallic manto Ag-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Ore is reported to occur in limestone of the Mississippian to Lower Permian Milford Group. The Nicolet is a mineralized fracture comparable to the Lakeshore mine (082FNE018) to the north. The Nicolet mineralization is along a single mineralized fracture that strikes 285 degrees and dips 80 degrees south. It contains galena, sphalerite, pyrite, pyrrhotite and minor chalcopyrite, locally associated with siderite. Pieces of ore from the dump also contain some quartz, calcite and knebelite. The fracture has been traced for about 100 metres to the east, and throughout its exposed length the sulphides are only several centimetres thick, locally expanding along the foliation or subsidiary fractures.

The Nicolet claim was Crown-granted in 1897. The Nicolet was added to the Kootenay Florence group (082FNE016) in the late 1920s. The principal work recorded was done in 1916 and 1917 and between 1950 and 1952 when a total of 607 tonnes of ore was mined (571 tonnes mined in 1952 alone). From this ore, 46,438 grams of silver, 37,069 kilograms of lead and 19,244 kilograms of zinc were recovered.

BIBLIOGRAPHY

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UBC MSC THESIS, ORR 1971
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/20

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE020**

NATIONAL MINERAL INVENTORY:

NAME(S): **MANITOBA (L.10699)**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 45 00 N
LONGITUDE: 116 55 04 W
ELEVATION: 600 Metres

NORTHING: 5510838
EASTING: 505923

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite
COMMENTS: Assumed to be galena and sphalerite.

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: J01 Polymetallic manto Ag-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

A replacement shoot of ore is reported to occur on the Manitoba claim (Richardson, 1957 (Property File)). As part of the Highland group (see 082FNE015), Cominco explored the Manitoba by drilling four holes in 1956.

J.T. Fyles shows the location of the mineralized vein to be in limestone of the Mississippian to Lower Permian Milford Group (Bulletin 53, Figure 3). The characteristics of the mineralization are not reported and assumed to be silver-lead-zinc ore.

BIBLIOGRAPHY

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DATE CODED: 1985/07/24
DATE REVISED: 1999/12/20

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE021**

NATIONAL MINERAL INVENTORY:

NAME(S): **NEW JERUSALEM**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:
LATITUDE: 49 44 54 N
LONGITUDE: 116 55 58 W
ELEVATION: 1133 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5510652
EASTING: 504843

COMMODITIES: Lead Zinc Copper Arsenic Silver
 Cadmium Gold

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Permian-Triassic Kaslo Unnamed/Unknown Formation

LITHOLOGY: Hornblende Schist

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The original work on the New Jerusalem was done before 1900. This included surface stripping and underground stoping and an adit crosscut. A raise from the crosscut to the surface workings was driven in 1937 and 1938. Ore was mined from the raise in 1951 and 1952. Ore production is recorded for 1907 (17 tonnes) and 1952 (223 tonnes) totalling 240 tonnes. From this, 22,426 grams of silver, 249 grams of gold, 38 kilograms of cadmium, 16,226 kilograms of lead and 5,674 kilograms of zinc were recovered.

The main vein of the New Jerusalem is in a fine-grained hornblende schist of the Permo-Triassic Kaslo Group. It has a well-developed foliation dipping 20 to 25 degrees west. A lenticular quartz vein which strikes 290 to 300 degrees and dips 75 degrees to the south contains galena, sphalerite, minor chalcopyrite, pyrite and pyrrhotite. The vein is up to 1 metre thick with lenses and clusters of medium to coarse-grained sulphides 15 to 20 centimetres thick. Vugs and comb structures are common. The vein is exposed on surface for about 100 metres and has been mined for half this length. Where exposed in the drift about 30 metres below surface, it is only 30 centimetres or so thick and poorly mineralized.

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UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/20

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE022**

NATIONAL MINERAL INVENTORY:

NAME(S): **TIGER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 44 48 N
LONGITUDE: 116 56 10 W
ELEVATION: 1200 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

UTM ZONE: 11 (NAD 83)

NORTHING: 5510467
EASTING: 504603

COMMODITIES: Lead Zinc Silver Copper Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite

ASSOCIATED: Quartz Siderite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Replacement Epigenetic
TYPE: J01 Polymetallic manto Ag-Pb-Zn
DIMENSION: Metres

Hydrothermal

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Milford	Unnamed/Unknown Formation	

LITHOLOGY: Limestone
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Tiger claim was Crown-granted in 1893 and considerable work, including hundreds of metres of underground exploration, was done before 1912. A small shipment of ore (22 tonnes) was made from the claim by T.B. Hansen in 1928 and 5785 grams of silver, 31 grams of gold, 4211 kilograms of lead and 2335 kilograms of zinc were recovered. There is no record of other work on the claim. The old workings are presently obscured by undergrowth. A diagram of the workings can be seen in Figure 30, Bulletin 53 (page 113).

Rocks on the claims are grey knotted schist, with narrow interlayers of fine-grained grey limestone, of the Mississippian to Lower Permian Milford Group. A relatively thick layer of limestone continues northward from the Star property (082FNE026), and thin discontinuous layers found east of it contain the Tiger mineralization. The rocks dip to the west at moderate angles.

The mineralization is associated with two small faults striking northwest and dipping 60 to 70 degrees to the southwest. Veins along the fault contain galena, sphalerite, pyrite and minor chalcopyrite associated with quartz and siderite. Rusty-weathering siderite extends irregularly out from the veins into the limestone and locally carries sulphides. The veins and rusty siderite together form mineralized zones up to 1.2 metres thick. The zone in No. 1 adit is 6 metres long and the one near No. 3 adit is 30 metres long. Lenses with appreciable sulphides are generally less than 60 centimetres thick and follow the veins.

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EMPR PF (NOTES, PLANS)
GSC MEM 117, p. 56
GSC MAP 1742
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UBC MSC THESIS, ORR 1971
EMPR ASS RPT 8701

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/21

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE022**

MINFILE NUMBER: **082FNE023**

NATIONAL MINERAL INVENTORY: 082F15 Pb11

NAME(S): **AYESHA**, AYESHA NO.5, ANNA MAY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 45 12 N
LONGITUDE: 116 56 04 W
ELEVATION: 1200 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5511208
EASTING: 504722

COMMODITIES: Lead Zinc Silver Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite
ASSOCIATED: Siderite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Podiform Massive
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: J01 Polymetallic manto Ag-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Ayesha property covers several layers of fine-grained blue-grey to light-grey limestones separated by fine-grained grey knotted schist, all of the Mississippian to Lower Permian Milford Group. The rocks strike north to northeast and dip to the west at moderate angles. At least three limestone layers several metres thick are exposed. They are lenticular and have a branching outcrop pattern suggesting structural repetitions produced by folding.

The principal showings are along the western contact of one layer of limestone where it is transected by three faults. The faults which strike northwest and dip 60 to 65 degrees to the southwest have offset the contact 4.5 to 6 metres to the left. The showings consist of lenses of rusty-weathering siderite in the limestone and contain galena, sphalerite, pyrite and minor chalcopyrite. The siderite replaces the limestone near the faults and occurs as a vein-like filling along the faults. The most extensive replacement is near the faults, where, in one place, siderite with scattered sulphides forms a lens as much as 1.2 metres thick extending about 9 metres from a fault.

These claims are located on Cedar Creek about 4 kilometres by road from Ainsworth. The Ayesha claim was Crown granted to E.W. Herrick in 1891. Very little work has been reported on these claims prior to 1948. Mr. L. McPhee acquired the Ayesha, No. 5, Anna May, No. 5 Free., Kate, New York and Cecilia May Fraction sometime prior to 1948. Silver Hill Mines Ltd. was formed to develop the claims. The top adit on the Ayesha claim was extended 23 metres to make a total length of 41 metres. A tunnel on the No. 5 claim was driven for over 122 metres without intersecting the vein exposed on the surface above.

Northern Exploration Ltd. acquired the property in 1950 and began work on a surface showing above the Ayesha adit. A 3.6-metre wide lead-zinc replacement zone in limestone was exposed and traced for 9 metres.

In 1951, Ayesha Lead-Zinc Mines Ltd. acquired the property. Leasers began a raise 18 metres from the Ayesha portal. Replacement mineralization up to 1.5 metres in width was found in small pockets.

S.A. Liening, of Seattle, held an option on the property in 1953. The Ayesha tunnel was extended to a length of 116 metres. Narrow veins were intersected at 58 and 104 metres from the portal.

CAPSULE GEOLOGY

On the second vein, 27 metres of drifting and a raise through to the surface were completed.

Triumph Mines Ltd. acquired the property in December 1953. The following year a 64-metre adit was driven on a fissure vein exposed on the No. 5 claim. At the end of the drift a 52-metre cross cut was driven to intersect another vein which had been explored from the surface about 30 metres above by a shaft 9 metres deep. A drift about 9 metres long was driven on this second vein.

The only work reported on the Anna May claim was done in about 1920. A tunnel was driven but apparently not far enough to reach the ore bearing zone.

The Ayesha has recorded ore production for 1911 and for 1949 to 1952, inclusive. A total of 70 tonnes of ore was produced, from which 28,739 grams of silver, 17,831 grams of lead and 9,306 of zinc were recovered.

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1953-132
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GSC P 44-13
GSC MAP 603A, 1704
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/21

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE024**

NATIONAL MINERAL INVENTORY: 082F15 Ag1

NAME(S): **SILVER HOARD (L.10712)**, DELLIE (L.241), LITTLE MAY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 44 54 N
LONGITUDE: 116 57 04 W
ELEVATION: 1466 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5510651
EASTING: 503522

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Silver Lead Zinc Fluorite Gold

MINERALS

SIGNIFICANT: Silver Galena Sphalerite Pyrite Fluorite

ASSOCIATED: Chalcopyrite Calcite Siderite Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Podiform
CLASSIFICATION: Replacement Epigenetic Hydrothermal Industrial Min.
TYPE: J01 Polymetallic manto Ag-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

This group of claims is located on Cedar Creek at an elevation of about 1300 metres. The main adit is on the Dellis claim to the south of the creek and may be reached by about 11 kilometres of road from Ainsworth.

The Dellie claim was Crown granted to S.S. Bailey in 1893, however, small scale mining operations were being carried out at this location as early as 1889. The operation continued intermittently until 1896 when it was closed down. During 1901-02 the Little May claim was being worked and about 21 metres of shaft and 67 metres drift was completed.

The Silver Hoard Mining Co. of Spokane took over the mine in 1911 and operated it through 1917. Leasers then took over the property and worked it through 1927. By 1923 the company had acquired 5 Crown granted claims, the Silver Hoard Fr., Dellie Fr., Dellie, Nellie Fr. and Little May. The ore zone had been developed by a 61 metre inclined shaft and about 610 metres of workings. Apparently the Consolidated Mining and Smelting Co. Ltd. acquired ownership of the property in 1925 and held it through 1949 although there is no record of any work having been done by the company.

From 1949 to 1951 the property apparently changed hands three times, being owned successively by H. Giegerich, Now Jason Mines Ltd., Toronto, and Silver Hoard Mines Ltd., of Toronto. Leasers worked the property during this period. Silver Hoard Mines Ltd. did some diamond drilling and surface exploration on the property in 1952, however, no further activity has been reported.

The orebodies in the Dellie mine are associated with shear zones at or near the contact of folded limestone and argillite of the Mississippian to Lower Permian Milford Group. Silver is found in the replacement ore which occurs in the limestone. Silver also occurs as wires in cavities in the limestone. The ore is a mixture of coarse galena and sphalerite with minor amounts of pyrite and chalcopyrite. The gangue consists of green fluorite, calcite, siderite and quartz.

A total of 3070 tonnes of ore was mined in 23 years from 1889 to 1973. From this, 4,039,438 grams of silver, 31 grams of gold, 83,481 kilograms of lead and 37,873 kilograms of zinc were recovered.

BIBLIOGRAPHY

EMPR PF
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1912-147, 1913-420, 1914-285,509, 1915-445, 1916-195, 1917-155,
448, 1921-131, 1922-189,194, 1923-208, 1924-188, 1925-231,239,
1926-269, 1927-282, 1948-139, 1949-180, 1950-134, 1952-179
EMPR GEM 1969-333, 1970-460, 1973-72
EMPR BULL 53-106
EMPR INDEX 3-213
GSC MEM 117-53
GSC P 44-13
GSC MAP 603A, 1742
EMR MP CORPFILE (SILVER HOARD MINES LTD.)
N MINER 29-5 (1952)
UBC MSC THESIS, ORR 1971
EMPR OF 1992-16

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/21

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE025**

NATIONAL MINERAL INVENTORY:

NAME(S): **NO. ONE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:
LATITUDE: 49 44 27 N
LONGITUDE: 116 56 57 W
ELEVATION: 1466 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5509817
EASTING: 503663

COMMODITIES: Silver Lead Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite Silver
COMMENTS: Highly oxidized ore.
ASSOCIATED: Siderite Calcite Quartz
ALTERATION TYPE: Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Discordant Massive Disseminated
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn
SHAPE: Tabular
MODIFIER: Fractured Sheared
DIMENSION: STRIKE/DIP: 315/45 TREND/PLUNGE:
COMMENTS: The general trend of the replacement orebodies.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE Carboniferous GROUP Milford FORMATION Undefined Formation IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Kootenay
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Amphibolite

CAPSULE GEOLOGY

The No. One occurrence occurs in the "No. 1 Limestone" which is intercalated between dark-grey argillites of the Mississippian-Pennsylvanian Milford Group. Small intrusions of "gneissic granite" are reported in the vicinity of the deposit.

The deposit consists of replaced limestones along a shear zone (northwest 45) and brecciated host rocks near or at the upper contact of the "No. 1 Limestone" with black argillites. The ore is generally oxidized, consisting mainly of iron oxide, some lead carbonates and wide silver and forming a dark brown, decomposed mass. Original sulphides are observed in places. Gangue consists mainly of calcite with locally some siderite and quartz growing in cavities in the calcite cement. Limestones in the ore are reported to be silicified.

BIBLIOGRAPHY

EMPR PF (Plans, Notes)
EMPR AR 1888-305; 1889-282; 1890-367; 1893-1045,1062; 1894-735; 1895-681; 1896-37,46,559; 1897-527; 1898-1080; 1899-698; 1901-1029; 1902-152; 1904-155,200; 1905-158; 1906-142; 1907-95,213; 1908-93; 1909-105; 1912-146; 1913-123; 1914-509; 1916-516; 1919-119; 1922-194; 1925-231; 1929-284; 1936-E51; 1946-35,151
EMPR INDEX 3-207
EMPR BULL 53, p. 103
GSC MEM 117-51; 228-82
GSC MAP 1742
UBC MSC THESIS, Orr 1971
GSC P 44-13

DATE CODED: 1985/07/24
DATE REVISED: 1988/09/21

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNE026**

NATIONAL MINERAL INVENTORY: 082F10 Pb7

NAME(S): **STAR, SUNLIGHT**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 44 24 N
LONGITUDE: 116 56 10 W
ELEVATION: 1178 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5509725
EASTING: 504603

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Zinc Silver Gold

MINERALS

SIGNIFICANT: Sphalerite Galena

ASSOCIATED: Calcite

MINERALIZATION AGE:

DEPOSIT

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

Replacement

J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Paleozoic
Triassic-Jurassic

GROUP

Milford

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Limestone
Argillite
Schist
Quartz Diorite
Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

This Star property is located directly west of Ainsworth at an elevation of 1036 metres and may be reached by about 9.6 kilometres of road from the village. The portals of the tunnels are on the Sunlight claims, the workings extending into the Star claim to the west.

Development work on the Sunlight claim was begun in 1895 and the first shipment of ore was made the following year. The Star claim was Crown-granted to Messrs. Strobeck and Hardie in 1898. The work continued intermittently through 1910. The workings at this time consisted of about 229 metres of tunnel, 91 metres of crosscuts and 30.5 metres of shaft.

The mine was closed from 1910 until 1945 when it was acquired by A.G. Norcross of Nelson. By 1950 the workings consisted of two adits, 56 metres apart vertically, the upper one 76 metres long, the lower one about 244 metres long. A 15 metre sub level is connected by a 15 raise to the upper adit and also to the surface by an old shaft.

During 1951-52 Privateer Base Metals Ltd. held an option on the property and completed a diamond drilling program amounting to 1067 metres in 30 holes. The purpose of this was to trace the continuation of the fault to the northwest and to explore both walls of the fault zone for further replacement deposits. Very little ore was found so the option was dropped. In 1955, the owner, A.G. Norcross, did some stoping in the old workings.

Argillites, limestones and schists of the Mississippian to Lower Permian Milford Group are intruded by Upper Triassic to Middle Jurassic quartz diorite sheets and lamprophyre dykes. The ore occurs in a cross fault zone 30 to 60 centimetres wide, that is filled with coarsely crystalline calcite. Galena and sphalerite occur in equal proportions in small veins in the calcite. Replacement ore is found locally in the limestone wallrocks.

A total of 726 tonnes of ore was mined in 5 years between 1949 and 1956 (inclusive). From this, 167,893 grams of silver, 65,336 kilograms of lead, 55,124 kilograms of zinc and 559 grams of gold

CAPSULE GEOLOGY

were recovered.

BIBLIOGRAPHY

EMPR PF (NOTES, PLANS)
EMPR AR 1895-682, 1896-37,561, 1898-1193, 1899-596,707, 1902-
152, 1908-93, 1909-105, 1910-97, 1911-131, 1948-137,139, 1949-
180, 1950-34, 1951-39,160, 1952-166
EMPR INDEX 3-214, 4-125
EMPR BULL 53, p. 110
GSC MEM 117-55
GSC MAP 603A, 1742
UBC MSC THESIS, ORR 1971
EMPR ASS RPT 8240, 8992

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/21

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE027**

NATIONAL MINERAL INVENTORY:

NAME(S): **JEWEL**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 44 36 N
LONGITUDE: 116 54 58 W
ELEVATION: 800 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5510097
EASTING: 506044

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Silver

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Calcite Siderite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE: Upper Paleozoic
GROUP: Milford

FORMATION: Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Mica Schist
Marble

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The main showing on the Jewel Crown grant claim is a galena-bearing vein of calcite and siderite in grey fine-grained mica schist and calcareous mica schist with grey marble lenses. The vein strikes 290 to 300 degrees and dips 70 degrees to the south and is about 1 metre thick at the widest place. It has been followed for about 60 metres in an adit from which small amounts of ore have been mined. Other similar veins are reported near the shore of Kootenay lake, east of the vein.

In 1937, 24 tonnes of ore was mined from which 6221 grams of silver and 6855 kilograms of lead were recovered.

BIBLIOGRAPHY

EMPR AR 1918-164, 1937-E51
EMPR BULL *53, p. 95
EMPR INDEX 3-201
GSC MEM 228, p. 81
UBC MSC THESIS, ORR 1971
EMPR ASS RPT 8240, 8992

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/21

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE028**

NATIONAL MINERAL INVENTORY: 082F10 Pb9

NAME(S): **SPOKANE (L.212)**, TRINKET (L.213), MAESTRO (L.90),
TRINKETT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:
LATITUDE: 49 44 02 N
LONGITUDE: 116 55 24 W
ELEVATION: 980 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Adits on each side of Munn Creek.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5509047
EASTING: 505525

COMMODITIES: Silver Lead Zinc Gold Cadmium

MINERALS

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

DEPOSIT

CHARACTER: Vein Massive Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Faulted Fractured
DIMENSION: Metres STRIKE/DIP: 180/25W TREND/PLUNGE:
COMMENTS: Attitude dips 25 to 45 degrees west.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Carboniferous Milford Undefined Formation

LITHOLOGY: Quartzite
Hornblende Schist
Siliceous Limestone
Lamprophyre

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Pre-mineralization GRADE: Amphibolite

CAPSULE GEOLOGY

The Spokane occurrence is hosted by quartzites, hornblende schists and siliceous limestones of the Mississippian-Pennsylvanian Milford Group intruded by some lamprophyre dykes or sills, less than 2.5 metres thick, that closely conform to bedding and foliation.

The deposit consists of two subparallel veins, that conform to bedding and foliation. The two veins are less than 2 metres apart, they merge and split locally. They are offset by small senestral or dextral northwestern cross-faults. A gouge and breccia band less than 7 metres thick, commonly occurs along the western vein. The ore occurs as lenses scattered along the vein or at the intersection of the northwest cross-faults. The ore consists of massive cubic to fine-grained and sheared galena with some sphalerite in a massive to porous gangue of quartz. Fragments of quartzite occurs in the vein.

Located on the Munn Creek slope, about 4.8 kilometres by road from Ainsworth, the claims lie in a north-west trending line across the southwest corner of the Ainsworth townsite. Both claims were Crown-granted to the Pacific Bullion M. Co. in 1893. The owners worked the property from 1888 to 1896 and from 1915 through 1920. Leasers operated the mine from 1921 to 1929.

By 1920 the deposit had been developed by two adit levels. The upper level, at an elevation 61 metres below the outcrop, was driven for over 274 metres along the vein. Over 122 metres of this was in an overshoot that was stoped through to the surface. The lower adit was started not far from the portal of the upper and only 8 metres vertically below it, and driven for 110 metres on the fissure. The last 67 metres of this tunnel was on the main ore zone and 55 metres of this part of the drift has been stoped through to the level above.

The Maestro Silver Lead Mines Ltd. was formed in 1937 to develop the Maestro and Spokane mines but no work was done, and the company became defunct in 1940. Ainsworth Vines Ltd., formed in 1936 to

CAPSULE GEOLOGY

operate the Banker mine, gained control of the Spokane and development work was resumed in 1941.

In 1942 Ainsmore Mines Ltd. (later Ainsmore Consolidated Mines Ltd.) was formed to operate the Spokane. A shaft was sunk from the lower adit for 30 metres and from this new level 22 metres of drift and a raise were put in.

Yale Lead & Zinc Mines Ltd. acquired the property in 1949 and leasers worked the mine intermittently through 1957.

BIBLIOGRAPHY

- EMPR AR 1888-305; 1889-282; 1890-367; 1895-682; 1896-92,559,560,561; 1899-696; 1906-142; 1907-95,213; 1908-93,247; 1909-105,272; 1910-96,243; 1911-131,284; 1912-146; 1913-123,420; 1914-285,509; 1915-445; 1916-195,516; 1917-155,187,448; 1918-159; 1919-119,152; 1920-119; 1921-130,134; 1922-189,194; 1923-209; 1924-188; 1925-231,239; 1927-282; 1928-301; 1929-284; 1937-E51; 1941-76; 1942-71; 1943-70; 1944-68; 1945-102; 1947-167; 1948-139; 1949-129,179; 1950-134; 1951-39; 1952-42,56,159; 1953-45,130; 1954-51,131; 1955-58; 1957-A47; 1958-A46; 1959-A49
- EMPR ASS RPT 8240, 8992
- EMPR BC METAL MM01416 (exclude 1979 and 1980, which belongs to Antoine (082KSW011))
- EMPR BULL 53
- EMPR INDEX 3-214,187,204
- EMPR IR 1984-2, p. 103
- EMPR PF (Starr, C.C. (1928): Report of Preliminary Examination of the Banker and Maestro Mines (see Banker (082FNE029))
- EMR MP CORPFILE (Ainsmore Mines Ltd., Ainsmore Consolidated Mines Ltd.)
- GSC MAP 603A; 1742
- GSC MEM 117, p. 44; 228, p. 79
- UBC MSC THESIS, Orr 1971

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/21

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNE029**

NATIONAL MINERAL INVENTORY: 082F10 Pb2

NAME(S): **BANKER (L.147)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 43 42 N
LONGITUDE: 116 54 57 W
ELEVATION: 908 Metres

NORTHING: 5508430
EASTING: 506066

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Zinc Silver Gold

MINERALS

SIGNIFICANT: Galena Pyrite Sphalerite
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Banker deposit is a quartz vein paralleling the bedding in quartzite of the Mississippian to Lower Permian Milford Group. Galena is associated with sphalerite and pyrite in a gangue of quartz, calcite and crushed country rock. The ore shoots seem to have been localized in zones where the vein and strata dip flatly.

A total of 4346 tonnes of ore was mined from the Banker, primarily from 1927 to 1937 but also in 1909, 1959 and 1960. From this ore, 1,916,941 grams of silver, 1,016,876 kilograms of lead, 24,567 kilograms of zinc and 31 grams of gold were recovered.

The Banker claim is located on a high bluff to the west of Ainsworth. The orebody is found on the extension of the vein through the Highlander and Albion claims. Originally staked in 1890 by A.D. Wheeler, the claim has been worked intermittently since that time. H. Giegerich acquired the claim prior to 1909. The Consolidated Mining and Smelting Co. Ltd. held a lease on the property from 1913 to 1928.

Underground workings up to 1928 consisted of an inclined shaft following the dip of the vein for about 60 metres. Two drifts extend southerly along the vein at depths of 7 and 18 metres, the upper one 49 metres long has been largely stoped through to the surface, the lower one was driven for 21 metres. A crosscut tunnel was driven from the bottom of the bluff to explore the vein at a depth of about 116 metres. The tunnel was extended to 218 metres. At 190 metres from the portal drifts were run north and south, the northerly one 96 metres long.

From 1928 to 1937 the property was worked intermittently by a number of leasers, the greater amount of work being done by Banker Mines Ltd. and Ainsworth Mines Ltd.

The property was acquired by Yale lead & Zinc Mines Ltd. in 1949 and was worked, along with the Highlander, Albion and other claims, up until 1959. A raise was driven from the Highlander workings to the 2,500 Banker adit. A 2,300 sublevel was driven off the raise and stoping carried out from this level and from the 2,150 level. A raise was driven from the 2,500 level to connect with the bottom of the old Banker shaft workings. A31 the ore was taken out through the Highlander tunnel. In 1956 the 1,900 level Highlander Tunnel was being driven toward the Banker orebody but apparently no ore was found at this depth. The company closed down in 1938 but leasers continued operations through 1959 and part, of 1960.

BIBLIOGRAPHY

EMPR AR 1895-682, 1896-557, 1908-93, 1909-105,272, 1913-123,
1914-285, 1917-155,187, 1928-301, 1929-284,323, 1930-255,
1935-E35, 1936-E51, 1937-E51, 1948-138, 1949-179, 1950-135,
1951-144, 1952-156, 1954-131, 1955-57, 1956-91, 1957-49,
1959-A48,66, 1960-A54
EMPR ASS RPT 8240, 8992
EMPR BULL 53
EMPR INDEX 3-188, 4-179
EMPR PF (Starr, C.C. (1928): Report of Preliminary Examination of the
Banker and Maestro Mines
GSC MAP 603A, 1742
GSC MEM 117, p. 44; 228, p. 77
GSC P 44-13
N MINER 11-10 (1952)
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/14

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

and Black Diamond (082FNE149). The north drift on the Highlander vein was extended to 640 metres and raises, following the dip of the Highlander vein, were driven to the Albion and Banker workings. Stopping was carried out on 3 levels. In 1955 a new adit was driven 60 metres below the old adit. The end of the ore body was reached in 1959 and the mine closed. Leasers worked the Highland vein in 1959 and 1960.

BIBLIOGRAPHY

EMPR AR 1892-532; 1893-1045; 1895-682; 1896-37,90,588; 1897-527;
1899-96; 1900-852; 1901-1029; 1902-152; 1903-141; 1904-154; 1905-
158; 1906-142; 1907-95; 1908-93; 1911-131; 1912-325; 1949-179;
1950-133; 1951-144; 1952-42,162; 1953-45,129; 1954-50,131,260;
1955-A49,56,58,175; 1956-A51,91; 1957-A46,73,74,152; 1958-A46,43;
1959-A48,66; 1960-A55,73; 1961-A50,74
EMPR ASS RPT 8240, 8992
EMPR BULL 53
EMPR INDEX 4-122
EMPR OF 1998-10
GSC MAP 603A; 1742; 1784
GSC MEM 117-45; 228-81
GSC P 44-13
N MINER 11-10 (1952)
UBC MSC THESIS, Orr 1971

DATE CODED: 1985/07/24
DATE REVISED: 1988/09/22

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNE031**

NATIONAL MINERAL INVENTORY: 082F10 Pb1

NAME(S): **DICTATOR**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 43 00 N
LONGITUDE: 116 55 04 W
ELEVATION: 1066 Metres

NORTHING: 5507132
EASTING: 505927

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Hydrothermal Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Dictator claim is underlain by limestone and quartzite of the Mississippian to Lower Permian Milford Group. A narrow quartz-calcite-galena-sphalerite vein striking 130 degrees with vertical dip occurs. Fine-grained disseminated sphalerite also occurs in the adjacent limestone. A 1980 drill hole near the vein encountered a 0.9-metre wide quartz-calcite vein hosting a small amount of sphalerite. Some tunnelling occurred on the Dictator in the 1890s.

BIBLIOGRAPHY

EMPR AR 1890-367, 1895-682, 1896-557
GSC MAP 1742
EMPR ASS RPT 8240, *8992

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/22

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE032**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHARON**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 47 46 N
LONGITUDE: 116 55 04 W
ELEVATION: 900 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5515965
EASTING: 505918

LOCATION ACCURACY: Within 500M

COMMENTS: The Annual Report for 1964 states that the Sharon is about 3 miles (5 kilometres) from the Ainsworth-Kaslo Highway. However, Fyles (Bulletin 53, page 19) reports that the Sharon occurs at the western contact of the Princess Formation which is around 1.5 kilometres from the highway. Both sources state that the Sharon is on the north side of Woodbury Creek. The given location is based on Fyles' report.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic	Lardeau	Index	

LITHOLOGY: Mica Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

On the north side of Woodbury Creek, the western contact of a garnet mica schist unit (Princess formation) of the Middle Cambrian to Middle Devonian Index Formation (Lardeau Group) is marked by a sheared and crushed zone. It is a zone 30 to 60 metres wide of sheared and crushed dark-grey carbonaceous rock containing scattered pyrite. Three tonnes taken from this zone in 1964 yielded 964 grams of silver, 699 kilograms of lead and 66 kilograms of zinc.

BIBLIOGRAPHY

EMPR BULL 53
EMPR AR 1964-A56,120
EMPR INDEX 4-125
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/22

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE033**

NATIONAL MINERAL INVENTORY:

NAME(S): **JACK POT**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 43 56 N
LONGITUDE: 116 55 04 W
ELEVATION: 900 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5508862
EASTING: 505925

LOCATION ACCURACY: Within 1 KM

COMMENTS: Reported to be north of the Banker claim.

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Quartzite
Schist
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The area of the Jack Pot is underlain by micaceous quartzite, mica schist and limestone of the Mississippian to Lower Permian Milford Group.

The Highlander vein outcrops from near Loon Lake to Munn Creek, a distance of about 1.6 kilometres. The fault zone in which it occurs continues even further. The vein curves from a strike of almost due north near Loon Lake to 340 degrees on the Jack Pot. Galena and sphalerite occurs in a gangue of quartz and calcite.

It is reported that in 1953, 352 tonnes of ore from the Jack Pot was milled.

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EMPR BULL *53, pp. 48,90
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EMPR ASS RPT 9347

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/23

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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PAGE: 53
REPORT: RGEN0100

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UBC MSC THESIS, ORR 1971
EMPR ASS RPT 8240, 8992

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/23

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE035**

NATIONAL MINERAL INVENTORY: 082F10 Pb5

NAME(S): **EDEN & CRESCENT**, CRESCENT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 41 54 N
LONGITUDE: 116 55 28 W
ELEVATION: 900 Metres

NORTHING: 5505094
EASTING: 505449

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Unknown Galena Sphalerite Pyrite
ASSOCIATED: Quartz Calcite Siderite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
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 Paleozoic	Milford	Unnamed/Unknown Formation	

LITHOLOGY: Mica Schist
Micaceous Quartzite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT:
TERRANE:

CAPSULE GEOLOGY

The Eden and Crescent claims extend in a general north-south direction across Coffee and Krao creeks. The mine may be reached by a 2.4 kilometre long road up Coffee Creek from the Nelson-Kaslo highway.

The claims cover a layer of crystalline grey limestone in micaceous quartzites and mica schist of the Mississippian to Lower Permian Milford Group. The workings follow two shear zones about 75 metres apart which strike north and dip 45 degrees to the west.

The most easterly zone, followed by an adit contains highly sheared and dark-grey to black schist in a zone 1.2 to 1.5 metres wide that near the portal contains lenses of quartz but no sulphides. The most westerly fault is in mica schist and micaceous quartzite just west of a prominent limestone. It contains fine-grained quartz with many vugs, minor calcite and siderite as well as resinous brown sphalerite, galena and pyrite.

Both claims were Crown-granted to the Columbia Mining Co. in 1894. Small scale mining operations were first reported in 1890 but the details of this and later operations have not been recorded.

Development work was begun in 1916 when the property was worked by leasers under an option from the Larson estate. In 1919 the Eden and Crescent Mining Co. acquired the property along with 7 other claims plus a fraction. They drove a crosscut 168 metres to intersect the vein at a depth of about 44 metres and then drifted on the vein for about 9 metres. Two shafts, 30 metres apart, were sunk on the Crescent vein, one 12 metres deep, the other 8 metres deep. The company ceased operations in 1919 and the mine remained closed until 1937. Leasers worked the property during 1937-38.

The Yale Lead and Zinc Mines Ltd. acquired the property in 1949 and leasers mined on a contract basis until 1956 when the operation was abandoned. A stope, about 15 metres long, was carried up the vein to the surface. An inclined shaft was sunk 37 metres on the vein from the adit level. Some stoping was carried out up to the adit level but very little ore was found to either side of the shaft.

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 55
REPORT: RGEN0100

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GSC P 44-13
GSC MAP 603A, 1742
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/24

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE036**

NATIONAL MINERAL INVENTORY: 082F10 Pb6

NAME(S): **BELLE AIRE**, HALGREN

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 41 48 N
LONGITUDE: 116 55 10 W
ELEVATION: 766 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

UTM ZONE: 11 (NAD 83)

NORTHING: 5504909
EASTING: 505809

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Milford	Unnamed/Unknown Formation	

LITHOLOGY: Garnet Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

On the Belle Aire, a quartz vein in mica and garnet schists of the Mississippian to Lower Permian Milford Group strikes parallel to the foliation of the schists. The vein is 45 centimetres wide at the portal but becomes narrow and lenticular in the adit. The hanging wall is a fault plane with slickensides parallel to the dip. Ore consists of galena and sphalerite occurring as small lenses. Four tonnes were mined in 1950 and 249 grams of silver, 327 kilograms of lead and 28 kilograms of zinc were recovered.

The early history of the development of this mineralized vein, outcropping just above the Coffee Creek bridge on the Nelson-Kaslo highway, is not clear. Apparently the Belle Aire claim is a relocation of an earlier Crown-granted claim, either the Blizzard or the Sunnyside. Exploration work on the Blizzard claim in 1917 consisted of a 10 foot tunnel, a shallow shaft and two open cuts. An adit visa to have been collared at creek level to explore the vein or depth.

In 1950, S. Hallgren staked the Belle Aire claim astride Coffee Creek, adjacent to the bridge. He worked the property intermittently until 1958. An old adit, which had been collared above the high-water mark on the north side of the creek, was extended to a length of 37 metres. Another adit, 9 metres vertically above, was driven for 6 metres.

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GSC MAP 603A, 1742
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/24

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE037**

NATIONAL MINERAL INVENTORY: 082F15 Pb1

NAME(S): **DAISY BELL**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 46 54 N
LONGITUDE: 116 55 10 W
ELEVATION: 850 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5514359
EASTING: 505799

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres
STRIKE/DIP: J01 Polymetallic manto Ag-Pb-Zn
TREND/PLUNGE: /

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Milford	Unnamed/Unknown Formation	

LITHOLOGY: Limestone
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

This Daisy Bell property is located south of the South Fork of Woodbury Creek (Lendrum Creek), about 3 kilometres by road from the Kootenay Florence mine.

A rusty vertical fracture striking east and containing several centimetres of quartz and locally galena is followed in the workings. The host rock is reported as either a fine-grained mica schist or limestone of the Mississippian to Lower Permian Milford Group.

One report describes the ore as occurring as fissure and cavity fillings and replacement bodies in limestone. The limestone occurs in relatively thin bands and tends to be vuggy and cavernous in places.

From 1948 to 1951, the Daisy Bell recorded a total ore production of 150 tonnes. From this 35,147 grams of silver, 23,352 kilograms of lead and 9,490 kilograms of zinc were produced.

In 1901 the King Solomon Mines Co. obtained 35 claims at the mouth of Woodbury Creek and built a concentrator there. In 1903 the company obtained the Daisy claim. By the end of 1904 this company owned 60 Crown-granted claims in this vicinity. A small number of men were employed through 1910, the latter years being limited to assessment work only. After this period of activity these claims apparently reverted to the Crown and no further activity is reported until 1928.

The Princess Creek Mining Co. Ltd. was organized in 1928 to develop the R.F.G. and Bell groups consisting of 7 claims. Some exploration work was carried out the following year on the R.F.G. group. No further activity is reported until 1948. At this time the property consisted of 3 claims, the Florence M, the Daisy, and the Bell, and was owned by J. Cossetto of Ainsworth. Leasers worked the Florence MI. claim during 1948 and 1949. The Woodbury Mines Co. Ltd. was formed in 1950 to develop the Daisy Bell group of 6 claims, their holdings later being increased to 10 claims. Some drifting was done on the Daisy vein and about 1524 metres of diamond drilling was completed. In 1952 the Woodbury Mines Co. extended its holdings to the shore of Kootenay Lake by acquiring the Amazon, Budweiser, Budweiser Frac., and Superior claims from Kaslo Base Metals Ltd. This group of claims had originally been staked by the Canadian Pacific M. & M. Co. in 1696. After 1952 most of the work done by

CAPSULE GEOLOGY

Woodbury Mines Co. was confined to this new group of claims. A total of 396 metres of tunnel was driven, 253 metres of it being on the Superior claim. Diamond drilling underground amounted to 158 metres in four holes. All work by this company ceased in 1953.

The Kaslo Base Metals Co. resumed work on the Amazon-Budweiser group in 1956. The adit on the Superior claim was extended an additional 56 metres. At 302 metres from the portal a fissure vein was intersected which contained a 7 to 10 centimetre width of galena and replacement ore up to a width of 0.6 metre.

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GSC MEM 117
GSC P 44-13
GSC MAP 44-13A, 44-13B, 1704
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/04

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REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE038**

NATIONAL MINERAL INVENTORY: 082F15 Ag2

NAME(S): **NORANDA**, BUGABOO, SILVERGLANCE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 18 N
LONGITUDE: 116 55 58 W
ELEVATION: 1133 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

UTM ZONE: 11 (NAD 83)

NORTHING: 5513246
EASTING: 504840

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Pyrrhotite Chalcopyrite
ASSOCIATED: Quartz Siderite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Paleozoic

GROUP

Milford

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

This group of claims lies along the western edge of the Highland and Florence properties and covers an area extending from near Cedar Creek to the South Fork of Woodbury Creek.

The principal rocks of the Noranda are schists and limestone of the Mississippian to Lower Permian Milford Group. Granite also outcrops in the vicinity. The property was developed along with the Silver Glance (082FNE010) in the 1950s and 1960s.

The mineralization on the claim group is described as consisting of quartz and siderite containing galena, sphalerite, pyrite, pyrrhotite and minor chalcopyrite. In the Noranda adit, lead-zinc mineralization over 1 metre thick was followed for over 30 metres and was eventually mined out in 1964 and 1965, amounting to 2177 tonnes of ore (Bulletin 53).

The Hercules-Silver Glance group consists of the Hercules, Sullivan, Noranda, Silver Bell, Glen Ellen, Harrison, Free Silver and Silver Glance claims. Three of the claims, formerly called the Pataha, Bugaboo and Ellen were relocated in 1951 under the respective names of Hercules, Sullivan and Noranda.

Most of the development work on the Hercules claim was done about 1890. The workings now consist of 36 metres of tunnel in two adits, a shaft 4.5 metres feet deep and some trenching. On the Sullivan claim a 23 metre shaft was put down about 1895. Nubar Mines Ltd. of Toronto held an option on the claims in 1951 and are reported to have done some diamond drilling. The Asbestos Corporation Ltd. did about 914 metres of diamond drilling in 30 holes in 1952. The results of this work have apparently not been released by the company.

The Silver Glance claim, which lies astride the South Fork of Woodbury Creek, about 3 kilometres from its mouth, has had the most development work done on it. The property was located in 1896 and was apparently worked intermittently for about 4 years. A tunnel at creek level follows the vein in a 110 degree direction for 66 metres. Here the vein splits and is followed by two branches of the tunnel, one going 85 degrees for 23 metres, in which the vein appears to pinch out, the other branch extending for 18 metres at 110 degrees with the vein still in the face.

In 1952 Guichon Mine Ltd., owners of the Buckeye claim, held an option on all the above claims, however their work was apparently

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CAPSULE GEOLOGY

confined to the Buckeye. Between 1951 and 1957 considerable work was done by Triumph Mines Limited. In 1964 and 1965 ore was mined from the Noranda adit and shipped to the Yale mill in Ainsworth. By 1967, the property was owned by Blue Star Mines limited.

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DATE CODED: 1985/07/24
DATE REVISED: 2000/01/04

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE039**

NATIONAL MINERAL INVENTORY:

NAME(S): **PANORAMA #3**, PARKLAND

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 33 42 N
LONGITUDE: 116 57 28 W
ELEVATION: 2233 Metres

NORTHING: 5489898
EASTING: 503053

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Lardeau	Index	

LITHOLOGY: Mica Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Lenticular quartz veins occur parallel to schistosity in grey fine grained mica schist of the Cambrian to Devonian Index Formation, Lardeau Group. The veins contain local clusters of galena.

BIBLIOGRAPHY

EMPR AR 1928-326, 1968-246
GSC MEM 228
EMPR ASS RPT 8941

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/04

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE040**

NATIONAL MINERAL INVENTORY:

NAME(S): **PANORAMA #1**, PARKLAND

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 33 18 N
LONGITUDE: 116 57 04 W
ELEVATION: 2433 Metres

NORTHING: 5489157
EASTING: 503536

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Epigenetic Hydrothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic

GROUP

Lardeau

FORMATION

Index

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Schist
Marble
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Vuggy quartz vein with clusters of galena occur lying parallel to foliation in a schist-marble-quartzite succession of the Cambrian to Devonian Index Formation, Lardeau Group. The vein is discontinuous down slope for 50 metres in elevation.

BIBLIOGRAPHY

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DATE CODED: 1985/07/24
DATE REVISED: 2000/01/04

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE042**

NATIONAL MINERAL INVENTORY: 082F15 Pb12

NAME(S): **KOOTENAY CHIEF, BLUEBELL, BLUE BELL, RIONDEL, BLUE BELLE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 45 27 N
LONGITUDE: 116 51 49 W
ELEVATION: 800 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Riondel Peninsula.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5511678
EASTING: 509824

COMMODITIES: Silver Zinc Lead Copper Cadmium
Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrrhotite Pyrite Chalcopyrite
 Arsenopyrite Marcasite
ASSOCIATED: Quartz Calcite Magnetite Siderite Knebelite
 Chlorite
ALTERATION: Chlorite Carbonate Serpentine
COMMENTS: Alteration of knebelite (chlorite, carbonate, serpentinite).
MINERALIZATION AGE: Tertiary
ISOTOPIC AGE: 19.2 +/- 5.6 Ma DATING METHOD: Rubidium/Strontium MATERIAL DATED: Fluid inclusion

DEPOSIT

CHARACTER: Vein Stratabound Discordant Massive
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: J01 Polymetallic manto Ag-Pb-Zn
SHAPE: Irregular
MODIFIER: Fractured
COMMENTS: Deposit consists of three irregular ore zones along the Riondel Peninsula.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian Undefined Group Badshot

LITHOLOGY: Limestone
 Quartzite
 Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

CAPSULE GEOLOGY

In 1825, a botanist discovered sulphide ore at the Bluebell site. In later years, Hudson Bay Company trappers used galena from this site to make bullets. The site was staked by R.E. Sproule in 1882. The Bluebell occurrence consists of three main zones approximately 500 metres apart along strike of the Lower Cambrian Badshot Formation marble. The Comfort zone (082FNE044) occurs at the north end of Riondel Peninsula, the Bluebell zone (082NE043) in the centre, and the Kootenay Chief at the south end. The zones are localized along steep cross-fractures that trend west-northwesterly and dip 80 to 90 degrees north. Within the zones are tabular ore shoots that are transverse to the bedding and plunge westward following the intersection of the fractures with the marbles. The ore occurs as replacement deposits along steep cross fractures in the marbles. Bedding planes and minor structures tend to localize the deposit. The ore consists of galena, sphalerite, pyrrhotite, pyrite, arsenopyrite, and chalcopyrite. The gangue occurring with the sulphides consists of carbonates, coarsely-grained quartz and knebelite. Oxidation of the deposit has occurred to depths well below lake level.

The large surface showing was known to early fur traders and was brought to the attention of mining capital as early as 1865. The first claims were located in 1852 and development work was begun two years later. By 1891 about 70 claims had been staked in the surrounding area. From 1888 to 1896 the mine was operated by the Kootenay Mining & Smelting Co. Ltd.

CAPSULE GEOLOGY

In 1906 the property was taken over by the Canadian Metal Co. Ltd. Due to financial difficulties the company was reorganized in 1911 under the name of the New Canadian Metal Co. They worked the property intermittently for about 20 years. There are three known centres of mineralization in the mine, spaced at approximately 457 metre intervals along the strike of the limestone. These three ore zones are known from north to south as the Comfort, the Bluebell, and the Kootenay Chief. At the time the mine closed an inclined shaft had been sunk on the Comfort ore zone and an adit driven on the Kootenay Chief claim.

The Consolidated Mining and Smelting Company of Canada Ltd. acquired the property in 1931 and did some exploration work on the Bluebell, Comfort and Kootenay Chief claims, however the mine was not reopened. Further diamond drilling was done in 1942 but the results were not encouraging. In 1947 diamond drilling was done along about 1524 metres of limestone outcrop and the three orebodies mentioned above were outlined. The mine was reopened the following year.

Since 1947 an inclined shaft, located between the Bluebell and Kootenay Chief ore zones, has been sunk for 572 metres to a vertical depth of 247 metres. Development work has been carried out on all levels from 69 to 267 metres. A large volume of water enters the lower workings of the mine. By 1957 most of the ore production was reported to be coming from the Kootenay Chief.

Development work during 1961-62 consisted of 3500 metres of drifting and crosscutting, 2,413 metres of raising and 10,394 metres of diamond drilling.

The mine closed in December 1971 due to depletion of the Ore reserves.

Approximately 500,000 tons of mill tailings containing zinc, lead and silver were dumped on the shore of Kootenay Lake in the early 1900s. Most of this material eventually slid to the bottom of the lake, 128 metres deep and 290 metres offshore. (Mining Magazine, December 1983, p. 446)

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DATE CODED: 1985/07/24
DATE REVISED: 1988/09/22

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE043**

NATIONAL MINERAL INVENTORY: 082F15 Pb12

NAME(S): **BLUEBELL, BLUE BELL, RIONDEL,
BLUE BELLE, KOOTENAY CHIEF, COMFORT**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 45 45 N
LONGITUDE: 116 51 39 W
ELEVATION: 766 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Riondel Peninsula.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5512234
EASTING: 510023

COMMODITIES: Silver Zinc Lead Copper Cadmium
Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrrhotite Pyrite Chalcopyrite
Arsenopyrite Marcasite
ASSOCIATED: Quartz Calcite Magnetite Siderite Knebelite
Chlorite
ALTERATION: Chlorite Carbonate Serpentine
COMMENTS: Alteration of knebelite (chlorite, carbonate, serpentinite).
MINERALIZATION AGE: Tertiary
ISOTOPIC AGE: 19.2 +/- 5.6 Ma DATING METHOD: Rubidium/Strontium MATERIAL DATED: Fluid inclusion

DEPOSIT

CHARACTER: Vein Stratabound Discordant Massive
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: J01 Polymetallic manto Ag-Pb-Zn
SHAPE: Irregular
MODIFIER: Fractured
COMMENTS: Deposit consists of three irregular ore zones along the Riondel Peninsula.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian Undefined Group Badshot

LITHOLOGY: Limestone
Quartzite
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

CAPSULE GEOLOGY

In 1825, a botanist discovered sulphide ore at the Bluebell site. In later years, Hudson Bay Company trappers used galena from this site to make bullets. The site was staked by R.E. Sproule in 1882. The Bluebell occurrence consists of three main zones approximately 500 metres apart along strike of the Lower Cambrian Badshot Formation marble. The Comfort zone (082FNE044) occurs at the north end of Riondel Peninsula, the Bluebell zone in the centre, and the Kootenay Chief (082FNE042) at the south end. The zones are localized along steep cross-fractures that trend west-northwesterly and dip 80 to 90 degrees north. Within the zones are tabular ore shoots that are transverse to the bedding and plunge westward following the intersection of the fractures with the marbles. The ore occurs as replacement deposits along steep cross fractures in the marbles. Bedding planes and minor structures tend to localize the deposit. The ore consists of galena, sphalerite, pyrrhotite, pyrite, arsenopyrite, and chalcopyrite. The gangue occurring with the sulphides consists of carbonates, coarsely-grained quartz and knebelite. Oxidation of the deposit has occurred to depths well below lake level.

The large surface showing was known to early fur traders and was brought to the attention of mining capital as early as 1865. The first claims were located in 1852 and development work was begun two years later. By 1891 about 70 claims had been staked in the surrounding area. From 1888 to 1896 the mine was operated by the Kootenay Mining & Smelting Co. Ltd.

MINFILE NUMBER: **082FNE043**

CAPSULE GEOLOGY

In 1906 the property was taken over by the Canadian Metal Co. Ltd. Due to financial difficulties the company was reorganized in 1911 under the name of the New Canadian Metal Co. They worked the property intermittently for about 20 years. There are three known centres of mineralization in the mine, spaced at approximately 457 metre intervals along the strike of the limestone. These three ore zones are known from north to south as the Comfort, the Bluebell, and the Kootenay Chief. At the time the mine closed an inclined shaft had been sunk on the Comfort ore zone and an adit driven on the Kootenay Chief claim.

The Consolidated Mining and Smelting Company of Canada Ltd. acquired the property in 1931 and did some exploration work on the Bluebell, Comfort and Kootenay Chief claims, however the mine was not reopened. Further diamond drilling was done in 1942 but the results were not encouraging. In 1947 diamond drilling was done along about 1524 metres of limestone outcrop and the three orebodies mentioned above were outlined. The mine was reopened the following year.

Since 1947 an inclined shaft, located between the Bluebell and Kootenay Chief ore zones, has been sunk for 572 metres to a vertical depth of 247 metres. Development work has been carried out on all levels from 69 to 267 metres. A large volume of water enters the lower workings of the mine.

Development work during 1961-62 consisted of 3500 metres of drifting and crosscutting, 2,413 metres of raising and 10,394 metres of diamond drilling.

The mine closed in December 1971 due to depletion of the Ore reserves.

Approximately 500,000 tons of mill tailings containing zinc, lead and silver were dumped on the shore of Kootenay Lake in the early 1900s. Most of this material eventually slid to the bottom of the lake, 128 metres deep and 290 metres offshore. (Mining Magazine, December 1983, p. 446)

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- EMPR AR 1885-499; 1888-301; 1889-282; 1890-368; 1891-301,305; 1893-1046; 1894-736; 1895-33,683; 1896-37,88,557; 1898-1081; 1899-699; 1904-148; 1905-158; 1906-22,248; 1907-22; 1908-92; 1909-105; 1910-96,243; 1911-130; 1912-322; 1913-123; 1914-284; 1915-119; 1916-516; 1917-154; 1918-159; 1919-153; 1920-120; 1921-131; 1922-194; 1923-209; 1924-188; 1925-232; 1926-258; 1927-281; 1929-324; 1930-254; 1931-142; 1942-71; 1947-168; 1948-140; 1949-176; 1950-132; 1951-143; 1952-42,154; 1953-45,121; 1954-50,130; 1955-A49,55; 1956-A50,89; 1957-A46,48; 1958-A46,41; 1959-A48,64; 1960-A55,72; 1961-A49,72; 1962-A49,77; 1963-A50,89; 1964-A55,118; 1965-A55,118,184; 1966-226; 1967-259; 1968-A54,261; 1969-A55; 1970-A55; 1971-A55; 1973-A55; 1974-A121; 1975-A95; 1976-A104; 1977-116
- EMPR BC METAL MM01133
EMPR BULL *73, p. 79
EMPR GEM 1969-337; 1970-460; 1971-412; 1972-60
EMPR IR 1984-4, p. 121
EMPR OF 1998-10
EMPR PF (See Reco, 082FNW035 - Jefferson, L.M. (1971): The Potential of Reco Silver Mines Ltd., pp. 48-49)
EMR MRD RPT #12 on Zinc Resources of British Columbia 1906, p. 158
GSC MEM 228-80
GSC SUM RPT 1928A, pp. 129,133
CIM 1957 Special Vol 2, pp. 95-104, Irvine, W.T., The Bluebell Mine
GAC Field Guide to Lead-Zinc Deposits in Southeast British Columbia, Ransom, 1977, p. 44 (after Hoy T.)
UBC MSc Thesis, Orr, 1971
Queens University MSc Thesis, Westervelt, 1960

DATE CODED: 1985/07/24
DATE REVISED: 1988/09/22

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNE044**

NATIONAL MINERAL INVENTORY: 082F15 Pb12

NAME(S): **COMFORT, BLUEBELL, BLUE BELL,
RIONDEL, BLUE BELLE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 45 59 N
LONGITUDE: 116 51 34 W
ELEVATION: 766 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Riondel Peninsula.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5512667
EASTING: 510122

COMMODITIES: Silver Zinc Lead Copper Cadmium
Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrrhotite Pyrite Chalcopyrite
 Arsenopyrite Marcasite
ASSOCIATED: Quartz Calcite Magnetite Siderite Knebelite
 Chlorite
ALTERATION: Chlorite Carbonate Serpentine
COMMENTS: Alteration of knebelite (chlorite, carbonate, serpentinite).
MINERALIZATION AGE: Tertiary
ISOTOPIC AGE: 19.2 +/- 5.6 Ma DATING METHOD: Rubidium/Strontium MATERIAL DATED: Fluid inclusion

DEPOSIT

CHARACTER: Vein Stratabound Discordant Massive
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: J01 Polymetallic manto Ag-Pb-Zn
SHAPE: Irregular
MODIFIER: Fractured
COMMENTS: Deposit consists of three irregular ore zones along the Riondel Peninsula.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian Undefined Group Badshot

LITHOLOGY: Limestone
 Quartzite
 Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

CAPSULE GEOLOGY

In 1825, a botanist discovered sulphide ore at the Bluebell site. In later years, Hudson Bay Company trappers used galena from this site to make bullets. The site was staked by R.E. Sproule in 1882. The Bluebell occurrence consists of three main zones approximately 500 metres apart along strike of the Lower Cambrian Badshot Formation marble. The Comfort zone occurs at the north end of Riondel Peninsula, the Bluebell zone (082FNE043) in the centre, and the Kootenay Chief (082FNE042) at the south end. The zones are localized along steep cross-fractures that trend west-northwesterly and dip 80 to 90 degrees north. Within the zones are tabular ore shoots that are transverse to the bedding and plunge westward following the intersection of the fractures with the marbles. The ore occurs as replacement deposits along steep cross fractures in the marbles. Bedding planes and minor structures tend to localize the deposit. The ore consists of galena, sphalerite, pyrrhotite, pyrite, arsenopyrite, and chalcopyrite. The gangue occurring with the sulphides consists of carbonates, coarsely-grained quartz and knebelite. Oxidation of the deposit has occurred to depths well below lake level.

The large surface showing was known to early fur traders and was brought to the attention of mining capital as early as 1865. The first claims were located in 1852 and development work was begun two years later. By 1891 about 70 claims had been staked in the surrounding area. From 1888 to 1896 the mine was operated by the Kootenay Mining & Smelting Co. Ltd.

CAPSULE GEOLOGY

In 1906 the property was taken over by the Canadian Metal Co. Ltd. Due to financial difficulties the company was reorganized in 1911 under the name of the New Canadian Metal Co. They worked the property intermittently for about 20 years. There are three known centres of mineralization in the mine, spaced at approximately 457 metre intervals along the strike of the limestone. These three ore zones are known from north to south as the Comfort, the Bluebell, and the Kootenay Chief. At the time the mine closed an inclined shaft had been sunk on the Comfort ore zone and an adit driven on the Kootenay Chief claim.

The Consolidated Mining and Smelting Company of Canada Ltd. acquired the property in 1931 and did some exploration work on the Bluebell, Comfort and Kootenay Chief claims, however the mine was not reopened. Further diamond drilling was done in 1942 but the results were not encouraging. In 1947 diamond drilling was done along about 1524 metres of limestone outcrop and the three orebodies mentioned above were outlined. The mine was reopened the following year.

Since 1947 an inclined shaft, located between the Bluebell and Kootenay Chief ore zones, has been sunk for 572 metres to a vertical depth of 247 metres. Development work has been carried out on all levels from 69 to 267 metres. A large volume of water enters the lower workings of the mine.

Development work during 1961-62 consisted of 3500 metres of drifting and crosscutting, 2,413 metres of raising and 10,394 metres of diamond drilling.

The mine closed in December 1971 due to depletion of the Ore reserves.

Approximately 500,000 tons of mill tailings containing zinc, lead and silver were dumped on the shore of Kootenay Lake in the early 1900s. Most of this material eventually slid to the bottom of the lake, 128 metres deep and 290 metres offshore. (Mining Magazine, December 1983, p. 446)

BIBLIOGRAPHY

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- EMPR BC METAL MM01133
- EMPR BULL *73, p. 79
- EMPR IR 1984-4, p. 121
- EMPR PF (See Bluebell (082FNE043))
- EMR MRD RPT #12 on Zinc Resources of British Columbia 1906, p. 158
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- GSC SUM RPT 1928A, pp. 129,133
- CIM 1957 Special Vol 2, pp. 95-104, Irvine, W.T., The Bluebell Mine
- GAC Field Guide to Lead-Zinc Deposits in Southeast British Columbia, Ransom, 1977, p. 44 (after Hoy T.)
- UBC MSc Thesis, Orr, 1971
- Queens University MSc Thesis, Westervelt, 1960

DATE CODED: 1985/07/24
DATE REVISED: 1988/09/22

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNE045**

NATIONAL MINERAL INVENTORY: 082F15 Ag4

NAME(S): **TAM O'SHANTER (L.401)**, FM, ARCON

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 36 N
LONGITUDE: 116 50 52 W
ELEVATION: 633 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

UTM ZONE: 11 (NAD 83)

NORTHING: 5513811
EASTING: 510960

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic Lardeau Index

LITHOLOGY: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The property is located on the east shore of Kootenay Lake in the vicinity of Indian Creek, less than 1.5 kilometres north of Riondel.

Galena and sphalerite veins occur in limestone within the Middle Cambrian to Middle Devonian Index Formation, Lardeau Group. In 1918 and 1920 a total of 85 tonnes was mined from which 51,755 grams of silver was produced.

The Tam O'Shanter claim (Lot 401) was Crown-granted to the Montreal-Kootenay Mining Co. in 1896. The company drove a 43 metre long adit from the waters edge on a 0.6 metre wide vein sparsely mineralized with iron and galena. The company ceased operations in about 1899. Leasers worked the property intermittently during the period 1918-20; a 15 metre raise was driven and some ore shipped.

Pacific Silver Mines & Oils Ltd. acquired the property, consisting of 36 claims, in 1965. The old workings were rehabilitated and a geophysical survey was carried out. The survey detected a series of five anomalous zones on which diamond drilling is planned.

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EMPR BULL 73, p. 86
EMPR INDEX 3-215
GSC MAP 603A
EMR MP CORPFILE (PACIFIC SILVER MINES AND OILS LTD.)
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/05

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE047**

NATIONAL MINERAL INVENTORY: 082F15 Pb8

NAME(S): **HUMBOLT (L.2015)**, HUMBOLDT, SAILOR BOY (L.2016)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15E
BC MAP:
LATITUDE: 49 45 18 N
LONGITUDE: 116 38 16 W
ELEVATION: 1700 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5511454
EASTING: 526091

COMMODITIES: Silver Lead Zinc Copper Tin

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Horsethief Creek	Undefined Formation	
Upper Proterozoic	Windermere	Undefined Formation	

LITHOLOGY: Argillite
Phyllite
Quartzite
Grit

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The property is located at a 1524 metre elevation on an east fork of Crawford Creek about 1.6 kilometres west of Rose Pass and some 45 kilometres west of Kimberley.

Quartz veins in black argillaceous rock contain galena, sphalerite chalcopyrite, stannite and pyrite. The area is underlain by phyllite, quartzite and grit of the Upper Proterozoic Horsethief Creek Group (Windermere Supergroup).

The Humbolt (Lot 2015) and Sailor Boy (Lot 2016) were Crown-granted in 1900 to J.B. MacLaren. Workings dating from that period include open cuts and 42 metres or more of drifts and crosscuts in two adits.

The property was acquired under lease by G. Foulkes, of Kaslo, in 1922 and sorted ore was shipped in 1923. The Humbolt claim was owned in 1940 by Oscar Burden, of Kaslo. Canadian Exploration Company Limited in 1946 re-opened the workings to examine the showings. Small ore shipments were made by lessees R. and G. Golak in 1948, by Talmor Mines Ltd. in 1952, and by D. Fulton and R. Sutton, of Cranbrook, in 1963.

The Humbolt and Sailor Boy claims were owned in 1964 by E.T. Coleman, of Nelson. An option was acquired by D. Wade and associates, of Calgary, and 5.4 tonnes of ore was shipped from a bulldozed section of flat lying vein. Messrs. Wade, Sutton, Fulton and associates in 1966 incorporated Rose Pass Mines Ltd. to acquire the Humbolt and Spring Creek properties. The company subsequently staked 84 adjacent claims. Work on the Humbolt property in 1966-68 included potential surveys and 849 metres of diamond drilling in 23 holes on IP anomalies.

Further diamond drilling was reported on the Humbolt property in 1971 and 1973. The company name (Rose Pass) was changed in 1974 to Range Industries Ltd.

In 5 years from 1923 to 1964 a total of 51 tonnes of ore was mined, from which 70,230 grams of silver, 24,100 kilograms of lead and 3,561 kilograms of zinc were produced.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 73
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1900-984,987, 1922-192, 1923-214, 1933-384, 1946-149,
1948-137, 1953-250, 1963-A49, 1964-A54,132, 1966-227, 1967-260,
1968-262
EMPR GEM 1969-337, 1970-461, 1971-406, 1972-56, 1973-71
EMPR INDEX 3-200, 4-122
GSC MEM 228-73
GSC MAP 603A
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/05

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE048**

NATIONAL MINERAL INVENTORY: 082F10 Ag1

NAME(S): **SKYLINE**, OLD SKYLINE, PERHAPS,
MORNING STAR

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:
LATITUDE: 49 43 30 N
LONGITUDE: 116 57 58 W
ELEVATION: 1933 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5508056
EASTING: 502443

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Galena Silver Argentite Tetrahedrite Chalcopyrite
 Pyrite Sphalerite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Milford	Unnamed/Unknown Formation	

LITHOLOGY: Limestone
 Phyllite
 Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Old Skyline group, comprising the Skyline, Perhaps and Morning Star claims, is situated at an elevation of 1500 metres, 9.6 kilometres from Ainsworth.

The area is underlain by rocks of the Upper Mississippian to Lower Permian Milford Group. The showings are in limestone and in dark-grey to black phyllites and associated argillite. The eastern margin of the Nelson batholith is within a few hundred metres. The ore consists of porous siliceous rock carrying a dark mineral (argentite?), native silver, galena, and iron and copper pyrites. Values in gold and zinc are also reported from assays.

The mine was worked in the early 1980s and the ore shipped partly to the Pilot Bay smelter and partly to American smelters. The mine is reported to have been closed down in 1896. The workings at that time included an incline 26.5 metres deep, and a shaft further to the west sunk to a depth of 61 metres with a drift on the bottom level 37 metres in length.

In 1917, A.W. McCune drove a crosscut tunnel to tap the vein about 137 metres below the surface at the old workings. The vein was encountered approximately 366 metres from the portal. The vein was then drifted on for some distance, but little sulphide mineralization was encountered. Work was abandoned in 1918 and all equipment removed. In the period 1919-1921 the property was worked under lease and bond and a small amount of ore mined, mostly from surface exposures and from the upper part of the old workings. During this period also a raise was begun from the adit level to connect with the old workings. In 1921 all work on the property came to an end. In 1961 Mr. T.R. Buckham re-staked the prospect.

Mine production started in 1889 and continued intermittently until 1896. The mine produced again from 1918 to 1921 with the last recorded production occurring in 1969. Most of the production came in 1895 and 1896. Total mine production was 3,109 tonnes with 6,832,553 grams of silver and 2,130 kilograms of lead being recovered.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 75
REPORT: RGEN0100

BIBLIOGRAPHY

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1896-90, 91; 1897-527; 1898-1080; 1915-120; 1916-195; 1917-155,182;
1919-153; 1920-119,144; 1921-131,134
EMPR BC METAL MM01406
EMPR BULL *53, p. 109
EMPR GEM 1969-334
EMPR INDEX 3-214
GSC MAP 603A, 1742
GSC MEM 228
N MINER Mar.15, 1962, p. 2
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/06

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE048**

MINFILE NUMBER: **082FNE049**

NATIONAL MINERAL INVENTORY:

NAME(S): **LEVIATHAN**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 56 42 N
LONGITUDE: 116 48 34 W
ELEVATION: 1400 Metres

NORTHING: 5532533
EASTING: 513672

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE: Lower Cambrian GROUP: Hamill FORMATION: Unnamed/Unknown Formation IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Calcareous Rock

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1924

COMMODITY	GRADE	
Silver	99.4300	Grams per tonne
Gold	48.3400	Grams per tonne

REFERENCE: Minister of Mines Annual Report 1924, page 190.

CAPSULE GEOLOGY

A quartz-rich schist, interlayered with calcareous rock, probably of the Lower Cambrian Hamill Group, is mineralized adjacent granite-pegmatite with pyrrhotite, minor pyrite and trace chalcopyrite. Mineralization is also concentrated along fractures in both the schist and pegmatite dike. The only assay recorded from the property was 48.34 grams per tonne gold and 99.43 grams per tonne silver (Annual Report 1925).

More than 100 metres of underground development occurred in two tunnels by 1918.

BIBLIOGRAPHY

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EMPR BULL 73, p. 87
GSC SUM RPT 1928A-133A
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DATE CODED: 1985/07/24
DATE REVISED: 2000/01/06

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE050**

NATIONAL MINERAL INVENTORY:

NAME(S): **OTTO, STEP**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 56 42 N
LONGITUDE: 116 49 46 W
ELEVATION: 1400 Metres

NORTHING: 5532530
EASTING: 512237

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Podiform Shear Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Unknown	Hamill	Unnamed/Unknown Formation	
Paleozoic	Lardeau	Unnamed/Unknown Formation	

LITHOLOGY: Limestone
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America Kootenay

CAPSULE GEOLOGY

The area of the Otto occurrence is underlain by limestone and schist. Regionally, the area is mapped as Lower Cambrian Hamill Group, Middle Cambrian to Middle Devonian Lardeau Group and Lower Cambrian Badshot Formation.

Galena and sphalerite are reported to occur in small amounts replacing limestone bands (GSC Summary Report 1928). Starr (Property File) reports that on the Otto a shear of considerable width occurs, parallel to the strata. It is mineralized with pyrite and a little gold. This zone was tunnelled on for about 4 metre (as of 1926). It consisted of a soft gossan with some pyritic streaks. A sample over 90 centimetres yielded 2.74 grams per tonne gold (Starr, 1926 (Property File)).

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EMPR EXPL 1978-E66
EMPR PF (starr, C.C. (1926): Report of Preliminary Examination of the Otto Group (2 pages); Starr, C.C. (1926): Report of Preliminary Examination of the Nickle King Group (2 pages)
GSC SUM RPT 1928A-135A

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/06

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE051**

NATIONAL MINERAL INVENTORY: 082F16 Cu2

NAME(S): **GREAT DANE (L.5285)**, WHITE STAR (L.5286), FISHER (L.5287)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16W
BC MAP:

MINING DIVISION: Fort Steele
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 46 00 N
LONGITUDE: 116 26 40 W
ELEVATION: 2300 Metres

NORTHING: 5512836
EASTING: 540007

LOCATION ACCURACY: Within 500M

COMMENTS: GSC Map location map from Memoir 292.

COMMODITIES: Lead Copper Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite Pyrite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Creston	

LITHOLOGY: Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The property is located at approximately the 2130 metre elevation at the head of Morris Creek, on the southerly side of the ridge between St. Mary River and Dewar Creek some 35 kilometres west-northwest of Kimberley.

Mineralization consists of pods and stringers of chalcopyrite, pyrite, galena and sphalerite in quartzites of the Middle Proterozoic Creston Formation, Purcell Supergroup. Siderite gangue is observed.

The Great Dane claim (Lot 5285) was Crown-granted to the Sawyer brothers and Georgina LaPointe in 1901. Two adjacent claims have been Crown-granted, the White Star (Lot 5286) and Fisher (Lot 5287). The White Star was Crown-granted to Fred Coyle & Associates in 1903. Along strike on the Coppery Creek side of the ridge two claims have been Crown-granted, the Mogul (Lot 4940) and Alta (Lot 4941).

Development work on the Great Dane in about 1901 included a drift adit driven about 20 metres. A crosscut was driven in barren quartzite from the face of the adit for 69 metres at 280 degrees. On the other side of the ridge, in the vicinity of the Mogul claim about 30 metres of shallow trenching was done.

BIBLIOGRAPHY

EMPR AR 1904-109, 1901-1006,1228, 1902-132, 1903-245
GSC MEM 228-72, 292-64
GSC P 37-27, 38-17
GSC MAP 1053A

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/06

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE052**

NATIONAL MINERAL INVENTORY: 082F9,G12 Pb1

NAME(S): **SULLIVAN**, SULLIVAN MINE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F09E 082G12W
BC MAP:

Open Pit Underground

MINING DIVISION: Fort Steele

LATITUDE: 49 42 27 N
LONGITUDE: 116 00 19 W
ELEVATION: 1420 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5506585
EASTING: 571720

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of lower open pit partially within Lot 1386 (Hamlet) on the lower southern slope of Sullivan Hill, north of Mark Creek, 3.5 kilometres north-northwest from the town of Kimberley (NTS Map 82F9).

COMMODITIES: Lead Zinc Silver Tin Copper
Gold Iron Sulphur Antimony Cadmium
Bismuth Indium Tungsten

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Galena Sphalerite Tetrahedrite
Pyrargyrite Boulangerite Cassiterite Chalcocopyrite Jamesonite
Scheelite Stannite Marmatite Chalcostibite Gudmundite
Mcgillite

COMMENTS: Trace chalcostibite and gudmundite.
ASSOCIATED: Pyrrhotite Pyrite Magnetite Arsenopyrite Quartz
Calcite Tourmaline Mcgillite

ALTERATION: Tourmaline Albite Chlorite Carbonate Pyrite
Biotite Garnet Calcite

COMMENTS: Also sphene, hornblende, epidote, muscovite, mica, zircon, scapolite, quartz, sericite, tremolite, actinolite, cordierite, cerussite and pyromorphite.

ALTERATION TYPE: Tourmalin^zn Albitic Chloritic Carbonate Pyrite
MINERALIZATION AGE: Middle Proterozoic
ISOTOPIC AGE: 1450 Ma DATING METHOD: Lead/Lead MATERIAL DATED: Galena

DEPOSIT

CHARACTER: Stratiform Stratabound Massive Vein
CLASSIFICATION: Syngenetic Sedimentary Exhalative Industrial Min.
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag 105 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 2000 x 1600 x 21 Metres STRIKE/DIP: 360/23E TREND/PLUNGE:
COMMENTS: Sullivan orebody; age date from Geological Association of Canada Special Paper 25.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Lower Aldridge	
Middle Proterozoic	Purcell	Middle Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartz Wacke
Mudstone
Intraformational Conglomerate
Lithic Wacke
Tourmalinite
Gabbro
Breccia
Quartz Arenite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: Upper greenschist facies. GRADE: Greenschist

INVENTORY

ORE ZONE: SULLIVAN

REPORT ON: Y

CATEGORY:	Proven	YEAR:	2000
QUANTITY:	1800000 Tonnes		
COMMODITY		GRADE	
Silver		17.0000	Grams per tonne
Lead		3.2000	Per cent
Zinc		6.6000	Per cent

REFERENCE: Cominco Annual Report 2000.

CAPSULE GEOLOGY

The Proterozoic Purcell Supergroup in southeastern British Columbia constitutes a thick prism of dominantly clastic sediments exceeding 10,000 metres in thickness with the base unexposed. Earliest known sedimentation are Fort Steele Formation fluvial/deltaic sequences of quartz arenite, quartz wacke and mudstone at least 200 metres thick. Fine-grained clastic beds at the top of the formation grade into very rusty-weathering, fine-grained quartz wacke and mudstone of the Aldridge Formation (1433 Ma +/- 10 Ma), at least 5000 metres thick in the Purcell Mountains. The Aldridge Formation grades upward over 300 metres through a sequence of carbonaceous mudstone with minor beds of grey and green mudstone and fine-grained quartz wacke to the 1800 metre thick Creston Formation, composed of grey, green and maroon quartz wacke and mudstone with minor white arenite. Conformably overlying the Creston Formation are 1200 metres of green and grey dolomitic mudstone, buff-weathering dolomite and minor quartz arenite of the Kitchener Formation. The Kitchener is in turn overlain by 200 to 400 metres of green, slightly dolomitic and calcareous mudstone of the Siyeh Formation. Although poorly defined in the Purcell Mountains west of the Rocky Mountain Trench, the Siyeh is readily recognized in the Rocky Mountains and is conformably and locally unconformably overlain by 0 to 500 metres of basaltic to andesitic flows of the Purcell Lava (1075 Ma) which are taken to mark the close of Lower Purcell sedimentation (1075 to 1500 Ma). To the northwest and west in the Purcell Mountains, the Purcell Lava is only sparsely represented by weathered tuffaceous beds.

Resting with apparent conformity on the Lower Purcell rocks are about 1200 metres of grey to dark grey, calcareous and dolomitic mudstone and minor quartz wacke of the Dutch Creek Formation. This formation is overlain by about 1000 metres of grey, green and maroon mudstone and calcareous mudstone of the Mount Nelson Formation. The close of Purcell sedimentation is marked by folding during the East Kootenay Orogeny (825 to 900 Ma) and disruption of the basin by large-scale vertical faults concurrent with deposition of basal sedimentary rocks of the Windermere Supergroup.

Middle Proterozoic igneous activity in the Purcell sedimentary basin is dominated by intrusion of gabbroic sills of two ages. The oldest are the Moyie Intrusions which are most common in the Aldridge Formation. Sills and slightly discordant sheets predominate; locally, however, dykes and step-like discordant sheets are abundant near Kimberley. Gabbroic sills can aggregate 2000 metres of thickness in a typical Aldridge section and are most abundant in the lower part of the section. The youngest event of gabbro intrusion is thought to be comagmatic with the Purcell Lavas, and is represented by abundant sills in the upper part of the Creston Formation, and in the Kitchener and Siyeh formations. The pegmatitic Hellroaring Creek stock (Middle Proterozoic) and related satellites intrude metamorphosed and deformed Aldridge sedimentary rocks and Moyie Intrusions sills, in an area about 15 kilometres southwest of the Sullivan mine.

Lower Purcell sedimentary rocks have undergone metamorphism to at least greenschist facies. There is a general increase in metamorphic grade with depth in the stratigraphic pile; minor areas of amphibolite facies are restricted to the cores of fold structures displaying large magnitude structural relief.

Purcell rocks are folded about north trending axes to form the Purcell Anticlinorium. Folds comprising the large structure are open and gentle with north plunging axes. Some folds are overturned to the east and some display axial plane schistosity. Large areas within the anticlinorium have nearly flat-lying strata. Major faults with a history of complex movement disrupt the Purcell terrain and separate large regions further disrupted by block faulting. Two of these major faults, the Moyie and St. Mary faults, pass south of Kimberley and throughout much of their extent have a northerly trend, but then abruptly arc to the east into the Rocky Mountain Trench. Both of these faults repeat Lower Purcell strata on their north and west, upthrown sides. The Sullivan orebody occurs on the east side of this regional structure, on the east limb of an open anticline.

The Middle Proterozoic Aldridge Formation (Purcell Supergroup-

CAPSULE GEOLOGY

Lower Purcell Group), has the characteristics of a flysch sequence at least 3800 metres thick. It is composed of a monotonous and repetitious sequence of alternating beds of very fine-grained quartz wacke and mudstone and lesser amounts of very fine- to coarse-grained quartz arenite. The Aldridge Formation is metamorphosed to middle to upper greenschist facies. The Aldridge Formation in the Purcell Mountains has been divided into three map units; the Lower, Middle and Upper Aldridge. Lower Aldridge sedimentary rocks (at least 1500 metres thick - base not exposed) are composed of a rhythmic succession of thin to medium-bedded, typically graded beds of very fine-grained quartz wacke. Interbedded with the rhythmic sequence of graded beds are laminated sequences of mudstone ranging from a few millimetres to several metres thick. Laminae and discontinuous blebs of pyrrhotite emphasize layering in the laminated mudstone and weathering of the pyrrhotite imparts a conspicuous rusty colour to outcrops. Massive to poorly bedded, elongate lenses of intraformational conglomerate occur locally near the top of the Lower Aldridge. The Middle Aldridge (2000 metres thick) is marked by the appearance of distinctive graded arenaceous beds whose lighter weathering colours contrast sharply with the rusty weathering Lower Aldridge. Thinly bedded, rusty weathering rocks similar to those in Lower Aldridge sequences are interbedded with thicker, graded arenites but are definitely subordinate. The graded arenaceous rocks are mostly turbidites. Thin bedded to laminated carbonaceous mudstone becomes the dominant lithology of the 300 metre thick Upper Aldridge. The contact between the Middle and Upper Aldridge is gradational over stratigraphic thicknesses ranging from a few to tens of metres. Disseminated grains and blebs of pyrrhotite aligned along bedding occur in places in carbonaceous mudstone of the Upper Aldridge and here the rock is rusty weathering.

The Sullivan orebody is located at the western edge of the Rocky Mountain Trench and on the eastern flank of the Purcell Mountains. The orebody is a conformable iron-lead-zinc sulphide lens enclosed by clastic metasedimentary rocks of the Middle Proterozoic (Helikian) Aldridge Formation, the basal formation of the Purcell Supergroup (further subdivided into the Lower Purcell Group). Regional metamorphism is upper greenschist facies. The orebody occurs near the top of the Lower Aldridge Formation and has the shape of an inverted and tilted saucer. The maximum north-south dimension is about 2000 metres and the east-west dimension is about 1600 metres. It has flat to gentle east dips in the west, moderate east to northeast dips in the centre, and gentle east to northeast dips in the east. The footwall rocks are composed of intraformational conglomerate and massive lithic wacke overlain by quartz wacke and pyrrhotite-laminated mudstone. The ore zone is overlain by several upward-fining sequences of quartz wacke and mudstone. The orebody attains a maximum thickness of 100 metres approximately 100 metres northwest of its geographic centre, and thins outward in all directions (averages 21 metres in thickness). To the east, it thins gradually to a sequence of pyrrhotite-laminated mudstone 3 to 5 metres thick that persists laterally for some distance. To the north, the orebody thins less gradually and is truncated by the Kimberley fault. To the west, the orebody thins abruptly and is cut by dyke-like apophyses of the footwall gabbro. The gabbro (of the Middle Proterozoic Moyie Intrusions) lies beneath the orebody and is typically concordant about 500 metres below its eastern edge. To the west, the gabbro rapidly transgresses upward to meet the footwall of the orebody near its western margin but, continuing westward it transgresses downward to resume its sill-like form at approximately its original stratigraphic position. To the south, within the limit of economic mineralization, thickness changes are generally irregular and abrupt.

The Sullivan orebody lies on the folded and faulted eastern limb of a broad north trending anticline. The structure plunges gently to the north and is locally asymmetric and overturned to the east. Detailed structural mapping has revealed three phases of folding. Phase 1 is characterized by isoclinal folds with axial planes parallel to bedding planes and north trending fold axes. Phase 2 is characterized by relatively open folds with gentle north or south plunges and with moderately west dipping axial planes. Both Phase 1 and 2 folds indicate easterly vergence. Phase 3 folds are associated with east dipping thrusts; axial planes have steep dips and folds have variable plunges to northwest and southeast.

The Kimberley, Ryot and Hidden Hand fault systems, the 010 degree trending Sullivan-type faults and other minor faults form an intricate mosaic disrupting the fold limb. The Kimberley and Hidden Hand faults lie across the regional structure and are generally parallel to east trending segments of the Moyie and St. Mary faults. The Kimberley fault dips 45 to 55 degrees north and truncates the ore

CAPSULE GEOLOGY

zone to the north. With over 3000 metres of stratigraphic displacement, the fault juxtaposes rocks of the Creston and Kitchener formations against rocks of the Lower Aldridge. Displacement on the north dipping Hidden Hand fault is of the order of a few hundred metres of apparent normal dip-slip movement. The Sullivan-type faults cut the orebody with a consistent west side down normal displacement ranging from a few metres to 30 metres. The largest member of the group, the Sullivan fault, occurs near the western margin of the orebody. At the northwestern margin of the orebody, a northeast trending fault apparently truncates the westward extension of the Kimberley fault although earlier phases of movement along the Sullivan-type faults may have occurred.

The Sullivan orebody consists of sulphide rock composed of more than 70 per cent sulphides in thick, gently dipping conformable units enclosed by unaltered or altered quartz wacke and mudstone. In the western part, massive pyrrhotite containing occasional wispy layers of galena is overlain by sulphide rock in which conformable layering consists of pyrrhotite, sphalerite, galena and pyrite intercalated with beds of clastic sedimentary rock. The ore passes outward on the north, east and south to delicately-bedded sulphide rock interbedded with fine-grained clastic sedimentary rocks. Eastward across a transition zone, the orebody is composed of five distinct conformable units of well-bedded sulphide rock interbedded with clastic sedimentary rock. Each bed of sulphide rock thins eastward from the transition zone. The transition zone is commonly only a few metres or tens of metres wide. Three bedded sulphide sequences occur above the main orebody, particularly in the area of the transition zone. Locally, these are ore. Sulphide vein mineralization is present in the footwall in and adjacent to a zone of tourmalinite and very rare elsewhere. Irregular veins commonly form networks composed dominantly of pyrrhotite, galena and sphalerite. Generally minor amounts of quartz, arsenopyrite, chalcopyrite, cassiterite, tourmaline or scheelite occur in some veins. Major differences exist in footwall rocks, ore zone and hanging wall rocks in different areas of the mine.

Much of the orebody is underlain by locally derived intraformational conglomerate which is more than 80 metres thick in the west and thins to the east. Footwall rocks are cut by tabular bodies of chaotic breccia containing blocks of conglomerate and bedded sedimentary rock; these extend downward unknown distances from the sulphide footwall in the west. Footwall mineralization consisting of thin conformable laminae, veins and locally intense fracture-filling is common in the west and very rare in the east.

The footwall and hanging wall rocks and locally the orebody in the west have been extensively altered by hydrothermal solutions. A crosscutting zone of tourmalinite underlying the sulphide lens in the west is 1000 by 1500 metres across at the sulphide footwall and extends at least 500 metres beneath the orebody. Albite-chlorite-pyrite alteration occurs in crosscutting zones in the footwall tourmalinite and extends more than 100 metres into the hanging wall over the western part of the orebody. A zone of pyrite-chlorite alteration 300 metres in diameter crosscuts massive sulphide rock immediately overlying footwall albite-chlorite-pyrite alteration zones.

Extensive volumes of altered rock occur below, within and above the ore zone in the western part of the mine. Tourmalinite is included with wallrock alteration because most of the tourmalinite, except for that near the sulphide footwall, has crosscutting relations. Altered rocks unusually rich in chlorite, albite, pyrite, biotite, garnet and calcite occur in restricted crosscutting footwall structures, in a zone which crosscuts the orebody, and also occupy an extensive volume of rock in the hanging wall. Accessory minerals in altered hanging wall rocks include tourmaline, sphene, subordinate white mica, zircon, scapolite, calcite and quartz. Although minerals in altered rock have a metamorphic texture, their occurrence is interpreted as reflecting pre-metamorphic chemical modifications.

Pyrrhotite and pyrite (ratio of 7:3) are the most abundant sulphides in the Sullivan orebody. Galena and sphalerite (marmatite is the iron-rich variety) are the principal ore minerals. Minor but economically important minerals include tetrahedrite, pyrrargyrite, boulangerite and arsenopyrite (deleterious). Cassiterite is an important minor constituent in the western part of the orebody. Minerals constituting less than 1 per cent include chalcopyrite, jamesonite, magnetite and less abundant scheelite and stannite. Trace or small amounts of chalcostibite and gudmundite have also been identified along with cerussite and pyromorphite. Principal non-sulphide minerals are quartz and calcite with abundant tourmaline, chlorite, muscovite, albite, pale brown to reddish-brown mica, garnet, tremolite, epidote, actinolite, cordierite and

CAPSULE GEOLOGY

hornblende. Either quartz or calcite may make up 50 to 70 per cent of the non-sulphide suite, chlorite 30 per cent and the other minerals up to about 20 per cent.

In 1945 a pink mineral occurring as open-space fracture-fillings was found in a development raise in the southwest part of the orebody in an area where both ore and enclosing sedimentary rocks are highly manganeseiferous. This area is now an open pit and the pink mineral, tentatively identified as friedelite, is no longer to be found. Thirty-one years later a routine X-ray check was made from one of many hand specimens stored. Further work identified the mineral as a new mineral, mcgillite, the fifth member of the pyrosmalite group. Mcgillite is most often associated with very dark sphalerite and small amounts of boulangerite, galena, jamesonite and milky quartz.

Processing of Sullivan ore include recoverable amounts of cadmium, gold, bismuth, indium, iron, sulphur and antimonial lead and tin concentrate.

The Sullivan orebody is interpreted as a hydrothermal synsedimentary deposit which formed in a sub-basin on the Aldridge marine floor. It is located directly over conduits through which mineralizing fluids passed. Cross-strata permeability developed along synsedimentary faults and fractures; fluid escape along these led to development of chaotic breccia zones. Footwall conglomerate was extruded from breccia pipes or was laid down when locally oversteepened sediments collapsed. Boron-rich fluids percolated up the zones of cross-strata permeability, soaking adjoining footwall sediments and discharging onto the sea floor. Fluid composition and/or conditions in the sub-basin changed, and sulphides were deposited. Initial sulphide deposition over the vent area was rapid, as evidenced by lack of included clastic sedimentary rock. These features are felt to be consistent with deposition of sulphide particles which issued from the vent area. Waning stages of sulphide deposition were much less violent, and well-layered sulphides intercalated with intermittent clastic sediments became the dominant depositional style. In the upper part of both the eastern and western portions of the orebody, delicate sulphide lamellae consistent with chemical precipitation are widespread. Post-ore sodium-rich hydrothermal fluids altered tourmalinite, sulphide rocks, and hanging wall and footwall rocks over the vent area (Geological Association of Canada Special Paper 25).

Showings of sulphide mineralization were discovered in 1892. In 1909 the property was acquired by Consolidated Mining and Smelting Company of Canada (Cominco Ltd.). Beginning in 1900, the Sullivan mine has been a continuous producer until December 21, 2001, when the mine closed.

The mine is located on the southeast slope of Sullivan Hill, 3.2 kilometres northwest of the center of the city of Kimberley; the concentrator is located at Chapman Creek, 3.2 kilometres southeast of the center of the city. The North Star mine is located about 3.2 kilometres south of the Sullivan, on North Star Hill.

Prospectors Pat Sullivan, John Cleaver, E.C. "Ed." Smith, and Walter Burchett, of the Coeur d'Alene area of Idaho, were prospecting in the Kootenay Lake area in 1893 when they decided to band together for an overland trip to the Fort Steele area. On their arrival they heard stories of the impressive orebody of the North Star mine which had been discovered the previous year. On reaching North Star Hill, they found all of the hill had been staked but decided to prospect in the vicinity. They crossed Mark Creek to prospect the other slope and soon found the outcrop of the Sullivan orebody. They located 3 claims, the Shylock, Hamlet, and Hope (Lots 1385-1387 respectively). One of the partners, Sullivan, was killed in the Coeur d'Alene district in the winter of 1892 but the remaining three continued work on their claims at intervals when finances permitted until 1896.

The claims were bonded in 1896 to A. Hanson, of Leadville, but the bond was not taken up. Later that same year the property was bonded to Col. Ridpath, Judge Turner & associates, of Spokane. These interests organized the Sullivan Group Mining Company, which was registered in British Columbia in March 1897; the 3 original claims were Crown-granted to the company in 1898. From 1896 to 1899 some surface stripping was done and several small shafts sunk but transportation was a limiting factor and serious development was not begun until a branch line of the C.P. Railway was completed from Cranbrook in 1900. During the following years ore was shipped to the Hall Mines smelter at Nelson and the Canadian Smelting Works at Trail. In 1902 the company began the construction of a lead smelter at Marysville, 6.4 kilometres southeast of Kimberley. Due to the many metallurgical difficulties encountered, and also to the depressed condition of the lead market, the smelter was not put into operation until about 1905. The ore could not be treated profitably and both the smelter and mine closed late in 1907 after some 75,000

CAPSULE GEOLOGY

tons of ore had been smelted. At this stage the company had numerous-creditors and could not raise sufficient money to meet its debts. In 1909 the bond-holders and the creditors re-organized the company under the name of the Fort Steele Mining & Smelting Company, the control of the company being vested in the Federal Mining and Smelting Company, a subsidiary of the American Smelting and Refining Company.

The Consolidated Mining and Smelting Company of Canada (Limited) acquired a lease and bond on the property in December 1909. Subsequent exploration work indicated a large tonnage of complex ore which would become valuable if a satisfactory process of concentration could be developed. Also, these were high-grade ore zones which could be worked during the interval and smelted for lead. Late in 1910 the option on the stock of the Federal company and on that of some of the other shareholders was exercised; purchase of the property was completed in 1913. All of the adjoining claims considered necessary to the operation were purchased by the company in 1910. For the next few years mine development was directed to the discovery of ore sufficiently high in lead and silver, and low enough in zinc to be smelted with the facilities available at Trail. In 1914 the mine became the largest lead producer in Canada.

The future of the mine depended heavily on the improvement of the metallurgy of the ore, particularly the recovery of the contained zinc, and work on this problem began in 1910. Many tests on various processes of separation were carried out until, at last, satisfactory lead and zinc concentrates were produced at Trail by differential flotation in 1920. This new process made it possible to separate the run-of-mine ore into high-grade lead and zinc concentrates, and pyrrhotite concentrate for future use. A concentrator based on this process was built at the Sullivan mine and commenced operating in August 1923 with a capacity of 3,000 tons per day; the capacity was later increased in steps to 8,500 tons, and then to 11,000 tons in May 1949.

Development work on the orebody was initially from small pits and shallow shafts, and later from a main adit at the 1402 metre elevation. After it was proven that the ore went to depth an adit at the 1188.7 metre elevation was driven more than 1.6 kilometres north to the orebody; above it were 4 levels, including the old 1402 metre level. In subsequent operations an inclined shaft was sunk from 1188.7 metre level to the 807.7 metre elevation to establish 9 more levels. By the end of 1949 a new 1127.7 metre level haulageway was completed. Two new shafts, 609.6 metres apart, were put down in 1947 to service below the 1021 metre elevation. In 1960 the main shaft was extended 152.4 metres to provide two new levels. Mining was done initially in square-set stopes but in order to provide a shipping product low in zinc a kind of room and pillar system was introduced; this was modified somewhat when the concentrator was put into operation. Experimental work in backfilling began in 1936 and the practice has continued, utilizing development waste, cemented float fill, glacial till, and caving. Pillar extraction had become a major part of the operation by the 1950's.

An open pit mining operation began in 1951 to recover the remaining ore in the outcrop and nearby areas, and for several years provided about 20 per cent of total mine production. The pit operation was closed temporarily in May 1957 and not re-opened until 1964. During the latter year the remaining open pit ore was removed, providing about 7 per cent of total production for that year.

Tin was discovered in the ore in 1925. A plant for recovery of cassiterite from the flotation tailings was put into operation in March 1941 and an electric smelter for tin was added in April 1942. Traces of indium in the zinc concentrate had been known for many years and a recoverable accumulation was eventually found in slag from the complex lead-zinc smelting process at Trail. Indium was first recovered at Trail in 1941 and production on a commercial scale began in 1955. In 1954 an estimated 10,000,000 ounces of indium was available in by-product stockpiles built up over the years.

In 1960 the company estimated pyrrhotite flotation concentrate reserves at 15,000,000 tons and calculated an equivalent of 350,000 tons would be added to the total annually from production. Roasting of these concentrates to recover contained sulphur as sulphuric acid began on a limited scale in 1953. Facilities for converting the by-product iron oxide sinter to pig iron were installed in 1961.

The company name was changed in 1966 to Cominco Ltd. The property at that time included 678 Crown-granted claims and fractions and 30 recorded claims, and extended southerly to include the former Stenwinder and North Star mines (see 82 F/9 Zn I and Pb 2). In 1975 the company began a modernization program which will, over a number of years, convert the mine to trackless mining methods.

Measured and indicated reserves in the Sullivan mine, as of

CAPSULE GEOLOGY

December 31, 1979, were reported as 54,000,000 tons at 4.5 per cent lead, 5.9 per cent zinc, 37.7 grams per tonne silver (Cominco Ltd., 1979 Annual Report).

Reserves estimated by the company at September 30, 1994 were 13 million tonnes grading 7.91 per cent zinc, 4.53 per cent lead and 25.69 grams per tonne silver, sufficient for about another six years of operation (Information Circular 1995-9, page 8). In 1995, it was the first full year of operation of the new lead-regrind circuit in the mill, resulting in higher grade zinc concentrates, and improved lead and zinc recovery.

In 1995, with Explore B.C. Program support, Cominco Ltd. made substantial progress on a deep drillhole that had been started December 14, 1991 on the Hope 12 claim on Mark Creek to test for the downfaulted extension of the Sullivan horizon. The hole was resumed on August 15, 1995 at 182 metres depth and drilled by October 31, 1995 to 1937 metres, still 214 metres short of the originally planned 2150 metre length. The hole intersected a section of Middle Aldridge sediments and a gabbro considerably thickened by thrusting, and did not reach the Sullivan horizon target, now projected to be at 2500 metres depth (Explore B.C. Program 95/96 - A142). This hole ended at 2600 metres in 1996.

Reserves estimated by the company at January 31, 1996 were 11,435,200 tonnes grading 25.0 grams per tonne silver, 4.5 per cent lead and 8.0 per cent zinc (Information Circular 1997-1, page 10).

Reserves in 1997 are estimated at 6,349,700 tonnes grading 41.1 grams per tonne silver, 6.8 per cent lead and 12.1 per cent zinc; the mine is scheduled to close on December 31, 2001 (T. Schroeter, personal communication, 1997).

Reserves entrusted by the company at January 31, 1997 were 8,800,000 tonnes grading 8.0 per cent zinc, 4.4 per cent lead and 24.0 grams per tonne silver (Information Circular 1998-1, page 9).

Reserves as of December 31, 1997 were 7,100,000 tonnes grading 7.2 per cent zinc, 4.0 per cent lead and 23 grams per tonne silver (Cominco Ltd. Fact Book, October 26, 1998).

Proven and probable reserves as of December 31, 1998 are reported as 6.1 million tonnes averaging 6.6 per cent zinc, 3.7 per cent lead and 20 grams per tonne silver (Exploration in BC 1998, page 73).

Proven and probable reserves as of December 31, 1999 are reported as 4.6 million tonnes averaging 6.4 per cent zinc, 3.3 per cent lead and 18 grams per tonne silver (Information Circular 2001-1, page 6).

Proved reserves as of December 31, 2000 are reported as 1.8 million tonnes averaging 6.6 per cent zinc, 3.7 per cent lead and 17.00 grams per tonne silver.

The mine closed December 21, 2001.

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 87
REPORT: RGEN0100

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DATE CODED: 1985/07/24
DATE REVISED: 1990/10/10

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: 082FNE052

MINFILE NUMBER: **082FNE053**

NATIONAL MINERAL INVENTORY: 082F9 Pb2

NAME(S): **NORTH STAR MINE**, QUANTRELL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

Open Pit Underground

MINING DIVISION: Fort Steele

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 40 42 N
LONGITUDE: 116 01 28 W
ELEVATION: 1833 Metres

NORTHING: 5503324
EASTING: 570380

LOCATION ACCURACY: Within 500M

COMMENTS: SEE MAP 82G NW-21: SULLIVAN MINE

COMMODITIES: Lead Zinc Silver Copper

MINERALS

SIGNIFICANT: Pyrrhotite Sphalerite Galena Pyrite Chalcopyrite
Arsenopyrite Cerussite Silver

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stratiform Stratabound Massive
CLASSIFICATION: Sedimentary Exhalative Replacement
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag 105 Syngenetic
Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic Purcell Aldridge

LITHOLOGY: Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The property is located at about the 1590 metre elevation on the northeast slope of North Star Hill, 3 kilometres west of Kimberley.

The host rocks are argillaceous quartzites of the Middle Proterozoic Aldridge Formation, Purcell Supergroup. The original orebody was a replacement deposit similar to the Sullivan mine (082FNE052). The ore was primarily a very clean and solid argentiferous galena with only a small amount of sphalerite. Wire silver and crystals of cerussite occur as well as iron sulphides.

The showings were discovered and staked in June 1892 by Messrs. Bourgeois and Langill, who bonded the claims to the Woods Brothers, of Quebec; the latter sold 4/5 of their interest to D.D. Mann & associates, of Montreal, in 1893. The initial development work, in a shaft and crosscut adit, exposed a large body of high-grade ore. In 1894, four claims, the North Star, O.K., Buckhorn, and Dreadnaught (Lots 657-660, respectively), were Crown-granted to the North Star Mining Company, Limited Liability, which was incorporated that same year. The initial production from the mine was hauled by wagon 32.1 kilometres to the Kootenay River for transport by boat to Jennings, Montana, and then by rail to the smelter at Great Falls. Shipments ceased in 1897 to await the construction of the railway and mine operations were confined to development work. In April 1899 a new company, The North Star Mining Company, Limited, was incorporated with D.D. Mann as president; the former company was dissolved in 1900. The property at that time included, in addition to the Crown-grants, 13 claims held by location, including the Stemwinder. The C.P.R. railway was completed to Cranbrook in 1899 and a branch line was completed to Kimberley in 1900. During 1903 the limits of the orebody were reached and efforts were directed towards further exploration by means of numerous shallow workings and a shaft. The orebody had been mined from surface workings and from an adit driven in the footwall 18.2 metres below the surface outcrop.

In 1904 the company accountant, Mr. N. Curran, was appointed manager of the property to salvage the few tons of known ore left and to wind up the operation. This "clean up" project revealed a surprising amount of ore at the edges of old stopes and also the existence of considerable carbonate ore underlying surface gravels and soils. Mining operations continued into 1910 when the mine finally closed.

CAPSULE GEOLOGY

The Federal Mining and Smelting Company, a subsidiary of the American Smelting and Refining Company, optioned the property in 1917 and for 2 or 3 months during 1918 carried out limited diamond drilling. Later that same year O.C. Thompson & associates leased the North Star and began shipping ore sorted from the old dumps.

In June 1924 Thompson and associates gave a 3-year sub-lease and option on the property to the Porcupine Goldfields Development and Finance Company, Limited, of London, England. Work on the property during 1924 and 1925 included 624 metres of diamond drilling in a few shallow holes, and electrical prospecting. The lease and option expired in 1927. The North Star Mining Company charter was surrendered in 1931.

The Consolidated Mining and Smelting Company of Canada Limited acquired the property prior to 1937.

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DATE CODED: 1985/07/24
DATE REVISED: 2000/01/06

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE054**

NATIONAL MINERAL INVENTORY:

NAME(S): **COTNOIR - FORS**, POLARIS

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 36 36 N
LONGITUDE: 116 00 46 W
ELEVATION: 1166 Metres

NORTHING: 5495738
EASTING: 571321

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Siltstone
Wacke

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Cotnoir - Fors is underlain by siltstone and wacke of the Middle Proterozoic (lower) Aldridge Formation. A showing on the east side of Pitt Creek consists of a quartz-calcite vein hosting chalcopyrite, pyrrhotite and minor arsenopyrite and sphalerite. About 90 metres to the south, a quartz vein occurs hosting galena and sphalerite.

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GSC MAP 15-1957

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

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE055**

NATIONAL MINERAL INVENTORY:

NAME(S): **RICE (L.14951,14952)**, QUARTZ MOUNTAIN, LONE EAGLE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

Open Pit

MINING DIVISION: Fort Steele

LATITUDE: 49 34 12 N
LONGITUDE: 116 03 46 W
ELEVATION: 2000 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5491245
EASTING: 567765

LOCATION ACCURACY: Within 500M
COMMENTS: FROM MAP 15-1957

COMMODITIES: Gold Silica Silver Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Gold Silver Bornite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Industrial Min. Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE Middle Proterozoic GROUP Purcell FORMATION Creston IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Portions of massive quartz occur in argillaceous quartzite of the Middle Proterozoic Creston Formation (Purcell Supergroup). The quartz vein is mineralized with pyrite, chalcopyrite, gold and silver.

In 1973 and 1974, 1,481 tonnes was mined from surface showings and shipped to Trail for smelting. From this 13,405 grams of silver, 14,945 grams of gold, 1,307 kilograms of copper, 3,286 kilograms of lead and 1,481 kilograms of zinc were recovered. It was also mined for its silica.

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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 92
REPORT: RGEN0100

MINFILE NUMBER: **082FNE056**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANDERSON**, GOLDEN EGG, LONE EAGLE,
QUARTZ CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:
LATITUDE: 49 32 36 N
LONGITUDE: 116 02 10 W
ELEVATION: 1533 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: FROM GSC MAP 15-1957

Open Pit

MINING DIVISION: Fort Steele

UTM ZONE: 11 (NAD 83)

NORTHING: 5488305
EASTING: 569731

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Hematite Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epithermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Creston	

LITHOLOGY: Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Quartz vein occurs in argillaceous quartzites of the Middle Proterozoic Creston Formation, Purcell Supergroup. Mineralization includes hematite and pyrite with gold, silver and lead values. From 381 tonnes of ore mined between 1937 and 1940, 5,194 grams of silver, 3,173 grams of gold and 200 kilograms of lead were produced.

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REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE056**

MINFILE NUMBER: **082FNE057**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIRDIE L.**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

Underground

MINING DIVISION: Fort Steele

LATITUDE: 49 32 12 N
LONGITUDE: 116 01 34 W
ELEVATION: 1300 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5487573
EASTING: 570464

LOCATION ACCURACY: Within 500M

COMMENTS: From Geological Survey of Canada Map 15-1957.

COMMODITIES: Lead Zinc Silver Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Helikian	Purcell	Creston	

LITHOLOGY: Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Irregular quartz veins occur in sheared and faulted argillaceous quartzites of the Helikian Creston Formation, Purcell Supergroup. They are commonly well mineralized with galena, sphalerite and pyrite.

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GSC P 37-27, p. 23
GSC MAP 15-1957

DATE CODED: 1985/07/24
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE058**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROME & VALLEY**, JAC, JILL

MINING DIVISION: Fort Steele

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 31 12 N
LONGITUDE: 116 00 58 W
ELEVATION: 1866 Metres

NORTHING: 5485729
EASTING: 571211

LOCATION ACCURACY: Within 500M
COMMENTS: From Geological Survey of Canada Map 15-1957.

COMMODITIES: Lead Gold

MINERALS

SIGNIFICANT: Galena Pyromorphite Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Helikian	Purcell	Creston	

LITHOLOGY: Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Two or more large persistent quartz veins occur in fissures in a fault zone within argillaceous quartzites of the Helikian Creston Formation, Purcell Supergroup. These contain small amounts of pyrite and galena, and rare pyromorphite crystals (lead phosphate). A vein has been traced 470 metres and varies in width from 0.6 to 7.6 metres. It strikes 015 degrees and dips 35 to 50 degrees southeast.

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DATE CODED: 1985/07/24
DATE REVISED: 1989/05/08

CODED BY: GSB
REVISED BY: TH

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE059**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUNNING WOLF**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

Underground

MINING DIVISION: Fort Steele

LATITUDE: 49 30 12 N
LONGITUDE: 116 01 58 W
ELEVATION: 1866 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5483861
EASTING: 570029

LOCATION ACCURACY: Within 500M
COMMENTS: From Geological Survey of Canada Map 15-1957.

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal
TYPE: I01 Au-quartz veins
SHAPE: Irregular
MODIFIER: Sheared

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Helikian	Purcell	Creston	

LITHOLOGY: Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Running Wolf occurrence consists of a number of quartz veins in highly altered and sheared argillaceous quartzites of the Helikian Creston Formation, Purcell Supergroup. The veins are composed of massive quartzite with pyrite and reported assays of gold. They are up to 9 metres thick and laterally very persistent.

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DATE CODED: 1985/07/24
DATE REVISED: 1989/05/08

CODED BY: GSB
REVISED BY: TH

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE060**

NATIONAL MINERAL INVENTORY: 082F9 Cu2

NAME(S): **LEADER, MASCOT, ECLIPSE,
WELLINGTON**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

MINING DIVISION: Fort Steele
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 32 06 N
LONGITUDE: 116 08 10 W
ELEVATION: 1366 Metres

NORTHING: 5487290
EASTING: 562507

LOCATION ACCURACY: Within 500M
COMMENTS: FROM GSC MAP 15-1957

COMMODITIES: Lead Zinc Silver Copper Tungsten

MINERALS

SIGNIFICANT: Galena Chalcopyrite Hematite Sphalerite Scheelite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Middle Proterozoic
Middle Proterozoic

GROUP

Purcell

FORMATION

Creston

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Phyllitic Quartzite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

A vein of white quartz occurs conformable with schistosity of phyllitic quartzites of the Middle Proterozoic Creston Formation, Purcell Supergroup. A Middle Proterozoic granitic stock occurs nearby. The ore consists of galena, pyrite, sphalerite, tetrahedrite, scheelite, hematite and stibnite.

This property is located on the Sawmill Creek Fault, 6 to 8 kilometres south of St. Mary's Lake, near Angus Creek. In 1932, the property was owned by J. Angus. Early exploration and development consisted of an adit, a shaft and open cuts, all caved. There was also a drift out 39 metres long and some surface exploration.

In 1950, road construction to the property commenced but work ceased in October.

Estella Mines, Ltd., took option on the property in the following year and carried out general exploration. In 1955 the company changed its name to United Estella Mines Ltd., but it is not known if this company still holds this property.

Assays from the gold and silver range from 0.7 to 164 grams per tonne gold and 10 to 1971 grams per tonne silver.

BIBLIOGRAPHY

EMPR AR 1915-113, 1932-162, 1934-E29, 1950-155
EMPR ASS RPT 661, 4459 RES
EMPR GEM 1972-53, 1973-66
GSC SUM RPT 1932A-II-92
GSC MEM 228-70, 76-135
GSC PREL P 52-15-5
GSC MAP 15-1957
EMPR ASS RPT 8163
EMPR OF 1991-17

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/10

CODED BY: GSB
REVISED BY: GSB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE061**

NATIONAL MINERAL INVENTORY: 082F9 Ag1

NAME(S): **WARHORSE (L.13077)**, BOY SCOUT

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 33 42 N
LONGITUDE: 116 11 28 W
ELEVATION: 1500 Metres

NORTHING: 5490211
EASTING: 558496

LOCATION ACCURACY: Within 500M
COMMENTS: FROM GSC MAP 15-1957

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Arsenopyrite
ASSOCIATED: Quartz Siderite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The property is located between elevations of 1219.2 metres and 1981 metres on the southeast side of Hellroaring Creek, 4.8 kilometres south of St. Mary Lake and 19 kilometres southwest of Kimberley.

The Warhorse is underlain by intensely sheared argillaceous quartzite of the Middle Proterozoic Aldridge Formation, Purcell Supergroup. Mineralization occurs in quartz veins and lenses up to 1 metre wide. The veins are well-mineralized with galena, sphalerite, pyrite and locally, arsenopyrite. Some siderite also occurs locally.

The showings were reportedly staked in about 1895 and development work prior to 1910 was done in two adits, one of which was on the Iron Duke claim. The property was owned in 915 by N.A. Wallinger and associates. In 1920 A.H. Mayland of Calgary acquired an interest in the property. Four claims were Crown-granted in 1925, the Warhorse (Lot 13077) to Messrs. Wallinger, Bennett, and Mayland, and the Hope, Granite, and Faith (Lots 13078-13080 respectively) to Mayland. The property was known from about 1926 as the Boy Scout group. Development work, financed by Mayland and associates, was begun in a new (No. 3) adit in 1926 and continued into 1930. Cranberra Mines, Limited was incorporated as a private company in January 1930 by Mayland and associates to develop the property. When work ceased in 1930 the No. 3 adit had been driven as a crosscut for 104 metres and drift for more than 152 metres, with crosscuts near the face driven 21 metres northeast and 15 metres southwest. The old No. 1 adit had been driven to a length of about 49 metres. The No. 2 adit was driven in the footwall of the vein for most of its 91 metre length, with four crosscuts extending into the hangingwall.

Staple Mines and Minerals Limited held an option on the property during the first half of 1949 but no work was reported. Lake Expanse Gold Mines, Limited optioned the property from R. Bennett of Cranbrook late in 1949. Surface diamond drilling was carried out on the Warhorse claim.

Thomas Consolidated Mines, Inc., of Spokane, optioned the property late in 1950. Development work began in 1951 in a new 1387 metre elevation adit, about 213 metres vertically below No. 1 adit. By 1956, a total of 1245 metres of drifting and crosscutting, and 500 metres of diamond drilling had been carried out in the new adit. Work ceased at the end of July 1956.

St. Mary's Silver Lead Ltd. was incorporated in September 1965

MINFILE NUMBER: **082FNE061**

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 98
REPORT: RGEN0100

CAPSULE GEOLOGY

to acquire the property. The company name was changed to Hellroaring Silver Lead Ltd. in November 1965, and to St. Mary's Mines Ltd. in April 1968. Work by previous operators had indicated approximately 23,000 to 27,000 tonnes at 6 per cent lead, 8 per cent zinc, 171 grams per tonne silver (Northern Miner, Dec. 30, 1965). In 1969 the company carried out 610 metres of surface diamond drilling in 11 holes.

BIBLIOGRAPHY

EMPR AR 1915-112, 1924-186, 1925-449, 1926-243, 1927-267, 1929-297, 1930-231, 1949-196, 1950-155, 1951-181, 1952-196, 1953-147, 1954-145, 1955-68, 1956-108
EMPR GEM 1969-346
GSC MEM 228-71
GSC P 52-15, 37-27-21
GSC MAP 15-1957
GSA BUDDINGTON VOL 1962 P 278
N MINER DEC 30, 1965 RES

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE062**

NATIONAL MINERAL INVENTORY:

NAME(S): **POLLY VENT**, DAN HOWE, PAKK,
HORN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E 082F09W
BC MAP:
LATITUDE: 49 35 30 N
LONGITUDE: 116 12 53 W
ELEVATION: 1933 Metres

MINING DIVISION: Fort Steele

UTM ZONE: 11 (NAD 83)

NORTHING: 5493528
EASTING: 556754

LOCATION ACCURACY: Within 500M
COMMENTS: Showing located between Hellroaring and Meachen creeks, 1.7 kilometres south of St. Mary Lake, 34 kilometres west of the community of Cranbrook.

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrrhotite Arsenopyrite
ASSOCIATED: Quartz Pyrrhotite Arsenopyrite
ALTERATION: Tourmaline Albite Sericite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Massive Disseminated
CLASSIFICATION: Hydrothermal Sedimentary Exhalative
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Helikian	Purcell	Aldridge	
Proterozoic			Moyie Intrusions

LITHOLOGY: Argillaceous Quartzite
Diorite Sill
Argillite
Fragmental Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Lower Jack zone (082FNE115) was discovered in 1999 during prospecting along a newly constructed logging road in a steep, overburden-covered area. A number of large, lead-zinc bearing, hydrothermally altered, angular tourmalinite and Aldridge Formation fragmental float boulders occur in a 300 by 300 metre area. The float boulders are well mineralized with galena, sphalerite, arsenopyrite and pyrrhotite. This discovery was staked in the summer of 1999 and is now part of what is called the Pakk property. The Upper Jack zone (082FNE115) was also discovered by prospecting in the area and is located 2500 metres northwest of the Lower Jack zone. A third discovery, the Sinclair zone (082FNE117), is 2000 metres north-northeast of the Upper Jack zone. The Polly Vent showing is located 4000 metres north-northeast of the Sinclair showing. The Pakk property includes the Horn, Burn, Pit and Pakk claim groups.

The original Dan Howe showing, now called the Polly Vent, was described as a lenticular quartz vein in sheared argillaceous quartzites of the Helikian Aldridge Formation (Purcell Supergroup) beneath a Proterozoic Moyie Intrusions diorite sill.

In 1999, Chapleau Resources Ltd. completed one diamond drill-hole which intersected a sulphide-rich fragmental complex 230 metres thick. The complex consists of fragmental rock units up to 50 metres thick interbedded with thin bedded pyrrhotiferous argillite. Massive sulphide, mainly pyrrhotite and arsenopyrite, form the matrix of the fragmental units. Bedding-parallel bands of disseminated sphalerite up to 30 centimetres thick occur within the interbedded argillite units.

Super Group Holdings Ltd. is directing the exploration and Chapleau Resources Ltd. is performing the work on the property.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 100
REPORT: RGEN0100

BIBLIOGRAPHY

EM EXPL 1999-40-52
EMPR OF 2000-22
GSC MAP 15-1957
GSA Buddington, Vol.1962, p. 275
GCNL #192(Oct.6),*#204(Oct.25), 1999
WWW <http://www.blackbullresources.com>; <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/15

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE063**

NATIONAL MINERAL INVENTORY:

NAME(S): **CLAIR WEST**, DOMINION (L.6137), CLAIR FRAGMENTAL

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W
BC MAP:

MINING DIVISION: Fort Steele

LATITUDE: 49 37 24 N
LONGITUDE: 116 16 10 W
ELEVATION: 1300 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5497009
EASTING: 552764

LOCATION ACCURACY: Within 500M
COMMENTS: FROM MAP 15-1957

COMMODITIES: Lead Zinc Tungsten Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrrhotite Chalcopyrite Scheelite

ASSOCIATED: Arsenopyrite

MINERALIZATION AGE: Garnet

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Skarn Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au K05 W skarn
K08 Garnet skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Quartzite
Diorite Sill

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Fractures occur in Aldridge Formation quartzite of the Middle Proterozoic Purcell Supergroup, above a Moyie diorite sill. Stringers and lenses of quartz in the fractures contain galena and a little chalcopyrite, sphalerite and scheelite. Garnet is a common gangue.

In 1998, Abitibi Mining Corp. drilled a 443-metre hole.

BIBLIOGRAPHY

EMPR AR 1900-800, 1908-249, 1911-288, 1924-230, 1925-230
EMPR ASS RPT 7676, 7681,
EMPR EXPL 1979-66; 1998-68
EMPR OF 1991-17
GSC MAP 15-1957
GSC P 37-27-23, PREL P 52-15
GCNL #214(Nov.6), 1998
GSA BUDDINGTON VOL,1962 P 275
WWW <http://www.blackbullresources.com>; <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE064**

NATIONAL MINERAL INVENTORY:

NAME(S): **WARREN**, WOLMER, GOAT

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 41 48 N
LONGITUDE: 116 17 04 W
ELEVATION: 2533 Metres

NORTHING: 5505151
EASTING: 551603

LOCATION ACCURACY: Within 500M
COMMENTS: FROM GSC MAP 15-1957

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

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

STRIKE/DIP: TREND/PLUNGE: /

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Slate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Quartz vein occurs in slate of the Middle Proterozoic Aldridge Formation, Purcell Supergroup. Quartz in a fault zone contains pyrite arsenopyrite, galena and sphalerite. An adit, shaft and pits were excavated in the 1890s.

BIBLIOGRAPHY

EMPR AR 1897-525, 1898-1187
GSC PREL P 52-15
GSC MAP 1957-15
CIM SPEC VOL 15,1976 P 163 RES

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE065**

NATIONAL MINERAL INVENTORY: 082F9 Cu4

NAME(S): **COPPER KING (L.3835)**, BANNER (L.3839), SILVER TIP (L.3840)

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 30 54 N
LONGITUDE: 116 27 34 W
ELEVATION: 2700 Metres

NORTHING: 5484849
EASTING: 539128

LOCATION ACCURACY: Within 500M
COMMENTS: FROM GSC MAP 15-1957

COMMODITIES: Lead Silver Copper

MINERALS

SIGNIFICANT: Tetrahedrite Pyrite Galena Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Kitchener	

LITHOLOGY: Dolomite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Copper King property is located at elevations of 1830 to 2440 metres on White Grouse Mountain, at the headwaters of Goat River and Meachen Creek, some 39 kilometres southwest of Kimberley.

A zone, 30 to 120 centimetres wide, bearing irregular quartz stringers was exposed for 18 metres by a trench in buff-weathering dolomitic strata of the Middle Proterozoic Kitchener Formation, Purcell Supergroup. Tetrahedrite, pyrite, galena and a little chalcopyrite occur.

A number of claims were staked in this area in 1893 or earlier but due to the difficult access little was done other than assessment work. A 15 metre adit was driven on the Copper King claim, and also an adit on the Silver Tip claim. In 1900 the Delaware (Lot 2858) was Crown-granted to Messrs. Ray and Gosselin, the Lucy (Lot 2860) to J. Blanchard and A. Williams, and the Chapin (Lot 2862) to California and Clipper Silver-Lead Mines, Limited. In 1905 Crown-grants were issued to Hugh Sutherland for the Copper King, Big Four, Mammoth, Silver Tip, Duplex, and Colby (Lots 3835-3838, 3840, 3632, and 6340 respectively). Another group of claims, located about 800 metres to the south, including the Storm King, Robber King, Gem, Nowell, and Tamarack (Lots 3625, 3626, 3631, 3838, and 6338 respectively) were Crown-granted in 1905 to Messrs. Gibson, Sutherland, Nell, and Holmes. The Banner claim (Lot 3839) was Crown-granted to Hugh Sutherland in 1909.

BIBLIOGRAPHY

EMPR AR 1893-1046,1059, 1894-773, 1899-692,708, 1900-982, 1901-1007, 1902-164, 1905-250,251
GSC PREL P 52-15
GSC MAP 1957-15
EMPR ASS RPT 9105

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE066**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIGH PEAK (L.8905)**, BOOT, BOOTLEG

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 38 12 N
LONGITUDE: 116 09 34 W
ELEVATION: 2300 Metres

NORTHING: 5498574
EASTING: 560693

LOCATION ACCURACY: Within 1 KM
COMMENTS: FROM GSC MAP 15-1957

COMMODITIES: Silver Lead Copper

MINERALS

SIGNIFICANT: Pyrite Galena

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The High Peak showing consists of sparse chalcopyrite within fractured quartz veining. The area is underlain by argillites and quartzites of the Middle Proterozoic Aldridge Formation, Purcell Supergroup.

BIBLIOGRAPHY

EMPR AR 1909-275
EMPR ASS RPT 13632, *14358
GSC MAP 15-1957

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE067**

NATIONAL MINERAL INVENTORY:

NAME(S): **MYSTERY (L.4058)**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 39 18 N
LONGITUDE: 116 13 16 W
ELEVATION: 1800 Metres

NORTHING: 5500564
EASTING: 556219

LOCATION ACCURACY: Within 500M
COMMENTS: FROM GSC MAP 15-1957

COMMODITIES: Copper Lead Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Galena Sphalerite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

A quartz-calcite vein hosts chalcopyrite, pyrite and a little sphalerite and galena. The host rock is reported to be a diorite of the Middle Proterozoic Moyie Intrusions. Three tunnels totalling 72 metres and an 8 metre winze were reported in 1924.

BIBLIOGRAPHY

EMPR AR 1904-109, 1909-275, 1920-119, 1923-207, 1927-267, 1956-108
EMPR PF (*Abstract of Report by C.C. Starr on Mystery, Alice, Thistle, Magnet, Wheel of Fortune and Blue Peter claims, 1924)
GSC SUM RPT 1932A-II-98
GSC MEM 228-58
GSC P 37-27-32
GSC MAP 15-1957

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE068**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE PETER (L.4059)**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 39 48 N
LONGITUDE: 116 12 52 W
ELEVATION: 1966 Metres

NORTHING: 5501496
EASTING: 556690

LOCATION ACCURACY: Within 500M
COMMENTS: FROM MAP 15-1957

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Blue Peter occurs in Middle Proterozoic quartzite of the Aldridge Formation, Purcell Supergroup. The veins consist of quartz with varying amounts of pyrite, pyrrhotite and chalcopyrite. A 44 metre tunnel was reported in 1924, with a second one already caved in.

BIBLIOGRAPHY

EMPR AR 1898-1023, 1899-661, 1900-979, 1920-118, 1918-187
EMPR PF (Abstract of Report by C.C. Starr, 1924 (in Mystery file (082FNE067)))
GSC PREL P 52-15
GSC MAP 15-1957

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE069**

NATIONAL MINERAL INVENTORY: 082F9 Cu1

NAME(S): **FALLER**, JAG 2,4

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 34 42 N
LONGITUDE: 116 20 22 W
ELEVATION: 1466 Metres

NORTHING: 5491959
EASTING: 547753

LOCATION ACCURACY: Within 500M
COMMENTS: FROM MAP 15-1957

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I06 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Meta Diorite
Meta Gabbro
Quartzite
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

This Faller property is located on the westerly side of Mount Evans, about 24 kilometres southwest of Kimberley.

The area is underlain by quartzite and siltstone of the Middle Proterozoic (Middle) Aldridge Formation (Purcell Supergroup), intruded by meta gabbro or meta diorite of the Proterozoic Moyie Intrusions. Three or more of these sills, from 60 to 180 metres thick, strike in a northwest direction through the area for an aggregate length of 3.5 kilometres.

Pyrite, pyrrhotite and chalcopyrite are disseminated in diorite. Prior to 1920 three properties, the Evans, Good Hope, and Whitefish, were located over a north-south distance of about 3.2 kilometres.

A fourth property (Faller group) was located about 1.6 kilometres to the northwest) on the north side of Meacham Creek. The locations of the Good Hope and Evans prospects, as shown on Map 15-1957, appear to be reversed in view of the location of the Good Hope claim on Map 92 F/9 W, and the description given in the Report of Minister of Mines, British Columbia for 1915.

The Faller group, of 6 claims, was first reported on in 1900 when some 91 metres of adit had been driven. The Selkirk Copper Mines, Limited, incorporated at Moyie in May 1903, is believed to be the company which carried out exploration work on the property until about 1905. The workings at that time included 2 adits totalling about 152 metres of crosscuts and drifts.

Work on the Good Hope group prior to 1901 consisted of a 15 metre adit. In 1912 the Good Hope, Rose, and Toolips claims (Lots 9820-9822, respectively) were Crown-granted to Mr. C.H. Pollen.

Messrs. C. and W. Evans, of Marysville, recorded assessment work on the Pacific, Curfew, Twilight, and Sunset claims on Fiddler Creek in 1904. Their holdings were expanded in about 1915 to include claims in Pollen Basin and Kelly Basin. Most of their exploration work to that time had been done at their main camp near the head of Fiddler Creek, where approximately 91 metres of adit was driven. Their combined holdings were known as the Evans or Achilles property. Assessment work by the Evans brothers was reported yearly until about 1926.

The only report on the Whitefish group (3 claims) was in 1920

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RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
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CAPSULE GEOLOGY

when the workings consisted of 50 metres of adit and a 6 metre winze.
The JAG 1-58 claims, staked in March 1972 by A. Hopkins, of Toronto, covered the four old properties mentioned above. Mount Evans Copper Corp. Inc., incorporated in Ontario in May 1972, acquired 18 of the Jag claims.

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EMPR ASS RPT 4235
EMPR GEM 1973-70
GSC MEM 228-57
GSC P 52-15-5
GSC MAP 15-1957
EMPR ASS RPT 12825

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/02

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE070**

NATIONAL MINERAL INVENTORY: 082F9 Cu1

NAME(S): **WHITEFISH**, JAG 10

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 34 00 N
LONGITUDE: 116 19 40 W
ELEVATION: 2000 Metres

NORTHING: 5490670
EASTING: 548608

LOCATION ACCURACY: Within 500M
COMMENTS: FROM MAP 15-1957

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Malachite Azurite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

I06 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Middle Proterozoic
Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Meta Diorite
Meta Gabbro
Quartzite
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1920

SAMPLE TYPE: Bulk Sample

COMMODITY

GRADE

Silver

205.0000

Grams per tonne

Copper

6.0000

Per cent

COMMENTS: The copper and silver grades are reported to have come from an ore shipment of unreported quantity.

REFERENCE: Minister of Mines Annual Report 1920, page 118.

CAPSULE GEOLOGY

This Whitefish property is located on the westerly side of Mount Evans, about 24 kilometres southwest of Kimberley.

The occurrence area is underlain by quartzite and siltstone of the Middle Proterozoic (Middle) Aldridge Formation (Purcell Supergroup), intruded by meta gabbro or meta diorite of the Proterozoic Moyie Intrusions. Three or more of these sills, from 60 to 180 metres thick, strike in a northwest direction through the area for an aggregate length of 3.5 kilometres.

A quartz vein occurs in diorite with pyrite, malachite and azurite. Ore shipped in 1920 was reported to run "6 per cent copper and 6 ounces silver" (presumably meaning per tonne, giving 205 grams of silver per tonne)(Annual Report 1920).

Prior to 1920 three properties, the Evans, Good Hope, and Whitefish, were located over a north-south distance of about 3.2 kilometres.

A fourth property (Faller group) was located about 1.6 kilometres to the northwest) on the north side of Meacham Creek. The locations of the Good Hope and Evans prospects, as shown on Map 15-1957, appear to be reversed in view of the location of the Good Hope claim on Map 92 F/9 W, and the description given in the Report of Minister of Mines, British Columbia for 1915.

The Faller group, of 6 claims, was first reported on in 1900

CAPSULE GEOLOGY

when some 91 metres of adit had been driven. The Selkirk Copper Mines, Limited, incorporated at Moyie in May 1903, is believed to be the company which carried out exploration work on the property until about 1905. The workings at that time included 2 adits totalling about 152 metres of crosscuts and drifts.

Work on the Good Hope group prior to 1901 consisted of a 15 metre adit. In 1912 the Good Hope, Rose, and Toolips claims (Lots 9820-9822, respectively) were Crown-granted to Mr. C.H. Pollen.

Messrs. C. and W. Evans, of Marysville, recorded assessment work on the Pacific, Curfew, Twilight, and Sunset claims on Fiddler Creek in 1904. Their holdings were expanded in about 1915 to include claims in Pollen Basin and Kelly Basin. Most of their exploration work to that time had been done at their main camp near the head of Fiddler Creek, where approximately 91 metres of adit was driven. Their combined holdings were known as the Evans or Achilles property. Assessment work by the Evans brothers was reported yearly until about 1926.

The only report on the Whitefish group (3 claims) was in 1920 when the workings consisted of 50 metres of adit and a 6 metre winze.

The JAG 1-58 claims, staked in March 1972 by A. Hopkins, of Toronto, covered the four old properties mentioned above. Mount Evans Copper Corp. Inc., incorporated in Ontario in May 1972, acquired 18 of the Jag claims.

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GSC P 52-15-5
GSC MAP 15-1957

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE071**

NATIONAL MINERAL INVENTORY: 082F9 Cu1

NAME(S): **EVANS**, EVANS COPPER, JAG 37

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 33 36 N
LONGITUDE: 116 19 22 W
ELEVATION: 2133 Metres

NORTHING: 5489932
EASTING: 548976

LOCATION ACCURACY: Within 500M
COMMENTS: FROM MAP 15-1957

COMMODITIES: Copper Lead

MINERALS

SIGNIFICANT: Galena Chalcopyrite Pyrite Pyrrhotite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Middle Proterozoic
Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Meta Diorite
Meta Gabbro
Quartzite
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

This Evans property is located on the westerly side of Mount Evans, about 24 kilometres southwest of Kimberley.

The occurrence area is underlain by quartzite and siltstone of the Middle Proterozoic (Middle) Aldridge Formation (Purcell Supergroup), intruded by meta gabbro or meta diorite of the Proterozoic Moyie Intrusions. Three or more of these sills, from 60 to 180 metres thick, strike in a northwest direction through the area for an aggregate length of 3.5 kilometres.

Veins in diorite contain quartz and calcite, which in and adjacent to are found chalcopyrite, pyrrhotite, pyrite and sometimes galena.

Prior to 1920 three properties, the Evans, Good Hope, and Whitefish, were located over a north-south distance of about 3.2 kilometres.

A fourth property (Faller group) was located about 1.6 kilometres to the northwest) on the north side of Meacham Creek. The locations of the Good Hope and Evans prospects, as shown on Map 15-1957, appear to be reversed in view of the location of the Good Hope claim on Map 92 F/9 W, and the description given in the Report of Minister of Mines, British Columbia for 1915.

The Faller group, of 6 claims, was first reported on in 1900 when some 91 metres of adit had been driven. The Selkirk Copper Mines, Limited, incorporated at Moyie in May 1903, is believed to be the company which carried out exploration work on the property until about 1905. The workings at that time included 2 adits totalling about 152 metres of crosscuts and drifts.

Work on the Good Hope group prior to 1901 consisted of a 15 metre adit. In 1912 the Good Hope, Rose, and Toolips claims (Lots 9820-9822, respectively) were Crown-granted to Mr. C.H. Pollen.

Messrs. C. and W. Evans, of Marysville, recorded assessment work on the Pacific, Curfew, Twilight, and Sunset claims on Fiddler Creek in 1904. Their holdings were expanded in about 1915 to include claims in Pollen Basin and Kelly Basin. Most of their exploration work to that time had been done at their main camp near the head of Fiddler Creek, where approximately 91 metres of adit was driven.

CAPSULE GEOLOGY

Their combined holdings were known as the Evans or Achilles property. Assessment work by the Evans brothers was reported yearly until about 1926.

The only report on the Whitefish group (3 claims) was in 1920 when the workings consisted of 50 metres of adit and a 6 metre winze.

The JAG 1-58 claims, staked in March 1972 by A. Hopkins, of Toronto, covered the four old properties mentioned above. Mount Evans Copper Corp. Inc., incorporated in Ontario in May 1972, acquired 18 of the Jag claims.

BIBLIOGRAPHY

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EMPR ASS RPT 4235, 12825
EMPR GEM 1973-70
GSC SUM RPT 1932-98
GSC MEM 228-57, 76-144
GSC P *52-15, p. 5; 37-27, p. 31
GSC MAP 15-1957

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE072**

NATIONAL MINERAL INVENTORY: 082F9 Cu1

NAME(S): **GOOD HOPE (L.9820)**, JAG 19

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 32 48 N
LONGITUDE: 116 19 58 W
ELEVATION: 1800 Metres

NORTHING: 5488443
EASTING: 548266

LOCATION ACCURACY: Within 500M
COMMENTS: FROM MAP 15-1957

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 106 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Meta Diorite
Meta Gabbro
Quartzite
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Good Hope property is located on the west side of Mount Evans, about 24 kilometres southwest of Kimberley.
A faulted quartz-calcite vein(or two veins) hosting chalcopyrite occurs in diorite. The vein(s) are from 0.3 to 2 metres wide. Chalcopyrite also occurs in the host diorite. A 72 metre-long adit is reported.
Prior to 1920 three properties, the Evans, Good Hope, and Whitefish, were located over a north-south distance of about 3.2 kilometres.
A fourth property (Faller group) was located about 1.6 kilometres to the northwest) on the north side of Meacham Creek. The locations of the Good Hope and Evans prospects, as shown on Map 15-1957, appear to be reversed in view of the location of the Good Hope claim on Map 92 F/9 W, and the description given in the Report of Minister of Mines, British Columbia for 1915.
The Faller group, of 6 claims, was first reported on in 1900 when some 91 metres of adit had been driven. The Selkirk Copper Mines, Limited, incorporated at Moyie in May 1903, is believed to be the company which carried out exploration work on the property until about 1905. The workings at that time included 2 adits totalling about 152 metres of crosscuts and drifts.
Work on the Good Hope group prior to 1901 consisted of a 15 metre adit. In 1912 the Good Hope, Rose, and Toolips claims (Lots 9820-9822, respectively) were Crown-granted to Mr. C.H. Pollen.
Messrs. C. and W. Evans, of Marysville, recorded assessment work on the Pacific, Curfew, Twilight, and Sunset claims on Fiddler Creek in 1904. Their holdings were expanded in about 1915 to include claims in Pollen Basin and Kelly Basin. Most of their exploration work to that time had been done at their main camp near the head of Fiddler Creek, where approximately 91 metres of adit was driven. Their combined holdings were known as the Evans or Achilles property. Assessment work by the Evans brothers was reported yearly until about 1926.
The only report on the Whitefish group (3 claims) was in 1920 when the workings consisted of 50 metres of adit and a 6 metre winze.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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CAPSULE GEOLOGY

The JAG 1-58 claims, staked in March 1972 by A. Hopkins, of Toronto, covered the four old properties mentioned above. Mount Evans Copper Corp. Inc., incorporated in Ontario in May 1972, acquired 18 of the Jag claims.

BIBLIOGRAPHY

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EMPR ASS RPT 4829, 12825
EMPR AR 1901-1007, 1912-325
GSC P 52-15, p. 5
GSC MAP 15-1957

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE073**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOLLY**

MINING DIVISION: Fort Steele

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F16W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 56 12 N
LONGITUDE: 116 18 16 W
ELEVATION: 2533 Metres

NORTHING: 5531821
EASTING: 549914

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Tungsten Molybdenum

MINERALS

SIGNIFICANT: Scheelite Molybdenite
ALTERATION: Epidote Tremolite Calcite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn
TYPE: K05 W skarn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Helikian	Purcell	Aldridge	

LITHOLOGY: Dolomitic Marble
Dolomitic Siltstone
Granite

HOSTROCK COMMENTS: White Creek Batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

A skarn occurs in dolomitic marble and dolomitic siltstone of the Middle Proterozoic Kitchener Formation (Purcell Supergroup) between two lobes of granite of the White Creek Batholith. Calcsilicate alteration of the sediments to epidote, tremolite and calcite is common. Tungsten and molybdenum mineralization are reported to occur within the skarn.

BIBLIOGRAPHY

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EMPR AR 1959-74
EMPR GEM 1969-344
EMPR OF 90-20; 1991-17
GSC MAP 15-1957

DATE CODED: 1985/07/24
DATE REVISED: 1990/02/13

CODED BY: GSB
REVISED BY: GS

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE074**

NATIONAL MINERAL INVENTORY:

NAME(S): **BRONCO**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 34 12 N
LONGITUDE: 116 11 40 W
ELEVATION: 1430 Metres

NORTHING: 5491135
EASTING: 558245

LOCATION ACCURACY: Within 500M
COMMENTS: CENTRE OF CLAIM GROUP

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Siliceous Quartzite
Micaceous Quartzite
Sill
Pegmatite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Bronco is underlain by micaceous quartzite of the Middle Proterozoic Aldridge Formation (Purcell Supergroup) cut by numerous sills of the Middle Proterozoic Moyie Intrusions and pegmatite. Coarse grained galena and sphalerite is associated with quartz in a fractured and silicified quartzite.

BIBLIOGRAPHY

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EMPR ASS RPT 8466

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE075**

NATIONAL MINERAL INVENTORY:

NAME(S): **PILOT POINT**, CRAWFORD PENINSULA, COTTAGE,
ROY

MINING DIVISION: Slocan

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 38 00 N
LONGITUDE: 116 49 51 W
ELEVATION: 884 Metres

NORTHING: 5497878
EASTING: 512216

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location centered on dolomite band (unit E bm) between Kootenay Lake and Crawford Bay (Geological Survey of Canada Open File 929).

COMMODITIES: Dolomite

MINERALS

SIGNIFICANT: Dolomite
ASSOCIATED: Quartz Mica Silicate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R10 Dolomite
DIMENSION: 3500 x 150 Metres STRIKE/DIP: 040/70W TREND/PLUNGE:
COMMENTS: Attitude of dolomite bed on Kootenay Lake.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Badshot	

DATING METHOD: Fossil
MATERIAL DATED: Archaeocyathids

LITHOLOGY: Dolomite
Schistose Rock
Schist
Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Trench
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1944
SAMPLE TYPE: Grab
COMMODITY: Dolomite GRADE: 20.1800 Per cent
COMMENTS: From southwest end of band. Grade given for MgO.
REFERENCE: CANMET Report 811, page 212-Sample 85A.

CAPSULE GEOLOGY

A band of dolomite of the Lower Cambrian Badshot Formation outcrops on the east shore of Kootenay Lake, 3 kilometres northwest of Cape Horn (Pilot Point) and continues northeast for 3.5 kilometres across Crawford Peninsula to Crawford Bay. The band strikes 040 degrees and dips 70 degrees northwest on Kootenay Lake. The bed is 150 metres thick at this location.

The exposures on Kootenay Lake reveal white to yellowish-white, medium grained dolomite with quartz veins, golden mica grains and patches of various silicates. The dolomite becomes interbedded with schistose rocks near the northern edge of the band. Numerous dykes intrude the dolomite. A sample from the northern edge of the band contained 30.32 per cent CaO, 20.18 per cent MgO, 3.94 per cent SiO₂, 0.71 per cent Al₂O₃, 0.49 per cent Fe₂O₃ and 0.02 per cent sulphur (CANMET Report 811, p. 212, Sample 85A).

Diamond drilling on the northeast end of the band at Crawford Bay encountered mostly white to bluish-grey dolomite displaying some pink and rusty zones. A sample of cored dolomite contained 27.70 per cent CaO, 16.80 per cent MgO, 14.12 per cent SiO₂, trace of Al₂O₃,

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CAPSULE GEOLOGY

0.52 per cent Fe₂O₃ and 39.94 per cent ignition loss (Assessment Report 4923).

The deposit was explored by diamond drilling, by International Marble & Stone Company, near the east shore of Crawford Bay during 1973 and 1976. The company drilled the Roy claims in 1981.

BIBLIOGRAPHY

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EMPR EXPL 1977-249
EMPR GEM 1974-375
GSC MAP 603A
GSC MEM 228, pp. 20,21
GSC OF 929
CANMET RPT *811, Part 5, p. 212

DATE CODED: 1985/07/24
DATE REVISED: 1989/09/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE076**

NATIONAL MINERAL INVENTORY: 082F10 Ag2

NAME(S): **KRAO**, CROW-FLEDGLING

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 42 36 N
LONGITUDE: 116 55 16 W
ELEVATION: 1033 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5506391
EASTING: 505688

LOCATION ACCURACY: Within 500M
COMMENTS: CENTRE OF CLAIM GROUP

COMMODITIES: Silver Lead Zinc Cadmium

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Siderite Calcite Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Podiform
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone
Hornblende Schist
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

These claims lie directly west of Loon Lake at an elevation of about 1000 metres, The property may be reached by road from Ainsworth.

The Krao and Crow-Fledgling (082FNE080) Crown grants are underlain by hornblende schists, limestone and banded quartzite of the Mississippian to Lower Permian Milford Group. Calcite, siderite and quartz with galena and sphalerite occur in a fissure in the limestone. Wire silver occurs in solution cavities and joint planes within the mineralized zone.

The Krao was mined intermittently from 1889 until 1964. A total of 1,463 tonnes mined is recorded for the property. From this, 3,842,776 grams of silver, 179,928 kilograms of lead and 8,721 kilograms of zinc and 6 kilograms of cadmium were recovered.

The Krao and Crow-Fledgling claims were Crown granted to A.D. Wheeler in 1890. During the first period of major development work, which lasted through 1908, the deposit was stripped over a 18 by 46 metre area. A shaft, dipping west at 75 degrees, was sunk on the hanging wall to a depth of 30 metres. A tunnel on the Crow Fledgling claim was driven for 259 metres to intersect the Krao limestone at about 91 metres below the surface. Several hundred feet of drift along a limestone band at the end of the crosscut failed to turn up any ore. In 1906 the property was sold to the Krao Silver-Lead Mining Co. and a program of stripping and of stoping of small amounts of high-grade ore was carried out. The following year the shaft was deepened to 78 metres and 152 metres of drifting and crosscutting was completed. Water courses were encountered in sinking.

Active production ceased soon after 1908 and except for small amounts of very rich silver ore mined by leasers, there was little change up to 1952. In 1949 the Yale Lead & Zinc Mines Ltd. acquired these claims. The Krao dump, amounting to 173 tonnes, was milled in 1952. In 1953-54 stoping was done adjacent to the shaft at the 30 metres level. The following year stoping was carried out above the 61 metres level. Coin Explorations and David Minerals may have been involved with property in 1967 and 1980 respectively.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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139, 1949-179, 1952-163, 1953-130, 1954-131, 1955-57, 1956-91, 1960-
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GSC MEM 117-57
GSC P 44-13
GSC MAP 1742, 603A
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE077**

NATIONAL MINERAL INVENTORY:

NAME(S): **UNITED**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:
LATITUDE: 49 43 18 N
LONGITUDE: 116 55 40 W
ELEVATION: 1200 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: CENTRE OF CLAIM GROUP

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5507688
EASTING: 505206

COMMODITIES: Lead Silver Gold Zinc

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Permian-Triassic Kaslo Unnamed/Unknown Formation

LITHOLOGY: Hornblende Schist
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The United workings consist of a two-compartment shaft inclined at 60 degrees to the southwest, reported to be 72 metres deep, and three level workings from the shaft.

Most of the work on the United was done before 1910. Shipments of ore were made between 1918 and 1920. The property was drilled in 1950 and much of the old dump near the shaft was trucked to the Yale mill in 1952. At total of 776 tonnes of ore was mined and 95,455 grams of silver, 81,160 kilograms of lead and 93 grams of gold were recovered.

Mineralization exposed in a trench northwest of the shaft and at the collar of the shaft is along a vein in fine-grained hornblende schist of the Permo-Triassic Kaslo Group which strikes northwest and dips 60 degrees to the southwest. The vein contains quartz, galena, spalerite, pyrite and minor chalcopyrite and is about 60 centimetres thick. The trench is within 15 metres of the Jospephine fault, which separates the hornblende schist from grey knotted schist and intercalated minor limestones to the west. The vein is not found west of the Josephine fault, and probably it swings northward into the fault.

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EMPR AR 1889-282, 1890-367, 1894-736, 1895-682, 1896-90,561,1899-596
1905-158, 1906-142,248, 1909-105,272, 1919-153, 1920-119,
1923-209, 1925-231
EMPR BULL *53, p. 115
GSC MAP 1742
GSC MEM 117-42
UBC MSC THESIS, ORR 1971
Starr, C.C. (1930): Report of Preliminary Examination of the United
Mine (4 pages)

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE078**

NATIONAL MINERAL INVENTORY:

NAME(S): **UNION**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 42 54 N
LONGITUDE: 116 55 58 W
ELEVATION: 1200 Metres

NORTHING: 5506946
EASTING: 504846

LOCATION ACCURACY: Within 500M
COMMENTS: CENTRE OF CLAIM GROUP

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic Hydrothermal Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Union showings occur in limestone and schist of the Mississippian to Lower Permian Milford Group. Galena and minor sphalerite occur locally in gossanous patches

BIBLIOGRAPHY

EMPR AR 1889-282, 1890-367, 1895-682, 1896-561
EMPR BULL 53-114
EMPR ASS RPT 8240, 8992

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE079**

NATIONAL MINERAL INVENTORY: 082F10 Ag3

NAME(S): **NEOSHO (L.302)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 42 06 N
LONGITUDE: 116 55 58 W

UTM ZONE: 11 (NAD 83)

ELEVATION: 1066 Metres

NORTHING: 5505464
EASTING: 504847

LOCATION ACCURACY: Within 500M

COMMENTS: CENTRE OF CLAIM GROUP

COMMODITIES: Silver Zinc Lead

MINERALS

SIGNIFICANT: Galena Sphalerite Silver

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
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 Paleozoic Middle Jurassic	Milford	Unnamed/Unknown Formation	Nelson Intrusions

LITHOLOGY: Limestone
Schist
Argillite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Neosho property is located about 1.6 kilometres west of Kootenay Lake and about 1 kilometre north of Coffee creek at an elevation of about 1036 metres. A branch road 18 kilometres long was built to the property from the No. 1 mine road.

The country rocks are limestone, argillite and staurolite schist of the Mississippian to Lower Permian Milford Group. Granite of the Nelson Intrusions occurs immediately to the south. Intrusive sills or dikes of gneissic granite occur throughout the area north of the contact. The limestones strike approximately north and dip to the west. The Neosho vein, varying in width up to 0.76 metres, follows the bedding in the limestone. The vein is not presently exposed but is reported to have been in a zone of sheared and oxidized schist (with limestone layers) containing galena, sphalerite and locally wire silver.

Small amounts of high grade silver ore are reported to have been shipped from this property in 1889 and 1890. The Neosho claim was Crown granted to the Neosho Mining Co. in 1892. By 1895 the workings consisted of a shaft over 30 metres deep and 76 metres of tunnel. Neosho Mines Ltd. acquired the Neosho, Normandy and several other claims in 1928 but very little work was done and the property lay idle for the next 20 years.

S. Hallgran obtained the claim from the Crown in 1948. Leasers worked the property in 1949. Privateer Mines Ltd. obtained an option to purchase the property but after a preliminary investigation by the company engineer in May 1950, it was decided that the option should be dropped.

Ten tonnes were shipped in 1922 and a further 135 tonnes were shipped in 1949 and 1950. From this 104,785 grams of silver, 3,508 kilograms lead and 7,808 kilograms of zinc were recovered.

BIBLIOGRAPHY

EMPR AR 1889-282; 1890-367; 1895-682; 1896-39,90,560; 1897-527;
1898-1029; 1899-707; 1922-194; 1928-302; 1949-180; 1950-134
EMPR INDEX 3-207
EMPR BULL *53, P. 101

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 124
REPORT: RGEN0100

BIBLIOGRAPHY

EMR MP CORPFILE (NEW PRIVATEER MINES LTD., 14TH ANN RPT,1950)
GSC MAP 1742
GSC MEM 117
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE080**

NATIONAL MINERAL INVENTORY: 082F10 Ag2

NAME(S): **CROW-FLEDGLING**, KRAO

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 42 24 N
LONGITUDE: 116 55 10 W
ELEVATION: 1066 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5506021
EASTING: 505808

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Silver Lead Zinc Cadmium

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Calcite Siderite Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Hydrothermal Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone
Hornblende Schist
Quartzite

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

These claims lie directly west of Loon Lake at an elevation of about 1000 metres, The property may be reached by road from Ainsworth.

The Krao (082FNE076) and Crow-Fledgling Crown grants are underlain by hornblende schists, limestone and banded quartzite of the Mississippian to Lower Permian Milford Group. Calcite, siderite and quartz with galena and sphalerite occur in a fissure in the limestone. Wire silver occurs in solution cavities and joint planes within the mineralized zone.

The Crow-Fledgling has recorded production for 4 years from 1937 to 1960 when 169 tonnes was shipped. From this, 25,913 grams of silver, 13,394 kilograms of lead and 10,039 kilograms of zinc and 22 kilograms of cadmium were recovered.

The Krao and Crow-Fledgling claims were Crown granted to A.D. Wheeler in 1890. During the first period of major development work, which lasted through 1908, the deposit was stripped over a 18 by 46 metre area. A shaft, dipping west at 75 degrees, was sunk on the hanging wall to a depth of 30 metres. A tunnel on the Crow Fledgling claim was driven for 259 metres to intersect the Krao limestone at about 91 metres below the surface. Several hundred feet of drift along a limestone band at the end of the crosscut failed to turn up any ore. In 1906 the property was sold to the Krao Silver-Lead Mining Co. and a program of stripping and of stoping of small amounts of high-grade ore was carried out. The following year the shaft was deepened to 78 metres and 152 metres of drifting and crosscutting was completed. Water courses were encountered in sinking.

Active production ceased soon after 1908 and except for small amounts of very rich silver ore mined by leasers, there was little change up to 1952. In 1949 the Yale Lead & Zinc Mines Ltd. acquired these claims. The Krao dump, amounting to 173 tonnes, was milled in 1952. In 1953-54 stoping was done adjacent to the shaft at the 30 metres level. The following year stoping was carried out above the 61 metres level. Coin Explorations and David Minerals may have been involved with property in 1967 and 1980 respectively.

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RUN TIME: 16:27:53

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PAGE: 126
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (MAPS)
EMPR AR 1895-682, 1896-557, 1906-142,248, 1907-95, 1916-195,
1917-187, 1929-323, 1937-A37,E51, 1948-139, 1949-179, 1953-130,
1954-131, 1960-A55,74
EMPR INDEX 3-193, 4-120
EMPR BULL *53, p. 100
GSC P 44-13
UBC MSC THESIS, ORR 1971
EMPR ASS RPT 8240, 8254, 8992

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE081**

NATIONAL MINERAL INVENTORY:

NAME(S): **FIREBRAND**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 42 18 N
LONGITUDE: 116 55 10 W
ELEVATION: 1050 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5505835
EASTING: 505808

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Silver Lead

MINERALS

SIGNIFICANT: Galena Silver
ASSOCIATED: Siderite Calcite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Upper Paleozoic

GROUP

Milford

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Micaceous Quartzite
Quartz Mica Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Although the Firebrand is an old property, there is no published account of the work done on it until 1955. Two shallow shafts and a number of open cuts and a short adit have been excavated.

The workings occur along a quartz vein that strikes 340 degrees and dips about 65 degrees west. The host rocks are micaceous quartzite and quartz-mica schist which lie west of a layer of hornblende schist, all of the Mississippian to Lower Permian Milford Group. The vein is found intermittently along strike for about 150 metres.

Recorded production of 15 tonnes for 1924 shows that 56,981 grams of silver and 1,569 kilograms of lead were recovered.

BIBLIOGRAPHY

EMPR AR 1928-301, 1955-57, 1956-91
EMPR BULL *53, p. 81
UBC MSC THESIS, ORR 1971
EMPR ASS RPT 12492

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE082**

NATIONAL MINERAL INVENTORY:

NAME(S): **GLENGARRY**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 42 30 N
LONGITUDE: 116 55 28 W
ELEVATION: 1105 Metres

NORTHING: 5506205
EASTING: 505448

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Zinc Silver Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite

ASSOCIATED: Quartz Siderite

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian-Triassic	Kaslo	Unnamed/Unknown Formation	
Upper Paleozoic	Milford	Unnamed/Unknown Formation	

LITHOLOGY: Hornblende Schist
Quartzite
Limestone
Gneiss
Mica Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain

Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Glengarry showing occurs in a hornblende schist and gneiss of the Permo-Triassic Kaslo Group and a quartz-mica schist with minor limestone unit of the Mississippian to Lower Permian Milford Group. Workings consist of a caved incline shaft, about 20 metre deep and made about 1900, and a shallow adit about 200 metre southeast of the shaft, made after 1917.

Several short narrow veins in quartzite and hornblende schist contain coarse, dark-coloured sphalerite, galena, pyrite and minor chalcopyrite. One vein exposed in and open cut less than 30 metres northwest of the adit contains galena in siderite and quartz.

BIBLIOGRAPHY

EMPR AR 1894-745, 1895-692, 1896-543, 1897-551, 1898-1070, 1899-675, 683, 708
EMPR BULL *53, p. 82
GSC MEM 117, p. 43
GSC MAP 1742
UBC MSC THESIS, ORR 1971

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 129
REPORT: RGEN0100

MINFILE NUMBER: **082FNE083**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOBLE 3**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 43 43 N
LONGITUDE: 116 55 34 W
ELEVATION: 1133 Metres

NORTHING: 5508460
EASTING: 505325

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE GROUP _____
Permian-Triassic Kaslo

FORMATION _____
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER _____

LITHOLOGY: Hornblende Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Noble 3 showings occur in hornblende schist of the Permo-Triassic Kaslo Group. A quartz vein striking 300 degrees and dipping steeply south contains coarse galena, sphalerite and pyrite locally in well-formed cavities between quartz crystals. The vein has been traced for "several hundred feet" and is less than 30 metres thick.

BIBLIOGRAPHY

EMPR AR 1895-682, 1897-573
EMPR BULL 53, p. 103
EMPR ASS RPT 8240, 8992

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE083**

MINFILE NUMBER: **082FNE084**

NATIONAL MINERAL INVENTORY: 082F10 Ag4

NAME(S): **SILVER HILL (L.2852)**, X-RAY (L.5089), GREEN CROWN,
S&N FRACTION, NORFOLK, SIMCOE,
ROY, RICHELIEU, INDICATION (L.2863),
JENNIE D

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:
LATITUDE: 49 42 24 N
LONGITUDE: 116 39 16 W
ELEVATION: 1833 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5506075
EASTING: 524915

COMMODITIES: Silver Lead Zinc Copper Gold

MINERALS

SIGNIFICANT: Pyrite Galena Tetrahedrite Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Mount Nelson	

LITHOLOGY: Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

This property is located at the 1800-metre elevation on the south side of Canyon Creek, a northwesterly flowing tributary of Crawford Creek, about 18 kilometres east of Kootenay Lake.

The Silver Hill deposit consists of one or more quartz veins, from 30 to 60 centimetres wide, that parallel the bedding in dark grey argillite of the Middle Proterozoic Mount Nelson Formation (Purcell Supergroup). The veins have been traced for at least 800 metres. The veins are well-mineralized with galena, sphalerite, tetrahedrite and pyrite.

A number of ore shipments occurred from 1901 to 1952. From a total of 2,204 tonnes mined, 2,184 kilograms of silver, 31 grams of gold, 26 kilograms of copper, 159,401 kilograms of lead and 16,122 kilograms of zinc were recovered.

The Silver Hill group, including the Silver Hill (Lot 2852), Green Crown, S & N Fraction, Norfolk, Simcoe, and Boy Crown-granted claims, was held by The London Consolidated Cold Fields Exploration and Mining Company Limited, incorporated March 1897, from 1898 until 1901. The Richelieu group, adjoining the Silver Hill group on the south, included the Indication (Lot 2863) and Jennie D, Crown-granted claims. The Richelieu Mining Company Limited, incorporated May 1899, carried out development work on the property until 1901. The London and Richelieu Mining and Smelting Company Limited, Incorporated June 1901, apparently acquired both groups of claims and work continued until late 1901. Development work to this date consisted of 1036 metres of underground workings in 4 adits and some 457 metres of open cutting and stripping. The X-ray claim (Lot 5089), located a short distance south of the Indication claim, was Crown-granted to H.M. Rumball in 1901, however, no development work has been reported.

Lessees reportedly shipped ore from the property in 1903. Silver Hill Mines Limited, incorporated in August 1916, is reported to have shipped ore from the property in 1917. In 1925, W.J. Williams and associates leased the property from the Bank of Montreal and the following year shipped 23 tonnes of ore.

No further work was reported until about 1935 when private capital began exploration work on the property. British Columbia Lead and Zinc Mines Limited, formed in March 1937, acquired the

CAPSULE GEOLOGY

property and expanded it to 17 claims. The four adits were cleaned out and the veins resampled, however, no further work was reported done by the company.

Mr. J.J. Gray of Toronto held a lease on the property and during 1949 and 1950 made several shipments of ore from the dump. The Abco Mining Corporation Limited, Nelson, B.C., made a shipment of 15 tonnes of ore from the property in 1952.

BIBLIOGRAPHY

EMPR AR 1899-597,844; 1900-849,987; 1901-1031; 1903-149; 1916-195;
1917-154,448; 1922-192; 1925-237; 1926-259; 1949-176; 1950-132;
1952-43
EMPR BC METAL MM01097
EMPR OF 1998-10
EMR MP CORPFILE (British Columbia Lead & Zinc Mines Limited)
GSC MAP 603A
GSC MEM 228, p. 75
GSC P 38-17-8

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE085**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOKI**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 50 06 N
LONGITUDE: 116 43 04 W
ELEVATION: 2000 Metres

NORTHING: 5520324
EASTING: 520295

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Molybdenum Tungsten Fluorite

MINERALS

SIGNIFICANT: Molybdenite Scheelite Fluorite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Unknown Hydrothermal
TYPE: I12 W veins

113 Sn veins and greisens

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Hamill	Unnamed/Unknown Formation	
Upper Cretaceous			Fry Creek Intrusion

LITHOLOGY: Biotite Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Loki covers a portion of the Upper Cretaceous Fry Creek Batholith and its contact with metasediments of the Lower Cambrian Hamill group. Molybdenum mineralization is related to a greissan vein system in the biotite quartz monzonite of the Fry Creek Batholith.

BIBLIOGRAPHY

EMPR ASS RPT 8414

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE086**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOTSHOT**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 45 42 N
LONGITUDE: 116 50 28 W
ELEVATION: 866 Metres

NORTHING: 5512144
EASTING: 511443

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Pyrargyrite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: J01 Polymetallic manto Ag-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic	Lardeau	Index	

LITHOLOGY: Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

A number of veins striking northwest and dipping to the north cut schists of the Middle Cambrian to Middle Devonian Index Formation, Lardeau Group.

The veins contain galena, sphalerite, pyrite and ruby silver (pyrargyrite). The largest vein is 1 metre wide and 10 metres long. It has been explored by and an adit.

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EMPR BULL 73, p. 87
GSC MEM 228, p. 81
GSC P 38-17, p. 7
EMPR ASS RPT 8764

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE087**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD LEDGE**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E 082F09W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 40 48 N
LONGITUDE: 116 14 58 W
ELEVATION: 2633 Metres

NORTHING: 5503323
EASTING: 554146

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Gold

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Galena Gold
ASSOCIATED: Quartz Siderite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Gold Ledge occurs in the Alki fault zone which cuts Middle Proterozoic argillaceous quartzite of the Aldridge Formation, Purcell Supergroup. The principal workings are a 41-metre drift and a 14 metre crosscut. The drift traverses sheared rock containing numerous quartz stringers. The crosscut exposes 2.4 metres of quartz-filled breccia and 7.6 metres of fractured quartz. Arsenopyrite, galena and pyrite are the sparse sulphide minerals present. Siderite is present in the gangue. A selected sample yielded more than 34 grams per tonne gold (GSC Memoir 228).

BIBLIOGRAPHY

EMPR AR 1898-1024
GSC MEM *228, p. 71
GSC P 52-15, p. 5
GSC MAP 52-15A
GCNL #179(Sept.19), 2000

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE088**

NATIONAL MINERAL INVENTORY:

NAME(S): **BULLDOG**, KOLE

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 38 48 N
LONGITUDE: 116 06 04 W
ELEVATION: 1633 Metres

NORTHING: 5499735
EASTING: 564891

LOCATION ACCURACY: Within 500M
COMMENTS: FROM MAP 52-15A, GSC

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena Arsenopyrite
ASSOCIATED: Quartz
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
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Diorite
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Bulldog area is underlain by quartzite of the Middle Proterozoic Aldrige Formation, Purcell Supergroup. White quartz outcrops widely on the hillside but sulphides are sparse or lacking. A little to the west of these showings, a tunnel has been driven in a shear in diorite. The shear carries quartz stringers with a little galena and arsenopyrite. The diorite is probably related to the Proterozoic Moyie Intrusions.

BIBLIOGRAPHY

EMPR AR 1909-275
GSC P 52-15; 38-17, p. 5; 37-27, p. 25
GSC MAP 52-15A

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE089**

NATIONAL MINERAL INVENTORY:

NAME(S): **PICO**, STAR, NINE LAKE

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 57 59 N
LONGITUDE: 116 10 50 W
ELEVATION: 2200 Metres

NORTHING: 5535215
EASTING: 558768

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Tungsten Copper

MINERALS

SIGNIFICANT: Scheelite Chalcopyrite Pyrrhotite
ASSOCIATED: Quartz Garnet Chlorite Epidote
ALTERATION TYPE: Skarn
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Skarn Hydrothermal
TYPE: K05 W skarn I13 Sn veins and greisens
 I12 W veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Lower Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Meta Diorite Sill
 Quartz Wacke
 Quartz Arenite
 Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

Scheelite occurs in fracture stockwork zones in Middle Proterozoic Moyie metadiorite sills. The sills occur within quartzwacke, quartz arenites and siltstones of the Middle Proterozoic Aldridge Formation, Purcell Supergroup. Wolframite, chalcopyrite, pyrrhotite, quartz, garnet, epidote and calcite are also reported.

BIBLIOGRAPHY

EM EXPL 1999-40-52
EM GEOS MAP 1998-4
EMPR AR 1957-64, 1958-52, 1968-267
EMPR ASS RPT 3927
EMPR EXPL 1975-E39, 1978-E66, 1979-73
EMPR GEM 1973-82
EMPR OF 90-20: 1991-17

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNE090**

NATIONAL MINERAL INVENTORY:

NAME(S): **VAL, SKO, CHUCK,**
CAS, RR

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 57 30 N
LONGITUDE: 116 15 04 W
ELEVATION: 2200 Metres

NORTHING: 5534267
EASTING: 553717

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Tungsten Tin

MINERALS

SIGNIFICANT: Cassiterite Scheelite Wolframite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Skarn Hydrothermal
TYPE: I13 Sn veins and greisens 112 W veins
K05 W skarn

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Diorite
Argillite
Siltstone
Quartzite
Turbidite Wacke

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Val occurs at or near the contact between rusty-weathering argillites, siltstone and quartzite of the Middle Proterozoic lower Aldridge Formation (Purcell Supergroup), and turbidite wackes and laminated siltstone of the middle Aldridge Formation.

Cassiterite, scheelite and wolframite bearing quartz-greissen veinlets occur in Moyie diorite sills within the Aldridge rocks.

The contact is a favourable horizon to Sullivan-type mineralization on the property.

BIBLIOGRAPHY

EM GEOS MAP 1998-4
EMPR AR 1966-240
EMPR ASS RPT 3109, *12632
EMPR GEM 1971-414
EMPR OF 1991-17

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE091**

NATIONAL MINERAL INVENTORY: 082F10,15 Cu1

NAME(S): **WELCOME & ENTERPRISE**, WELCOME (L.1389), ENTERPRISE (L.3559)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10E 082F15E 082F16W
BC MAP:

MINING DIVISION: Fort Steele

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 44 56 N
LONGITUDE: 116 30 25 W
ELEVATION: 1733 Metres

NORTHING: 5510828
EASTING: 535519

LOCATION ACCURACY: Within 500M

COMMENTS: Boundary of lots 1389 and 3559 (NTS map 082F/10).

COMMODITIES: Copper Lead

MINERALS

SIGNIFICANT: Chalcopyrite Galena Pyrite

ASSOCIATED: Quartz Carbonate

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	

LITHOLOGY: Limy Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The property is located on the south side of St. Mary River some 40 kilometres west-northwest of Kimberley. Four claims, the Surprise, Welcome, Enterprise and Shrewsbury extend southerly from the river up the northeast slope of Hungry Peak between elevations of 1,160 and 1,980 metres.

The Welcome & Enterprise showings occur in quartz-carbonate lenses containing chalcopyrite, pyrite and locally galena. The hostrocks are reported to be sheared limy argillites of the Middle Proterozoic Creston Formation, Purcell Supergroup.

The Enterprise claim (Lot 3559) was Crown-granted to H. McCool and Wm. Millican and the Welcome claim (Lot 1389) to Geo. Urquhart in 1900. The Surprise claim (Lot 3560) was Crown-granted in 1901 to Arthur Phillips and the Shrewsbury (Lot 5584) to H.R. Thomson and associates in 1902. Development work to about 1904 was done in open cuts and 3 adits. A 0.36-tonne sample of galena mineralization was packed out to the Marysville smelter in 1904.

Newmont Mining Corporation of Canada Limited held the property in 1961 as part of an optioned group of 88 claims. Work included stripping, geological mapping, and 485 metres of diamond drilling in 5 holes.

The Surprise Crown-grant, held as a mineral lease by D.C. Jackson, was under option to Meridian Resources Ltd. during 1977-78. The company also held a lease on the Welcome Crown-grant.

BIBLIOGRAPHY

EMPR GEM 1977-E53
EMPR AR 1900-979; 1901-1006,1228; 1902-303; 1904-109; *1961-82;
1966-239
EMPR ASS RPT 6206
GSC P 38-17, p. 6

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE092**

NATIONAL MINERAL INVENTORY:

NAME(S): **PIMACO**, CAS, SKO,
CHUCK

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 57 54 N
LONGITUDE: 116 14 41 W
ELEVATION: 2800 Metres

NORTHING: 5535013
EASTING: 554168

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Tungsten Tin

MINERALS

SIGNIFICANT: Cassiterite Scheelite Wolframite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Skarn Hydrothermal
TYPE: I13 Sn veins and greisens 112 W veins
K05 W skarn

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Diorite
Argillite
Siltstone
Quartzite
Turbidite Wacke

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Pimaco occurs at or near the contact between rusty-weathering argillites, siltstone and quartzite of the Middle Proterozoic lower Aldridge Formation (Purcell Supergroup), and turbidite wackes and laminated siltstone of the middle Aldridge Formation.

Cassiterite, scheelite and wolframite bearing quartz-greisen veinlets occur in Moyie diorite sills within the Aldridge rocks.

The contact is a favourable horizon to Sullivan-type mineralization on the property.

BIBLIOGRAPHY

EM GEOS MAP 1998-4
EMPR AR 1966-240
EMPR ASS RPT 3109, *12632
EMPR GEM 1971-414
EMPR OF 1991-17

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE093**

NATIONAL MINERAL INVENTORY:

NAME(S): **VULCAN**, HILO 5

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 48 24 N
LONGITUDE: 116 20 28 W
ELEVATION: 2066 Metres

NORTHING: 5517344
EASTING: 547410

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Copper

MINERALS

SIGNIFICANT: Galena Chalcopyrite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal
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>
Middle Proterozoic Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Quartz Wacke
 Quartz Arenite
 Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

Sedimentary rocks of the Lower and Middle Aldridge Formations underlie the claim area. The sediments are Proterozoic in age and consist of quartzwackes, quartz arenites, and siltstones. The sediments in the area have been folded into a northwesterly striking anticline. Diorite sills and dikes of the Proterozoic Moyie intrusions intrude the strata. Disseminated fine-grained galena and chalcopyrite was seen in a diorite and quartzite contact area.

BIBLIOGRAPHY

EMPR AR 1958-51
EMPR ASS RPT *3300, 7689, 12931, 14198, 15239
EMPR OF 2000-22
GSC MEM 292-63
GCNL #49, 1982
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1999/11/26

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE094**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRAY CREEK IRON NORTH**, GRAY CREEK IRON

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 37 00 N
LONGITUDE: 116 40 04 W
ELEVATION: 2130 Metres

NORTHING: 5496064
EASTING: 523998

LOCATION ACCURACY: Within 500M

COMMENTS: Located on north side of Gray Creek (Fyles, 1956 (Property File)).

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Specularite Hematite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stratabound Vein
CLASSIFICATION: Industrial Min. Epigenetic
TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Proterozoic	Windermere	Toby	

LITHOLOGY: Schistose Conglomerate
Hematitic Schist
Dolomite
Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The iron showings were first mentioned in 1902. Claims were staked on the showings between 1952 and 1955. A band of specular hematite, up to 1 metre thick, occurs in schist which may be a schistose conglomerate. The band strikes north for about 75 metres and dips 70 degrees west. Dolomite underlies the schist to the east.

The hostrock may be part of the Upper Proterozoic Toby Formation, Windermere Supergroup.

BIBLIOGRAPHY

EM GEOFILE 2002-5
EMPR AR 1902-163
EMPR PF (Report by J.T. Fyles, Oct.5, 1956)

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE095**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRAY CREEK IRON SOUTH**, GRAY CREEK IRON

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 36 30 N
LONGITUDE: 116 40 04 W
ELEVATION: 2135 Metres

NORTHING: 5495138
EASTING: 524002

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the south side of Gray Creek at an elevation 2135 metres (Fyles, 1956 (Property File)).

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Specularite Hematite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stratabound Vein
CLASSIFICATION: Epigenetic Industrial Min.
TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Windermere	Toby	

LITHOLOGY: Schistose Conglomerate
Hematite Schist
Dolomite
Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Grey Creek Iron South iron showings were first mentioned in 1902. Claims were staked on the showings between 1952 and 1955. Bands of specular hematite occur in schist. The bands are up to 1 metre and strike north, dipping steeply west. The schists are underlain by dolomite.

The original rock is thought to be a conglomerate of the Upper Proterozoic Toby Formation, Windermere Supergroup.

BIBLIOGRAPHY

EMPR PF (Report by J.T. Fyles, Oct.5, 1956)
EMPR AR 1902-163

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE096**

NATIONAL MINERAL INVENTORY: 082F10,15 Cu1

NAME(S): **FERGUS (L.977)**, FLORENCE M (L.3350), R.F.G.(L.12719)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 46 24 N
LONGITUDE: 116 55 28 W
ELEVATION: 1000 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5513432
EASTING: 505440

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Pyrrhotite
ASSOCIATED: Quartz Siderite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Permian-Triassic	Kaslo	Unnamed/Unknown Formation	

LITHOLOGY: Hornblende Schist
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The main workings are on the Florence M Crown grant near the boundary of the Fergus and R.F.G. Crown grants. The workings include an adit driven westward about 30 metres from which some stoping was done.

The workings on the Florence M follow a vein that strikes east and dips 60 degrees south. The vein is in fine-grained hornblende schist of the Permo-Triassic Kaslo Group, which near the portal contains a lens of grey crystalline limestone. The oreshoot that has been mined is in the hornblende schist near its footwall contact and also near the limestone. The ore dump shows a fine-grained aggregate of pyrite, pyrrhotite, galena and sphalerite, quartz and siderite. The vein is reported to have been up to 45 centimetres thick.

In 1907, 7 tonnes were mined from which 4,914 grams of silver and 3,094 kilograms of lead were recovered.

BIBLIOGRAPHY

UBC MSC THESIS, ORR 1971
EMPR ASS RPT 3619
EMPR BULL *53, p. 80
EMPR AR 1896-558, 1907-95,213, 1928-301, 1930-254

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE097**

NATIONAL MINERAL INVENTORY: 082F15 Pb10

NAME(S): **TAMRAK (L.3341)**, LAURIER (L.3346), TAM, RAK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 46 36 N
LONGITUDE: 116 55 28 W
ELEVATION: 1033 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: CENTRE OF 2 CLAIMS

MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5513803
EASTING: 505440

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Milford	Unnamed/Unknown Formation	

LITHOLOGY: Argillite
Chert
Limestone
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Laurier and Tamrak claims lies along the south side of Lendrum Creek, and may be reached by about 3 kilometres of road from the Florence mine. This is one of a number of claims lying between the Florence and Silver Glance properties. The claim was Crown granted to The Laurier M. & M. Co. in 1899. Owner of the property in 1949 was E. Emilson. The last record of work was in 1951. The country rocks are argillite, cherts, limestone and schists of the Mississippian to Lower Permian Milford Group. From 1949 to 1951, 21 tonnes of ore were shipped. From this ore 13,654 grams of silver, 5,988 kilograms of lead and 1700 kilograms of zinc were recovered.

BIBLIOGRAPHY

EMPR AR 1899-845,847, 1949-180, 1951-39
EMPR GEM 1970-459, 1971-413
EMPR INDEX 3-203
EMPR BULL 53
EMPR ASS RPT 3619
EMPR EXPL 1979-72

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE098**

NATIONAL MINERAL INVENTORY: 082F/10 Sn1

NAME(S): **BAREFOOT, HUMBOLT**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 44 24 N
LONGITUDE: 116 42 58 W
ELEVATION: 2066 Metres

NORTHING: 5509762
EASTING: 520455

LOCATION ACCURACY: Within 1 KM

COMMENTS: CENTRE, BAREFOOT 1&2 CLAIMS

COMMODITIES: Lead Silver Tungsten Tin

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Dolomite Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Horsethief Creek	Unnamed/Unknown Formation	
Upper Proterozoic	Windermere	Unnamed/Unknown Formation	

LITHOLOGY: Phyllite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The property is located at about 182.8 metre elevation on Spring Creek, a tributary of Crawford Creek, some 51.4 kilometres west of Kimberley.

Early work on the showings, reportedly in the 1890's, was done in a short adit. Further prospecting on the showings was done in 1926 by J.W. Mulholland on behalf of Portland interests.

The showings were held as the Barefoot 1 and 2 claims by C. Derbyshire, of Crawford Bay and associates, and acquired by Rose Pass Mines Ltd. in about 1967. Work by the company in the period 1968-72 included bulldozer trenching and more than 396.2 metres of diamond drilling in 8 or more holes. The company name (Rose Pass) was changed in 1974 to Range Industries Ltd; the property at that time had been reduced to 22 claims.

Springpoint Resources Ltd, in 1980 acquired the Jackass group of 12 recorded claims covering the showings; an additional 24 claims (Barefoot group) was staked adjacent. Work in 1981 included 367 metres of diamond drilling in 6 holes.

Argentiferous galena occurs in dolomite-quartz veins in phyllite of the Upper Proterozoic Horsethief Creek Group (Windermere Supergroup). Silver values range from 82 to 219 grams per tonne; tungsten assayed 0.68 per cent across 0.6 metres; tin was found in all vein intersections with assays of 0.28 per cent over 1.2 metres (Northern Miner, January 14, 1982).

BIBLIOGRAPHY

EMPR BULL 73
EMPR GEM 1969-337, 1970-461
GSC MEM 228
N MINER Jan.14, 1982

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE099**

NATIONAL MINERAL INVENTORY:

NAME(S): **UNITED COPPER**, UNITED COPPER 2, LIMESTONE,
JENNI

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 43 18 N
LONGITUDE: 116 36 04 W
ELEVATION: 2200 Metres

NORTHING: 5507761
EASTING: 528752

LOCATION ACCURACY: Within 1 KM
COMMENTS: Centre of United Copper #2.

COMMODITIES: Copper Silver Lead Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Sphalerite Galena Pyrrhotite Pyrite

Bornite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE Middle Proterozoic GROUP Purcell FORMATION Dutch Creek IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Chlorite Schist
Argillite
Limestone
Siltstone
Quartzite
Dolomite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The United Copper showing occurs in an area underlain by siltstone, argillite, quartzite and dolomite of the Middle Proterozoic Dutch Creek Formation, Purcell Supergroup.

Quartz veins and inclusions containing chalcopyrite, sphalerite, galena, pyrite and pyrrhotite occur along a shear zone in foliated zones in chlorite schist or laminated argillite. Bornite with silver minerals occurs as replacements in limestone. The property was drilled in the early 1970s.

BIBLIOGRAPHY

EMPR AR 1956-88; 1968-262
EMPR GEM 1970-461; 1971-406; 1972-55; 1973-71
EMPR EXPL 1976-39; 1977-E49; 1978-E61; 1979-68

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE100**

NATIONAL MINERAL INVENTORY: 082F/16,15 Cu

NAME(S): **BRACEBRIDGE**, JOE, GOAT,
SURPRISE (L3560), MONICA, GORDON,
DON, VERA, WINNIE,
WOLF, SILVERTIP, LILIAN,
JIMMIE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16W 082F15E
BC MAP:
LATITUDE: 49 45 36 N
LONGITUDE: 116 29 34 W
ELEVATION: 2533 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS: Approximate centre of Bracebridge (Assessment Report 6206).

MINING DIVISION: Fort Steele
UTM ZONE: 11 (NAD 83)
NORTHING: 5512070
EASTING: 536532

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 106 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	

LITHOLOGY: Biotite Schist
Schistose Dolomitic Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The property is located at elevations of approximately 1,219 to 1829 metres on the north side of St. Mary River, between Office and Morris Creeks, some 40.2 kilometres west-westnorthwest of Kimberley.

The Bracebridge group of 6 claims, the Bracebridge, Gracie, Denbigh, Regina, Snowden, and Brace Bridge Fr (Lots 5037, 5575-5579 respectively) was surveyed in 1901. Crown-grants were issued in 1903 for the Bracebridge, Regina and Denbigh claims to J.H. Wright, O.H. Burden & associates. The showing had originally been exposed by erosion. Work to 1904 included open cuts on the Bracebridge claim and apparently some underground work on the Regina claim.

The Joe and Goat groups comprising 22 recorded claims were under option to Cominco Ltd. in 1966. Diamond drilling totalled 200.5 metres in 6 holes. The option was relinquished later in the year.

Pharaoh Mines Ltd. optioned the Joe, Goat and Don groups comprising 12 recorded claims from D.C. Jackson late in 1967. Work during the year included bulldozer trenching, sampling, and percussion drilling in four 12.1 metre holes.

Meridian Resources Ltd. optioned the Joe 1 & 2 and Don 1 & 2 claims from D.C. Jackson and staked about 30 adjacent claims in the Joe, Winnie, Vera and Silvertip groups. A geochemical soil survey was carried out in 1977.

Minor chalcopyrite occurs in veins up to 1.5 metres wide. The hostrock is strongly contorted biotite schist. The area is underlain by rocks of the Middle Proterozoic Creston Formation, Purcell Supergroup. Trenches north of St. Mary River expose the showings. The hostrock is also described as a schistose dolomitic argillite.

BIBLIOGRAPHY

EMPR AR 1901-1006; 1903-245; 1904-109; 1966-239; 1967-270
EMPR PF (Reports by S.J. Hunter, 1967 and P. Holcapek, 1974)

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE101**

NATIONAL MINERAL INVENTORY:

NAME(S): **HILO 2**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 48 24 N
LONGITUDE: 116 19 19 W
ELEVATION: 2400 Metres

NORTHING: 5517356
EASTING: 548789

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Lead Copper

MINERALS

SIGNIFICANT: Galena Chalcopyrite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Diorite
Quartzite
Quartz Wacke
Siltstone
Quartz Arenite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Sedimentary rocks of the Lower and Middle Aldridge Formation underlie the area of the occurrence. The sediments are Proterozoic in age and consist of quartzwackes, quartz arenites, and siltstones. The sediments in the area have been folded into a northwesterly striking anticline. Diorite sills and dikes of the Proterozoic Moyie Intrusions intrude the strata.

Disseminated fine-grained galena and chalcopyrite was observed in an area of diorite.

BIBLIOGRAPHY

EMPR GEM 1971-414, 1973-82, 1974-78
EMPR ASS RPT *3300, 4713, 7689
EMPR EXPL 1979-73
EMPR OF 1991-17

DATE CODED: 1985/07/24
DATE REVISED: 1999/11/25

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE102**

NATIONAL MINERAL INVENTORY:

NAME(S): **HILO 4**, OLD WORKINGS

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 48 36 N
LONGITUDE: 116 19 58 W
ELEVATION: 2433 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: SHAFT

NORTHING: 5517720
EASTING: 548006

COMMODITIES: Tungsten Copper Lead Zinc

MINERALS

SIGNIFICANT: Scheelite Chalcopyrite Pyrrhotite Arsenopyrite Pyrite
Galena Sphalerite

ASSOCIATED: Tourmaline Actinolite
Garnet

ALTERATION TYPE: Skarn

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Skarn
TYPE: K05 W skarn

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Middle Proterozoic
Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Diorite
Quartzite
Siltstone
Quartz Arenite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Sedimentary rocks of the Lower and Middle Aldridge Formation underlie the occurrence area. The sediments are Proterozoic in age and consist of quartzwackes, quartz arenites, and siltstones. The sediments in the area have been folded into a northwesterly striking anticline. Diorite sills and dikes of the Proterozoic Moyie intrusions intrude the strata.

The Hilo 4 occurrence (called the "Old Workings") consist of mineralized veins and replacements in diorite. Mineralization consisted of massive concentrations of scheelite, pyrrhotite and chalcopyrite with lesser amounts of arsenopyrite, pyrite, galena and sphalerite. Tourmaline, garnet and actinolite are associated minerals.

BIBLIOGRAPHY

EMPR ASS RPT *3300, 4713, 7689
EMPR EXPL 1979-73
EMPR GEM 1971-414, 1973-82, 1974-78
EMPR OF 2000-22
GSC MEM 292

DATE CODED: 1985/07/24
DATE REVISED: 1999/07/25

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE103**

NATIONAL MINERAL INVENTORY:

NAME(S): **HILO 3**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 48 30 N
LONGITUDE: 116 20 04 W
ELEVATION: 2533 Metres

NORTHING: 5517533
EASTING: 547888

LOCATION ACCURACY: Within 500M
COMMENTS: OUTCROP

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena Pyrrhotite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Stratabound Stratiform
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Middle Proterozoic
Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Quartzite
Argillite
Siltstone
Wacke
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Sedimentary rocks of the Lower and Middle Aldridge Formation underlie the occurrence area. The sediments are Proterozoic in age and consist of quartzwackes, quartz arenites, and siltstones. The sediments in the area have been folded into a northwesterly striking anticline. Diorite sills and dikes of the Proterozoic Moyie Intrusions intrude the strata.

The Hilo 3 or Main showing occurs about 35 metres southwest of a diorite contact in thinly interbedded quartzites and siltites. Minor amounts of fine-grained galena and pyrrhotite are disseminated along 6 millimetre thick planes which parallel bedding and occasionally transect it. This mineralization is limited to a 7.5 metre wide band of outcrop. Fine-grained chloritic material is associated with the sulphides. Most of the occurrence is hosted in quartzite with lesser amounts in the siltites.

BIBLIOGRAPHY

EMPR ASS RPT *3300, 4713, 7689
EMPR EXPL 1979-73
EMPR GEM 1971-414, 1973-82, 1974-78
EMPR OF 2000-22
GSC MEM 292

DATE CODED: 1985/07/24
DATE REVISED: 1999/11/25

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE104**

NATIONAL MINERAL INVENTORY:

NAME(S): **HILO 10**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 47 58 N
LONGITUDE: 116 20 16 W
ELEVATION: 2600 Metres

NORTHING: 5516543
EASTING: 547656

LOCATION ACCURACY: Within 500M
COMMENTS: OUTCROP

COMMODITIES: Zinc Tungsten Copper

MINERALS

SIGNIFICANT: Pyrrhotite Sphalerite Chalcopyrite Scheelite Arsenopyrite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stratiform Stratabound Vein
CLASSIFICATION: Syngenetic Sedimentary Exhalative
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag K05 W skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Quartzite
Quartz Wacke
Siltstone
Quartz Arenite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Sedimentary rocks of the Lower and Middle Aldridge Formation underlie the Hilo 10 occurrence area. The sediments are Proterozoic in age and consist of quartzwackes, quartz arenites, and siltstones. The sediments in the area have been folded into a northwesterly striking anticline. Diorite sills and dikes of the Proterozoic Moyie Intrusions intrude the strata.

Massive pyrrhotite with associated sphalerite, chalcopyrite, scheelite and arsenopyrite occur in a rusty zone on cliff face. The zone is about 15 metres wide and 12 metres high. The hostrock is quartzite.

BIBLIOGRAPHY

EMPR ASS RPT *3300, 4713, 7689
EMPR EXPL 1979-73
EMPR GEM 1971-414, 1973-82, 1974-78
EMPR OF 1991-17; 2000-22

DATE CODED: 1985/07/24
DATE REVISED: 1999/11/25

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE105**

NATIONAL MINERAL INVENTORY:

NAME(S): EEL

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 53 42 N
LONGITUDE: 116 32 40 W
ELEVATION: 2133 Metres

NORTHING: 5527056
EASTING: 532719

LOCATION ACCURACY: Within 1 KM
COMMENTS: Centre of claim group.

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Molybdenite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Porphyry
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic Cretaceous	Purcell	Dutch Creek	Fry Creek Intrusion

LITHOLOGY: Granite
Granodiorite
Monzonite
Siltstone
Argillite
Quartzite
Dolomite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

Plutonic Rocks

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Molybdenum occurs in fractures and veins along edge of the Cretaceous Fry Creek Batholith. The intrusive rocks range from granite to granodiorite to monzonite. A siltstone, argillite, quartzite and dolomite unit of the Middle Proterozoic Dutch Creek Formation (Purcell Supergroup) is in contact with the batholith at or near the mineralized locality.

BIBLIOGRAPHY

EMPR GEM 1971-412

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE106**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALICE**, OTTO

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 56 24 N
LONGITUDE: 116 46 58 W
ELEVATION: 2000 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5531982
EASTING: 515587

LOCATION ACCURACY: Within 500M
COMMENTS: PORTAL, #3 ADIT

COMMODITIES: Lead Silver Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Pyrrhotite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Podiform
CLASSIFICATION: Epigenetic Hydrothermal Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic
Paleozoic

GROUP

Undefined Group
Undefined Group

FORMATION

Badshot
Mohican

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Calcareous Schist
Mica Schist
Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Purcell Mountains

Ancestral North America

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1915

SAMPLE TYPE: Bulk Sample

COMMODITY

GRADE

Silver

2835.0000

Grams per tonne

Lead

15.0000

Per cent

COMMENTS: From 14.5 tonnes of ore.

REFERENCE: Bulletin 73, page 87.

CAPSULE GEOLOGY

The Alice showing occurs in an area underlain by Middle Cambrian to Middle Devonian Lardeau Group rocks of the Badshot and Mohican formations.

Galena, sphalerite, pyrite and pyrrhotite occur in crosscutting and layer-parallel veins or replacement bodies in limestone, calcareous schist and micaceous schist surrounded by Jurassic to Cretaceous quartz monzonite.

In 1915, 14.5 tonnes of ore containing 15 per cent lead and 2835 grams per tonne silver was produced (Bulletin 73).

BIBLIOGRAPHY

EMPR AR 1929-325, 1930-256

EMPR GEM 1972-62

EMPR ASS RPT 3803

EMPR BULL 73, p. 87

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE107**

NATIONAL MINERAL INVENTORY:

NAME(S): **GREENLAND CREEK, MC, MOB,
CORE, NORTHCORE, SOUTHCORE,
FIN**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F16E
BC MAP:
LATITUDE: 49 58 17 N
LONGITUDE: 116 13 27 W
ELEVATION: 2800 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of outcrop (Assessment Report 3927).

MINING DIVISION: Fort Steele
UTM ZONE: 11 (NAD 83)
NORTHING: 5535738
EASTING: 555634

COMMODITIES: Lead Zinc Silver Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrrhotite Chalcopyrite Arsenopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Breccia Stratabound Layered
CLASSIFICATION: Sedimentary Exhalative
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Siltstone
Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The MC (Greenland Creek) showing is a sulphide breccia with scattered, rounded quartz fragments in a massive pyrrhotite matrix with broad, subtle sphalerite/galena bands. The texture resembles a 'durchbewegung texture' found in the massive portion of the Sullivan (082FNE052) orebody. The zone appears to be stratabound within thin-bedded siltstones of the Middle Proterozoic Lower Aldridge Formation (Purcell Supergroup). True thickness of the zone is about 0.5 metre and has been exposed for about 5 metres laterally. Five grab samples have been assayed and the richest yielded 130.3 grams per tonne silver, 9.17 per cent lead and 6.27 per cent zinc. Short drillholes in the immediate vicinity of the zone indicate it to be narrowing quickly but a longer hole intersected two thin sphalerite/galena layers which appear to be more than 100 metres downdip from the showing (P. Wilton, personal communication, 1997). Miner River Resources Ltd. and Eagle Plain Resources Ltd. drilled approximately 610 metres in 7 holes in 1997. In 1998, Eagle Plains conducted a soil geochemical survey over a portion of the property. The companies amalgamated in 1999 to form Eagle Plains Resources. In 1999, Kennecott Canada Exploration optioned the property and conducted a program of mapping and soil geochemistry. In 2000, Kennecott drilled a single 295-metre hole which was to test a prominent zinc in soil geochemical anomaly. The hole intersected a thick gabbro sill from 90 to 209 metres and then entered granitic pegmatite. Kennecott dropped its option in 2000.

BIBLIOGRAPHY

EM EXPL 1999-40-52
EM GEOS MAP 1998-4
EMPR ASS RPT 3927, 12632, 25019, 25506, 25837
EMPR EXPL 1979-73-74; *1997-47; 1998-5,66,68; 2000-22
EMPR INF CIRC 1998-1
N MINER May 4, 1998; May 31, 1999; July 31, 2000
WWW <http://www.eagleplains.bc.ca/bc.htm>

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 155
REPORT: RGEN0100

BIBLIOGRAPHY

WWW http://www.infomine.com/index/properties/GREENLAND_CREEK.html

DATE CODED: 1985/07/24
DATE REVISED: 2001/04/04

CODED BY: GSB
REVISED BY: GP

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNE108**

NATIONAL MINERAL INVENTORY:

NAME(S): **SNOW KING (L.7235)**, PEG, SNOWDROP,
SNOWSTORM, ASSURANCE, ECHO

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 33 30 N
LONGITUDE: 116 39 52 W
ELEVATION: 2166 Metres

NORTHING: 5489580
EASTING: 524268

LOCATION ACCURACY: Within 500M
COMMENTS: ADIT PORTAL

COMMODITIES: Lead Zinc Copper Silver

MINERALS

SIGNIFICANT: Sphalerite Galena Tetrahedrite Chalcopyrite Pyrite

ASSOCIATED: Quartz Calcite Barite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Hydrothermal Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Horsethief Creek	Undefined Formation	
Upper Proterozoic	Windermere	Undefined Formation	

LITHOLOGY: Siliceous Limestone
Dolomite
Argillaceous Schist
Chloritic Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Snow King is underlain by intensely folded limestone, dolomite, argillaceous schist and chloritic schist of the Upper Proterozoic Horsethief Creek Group (Windermere Supergroup). Galena, sphalerite, pyrite and some tetrahedrite are present in quartz, calcite and minor barite veins in siliceous, limonite-stained limestone. Sulphides also occur as disseminations in brecciated dolomite and as disseminations and replacements in siliceous limestone. Small amounts of chalcopyrite are also reported. One sample assayed 0.69 grams per tonne gold, 1906 grams per tonne silver, 73.7 per cent lead and 1.8 per cent zinc (Annual Report 1926).

BIBLIOGRAPHY

EMPR AR 1900-855, 1907-217, 1908-250, 1910-113, 1912-325, 1926-284
EMPR ASS RPT 4387, 5710, 6109, 6231, 7828
EMPR EXPL 1976-E40, 1978-E60, 1979-66
EMPR GEM 1973-70

DATE CODED: 1985/07/24
DATE REVISED: 1999/11/30

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE109**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHICAGO**, MONTANA (L.7230), CELEBRATION (L.7229)

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 33 48 N
LONGITUDE: 116 39 10 W
ELEVATION: 2600 Metres

NORTHING: 5490140
EASTING: 525109

LOCATION ACCURACY: Within 500M
COMMENTS: PORTAL OF UPPER ADIT

COMMODITIES: Zinc Lead Silver

MINERALS

SIGNIFICANT: Sphalerite Galena Chalcopyrite Tetrahedrite Pyrite

ASSOCIATED: Quartz Carbonate

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic Purcell Mount Nelson

LITHOLOGY: Dolomite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Laminated and massive dolomites of the Mount Nelson Formation (Purcell Supergroup) hosts sphalerite, galena & minor tetrahedrite as disseminations and within discontinuous quartz carbonate fracture fillings and pods.

BIBLIOGRAPHY

EMPR AR 1906-251, 1907-217, 1926-283
EMPR GEM 1973-70
EMPR EXPL 1976-E40, 1978-E60
EMPR ASS RPT 4387, 5710, 6109, 6231, 7828
EMPR EXPL 1979-66

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

CODED BY: GSB
REVISED BY: AFW

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE110**

NATIONAL MINERAL INVENTORY: 082F9 Gem1

NAME(S): **HELLROARING CREEK**, LINDA, LINDA 1

STATUS: Developed Prospect

MINING DIVISION: Fort Steele

REGIONS: British Columbia

NTS MAP: 082F09E

UTM ZONE: 11 (NAD 83)

BC MAP:

LATITUDE: 49 34 00 N

NORTHING: 5490779

LONGITUDE: 116 10 33 W

EASTING: 559594

ELEVATION: 1615 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of drill hole 86-13 on the east side of Hellroaring Creek, 18 kilometres southwest of Kimberley (Exploration in B.C. 1987, Figure B32).

COMMODITIES: Feldspar

Mica

Beryllium

Gemstones

Rubidium

MINERALS

SIGNIFICANT: Feldspar Microcline Albite Muscovite Beryl

Tourmaline Garnet

ASSOCIATED: Quartz Pyrite Pyrrhotite Galena Arsenopyrite

COMMENTS: Trace pyrite, pyrrhotite, galena and arsenopyrite.

MINERALIZATION AGE: Middle Proterozoic

DEPOSIT

CHARACTER: Massive Disseminated

CLASSIFICATION: Pegmatite Magmatic

Syngenetic

Industrial Min.

TYPE: O01 Rare element pegmatite - LCT family

O03

Muscovite pegmatite

O04 Feldspar-quartz pegmatite

DIMENSION: 4000 x 1500

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Pegmatite stock.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Helikian

Purcell

Aldridge

Helikian

Purcell

Creston

Proterozoic

Moyie Intrusions

LITHOLOGY: Medium Grained Pegmatite

Granodiorite Sill

Granodiorite Dike

Argillite

Quartzite

Mica Schist

HOSTROCK COMMENTS: Pegmatite of the Middle Proterozoic Hellroaring Creek stock.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP: Post-mineralization

GRADE:

INVENTORY

ORE ZONE: NORTH

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1965

QUANTITY: 450000 Tonnes

COMMODITY

GRADE

Beryllium

0.1000

Per cent

COMMENTS: Grade given for beryllium oxide.

REFERENCE: Assessment Report 13415, page 21.

CAPSULE GEOLOGY

The Hellroaring Creek pegmatite stock is about 20 kilometres southwest of Kimberley and 31 kilometres west-northwest of Cranbrook. The stock has been explored for feldspar, quartz, mica and, in the 1960's, beryllium.

The area is underlain by quartzite and argillite of the Creston Formation and argillite, quartzite and mica schist of the Aldridge Formation, both of the Helikian Purcell Supergroup. These metasediments are intruded by sills and dykes of granodiorite of the Proterozoic Moyie Intrusions, which are in turn intruded by pegmatite of the Middle Proterozoic Hellroaring Creek stock. The east trending St. Mary fault separates this area from the area underlain by Creston Formation metasediments to the south. The Aldridge Formation is

CAPSULE GEOLOGY

folded into an open northwest plunging anticline with the Hellroaring Creek stock emplaced in the core.

The pegmatite stock trends north-northwest for 4 kilometres within the Aldrige Formation and is up to 1.5 kilometres wide. The stock appears to be a series of large dyke swarms. Most of the sampling and diamond drilling is concentrated in an area at the north end of the stock, where drilling encountered thicknesses of up to 150 metres.

The stock is comprised of medium to coarse grained white to light grey pegmatite typically containing 60 to 70 per cent feldspar, 20 to 30 per cent quartz, 0 to 10 per cent muscovite and 0 to 10 per cent tourmaline. Beryl, garnet, pyrite, pyrrhotite, galena and arsenopyrite occur in minor to trace amounts. The feldspar occurs in distinct microcline and albite rich zones. Quartz occurs in massive lenses several metres thick that are free of feldspar. Muscovite forms fine flakes along fractures and books, up to 13 centimetres across, in irregular patches. Thin needle-like tourmaline crystals (3 by 10 millimetres) and blades up to 3 centimetres long occur in patches. Beryl forms erratically scattered very pale bluish green and white crystals and irregular masses up to 7.5 centimetres in diameter and 15 centimetres in length that tend to be associated with plagioclase, quartz and muscovite. Garnet is present as pink to red grains 1 to 2 millimetres across in addition to occasional veinlets of pyrite, pyrrhotite, galena and arsenopyrite. Iron and manganese staining is common on outcrops and in drill core.

Work in 1965, by Richfield Oil Corporation, indicated the north end of the stock contains 450,000 tonnes of 0.1 per cent beryllium oxide (Assessment Report 13415, p. 21). Diamond drilling in 1985 and 1986 by Lumberton Mines Ltd. encountered zones containing in excess of 1 per cent tourmaline (Assessment Report 15760, p. 12). Nineteen samples of feldspathic pegmatite analyzed as follows in per cent (Exploration in B.C. 1987, p. B111):

SiO2	64.86 to 76.72
Al2O3	12.61 to 19.00
K2O	0.45 to 12.45
Na2O	1.95 to 6.44
CaO	0.05 to 0.64
Fe2O3	0.05 to 4.24

Tests carried out by CANMET indicate that the pegmatite can be processed to produce feldspar and mica concentrates that meet industry standards with full liberation at 50 mesh.

This stock was first staked in 1958 as a beryllium prospect. Subsequent exploration, by various operators in the 1960's and by Lumberton Mines Ltd., in 1984 and 1985 failed to discover beryllium reserves of sufficient grade to warrant further development as a beryllium prospect. However, this work combined with further sampling and diamond drilling by Lumberton Mines in 1986 indicates that the stock contains a considerable amount of glass and ceramic grade feldspar.

The property is located on the east side of Hellroaring Creek between the 1,219 and 1,524 metre elevations, 33.7 kilometres due south of the east end of St. Mary Lake.

In 1958 H. Bennett of Cranbrook located the Linda and Linda No. 1 claims on a pegmatite showing in which he found beryl crystals. International Beryllium Corporation was formed in 1961 to prospect the property, which had been expanded to 32 claims. Some 1,219 metres of trenching was done before the project was abandoned.

The property was acquired by Canuck Beryllium Corporation and a small amount of stripping and open-cutting was reported done by the company in 1963. An agreement between Canuck Beryllium, a subsidiary of Peace River Petroleum Ltd., and Richfield Oil Corporation of California for prospecting and development work on the property was announced in August 1, 1965. Under the terms of the agreement, Richfield Oil will have control over operations. Work in 1965 was limited to blasting and sampling some 365.7 metres of trench. This work is reported to indicate 500,000 tons averaging 0.1 per cent Beryllium oxide (Bearcat Explorations Ltd. News Release., 1/02/1984).

Some 4,550 acres of mineral claims covering these showings were acquired in early 1984 by Bearcat Explorations Ltd. (80 per cent) and Colt Exploration (Western) Ltd. (20 per cent). A joint venture agreement that same year with Fairholme Development Ltd. and Barnwell industries, Inc. provided financing for an initial stage of exploration. Work carried out in 1984 by Lumberton Mines Limited, Bearcats 100 per cent owned subsidiary, included trenching and 500 m of diamond drilling in 7 HQ drill holes; subsequent joint venture interests were: Colt (15 per cent), Fairholme (5 per cent), Barnwell (25 per cent), Bearcat (55 per cent). Further work in 1985-86 included 2584 metres of diamond drilling in 29 holes, and bulk sample

CAPSULE GEOLOGY

flotation tests.

This work delineated three surface areas with significant high-grade ceramic feldspar; potential by-products are high-grade mica, high-grade silica, and a minor amount of beryllium in the form of beryl.

Surface prospecting by Chapleau Resources Ltd. in 2000 revealed a number of new untested outcrops of beryl-rich pegmatite. The work is reported to have extended "the old Richfield zone south for 500 metres and 500 metres east". Values high in beryllium and rubidium are reported from grab samples taken by Chapleau (George Cross Newsletter, August 1, 2000 (No. 147)).

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EMPR ASS RPT *13415; *15760
EMPR EXPL *1987, pp. B109-B116
EMPR Mineral Market Update, July 1991
EMPR OF 1988-14, 1991-10
EMPR PRELIM MAP 16
EMR MP CORPFILE (International Beryllium Corp.; Canuck Beryllium Corp.)
GSC EC GEOL 23, p. 62; 29, p. 71
GSC MAP 603A; 12-1957
GSC MEM 228
GSC P 60-21, p. 12
CJES *Vol. 8, 1971, pp. 85-95 (Ryan, B.D. and Blenkinsop, J. (1971): Geology and Geochronology of the Hellroaring Creek Stock, British Columbia)
GCNL #25,#70,#166, 1984; #147(Aug.1), #229(Nov.30), 2000
N MINER Aug. 30, 1984
Placer Dome File
WWW
http://www.infomine.com/index/properties/HELLROARING_STOCK_PEG.html

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/22

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE111**

NATIONAL MINERAL INVENTORY: 082F15 Sn1

NAME(S): **ROSE PASS**, KJ, VI,
SILVER

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15E
BC MAP:
LATITUDE: 49 46 00 N
LONGITUDE: 116 37 10 W
ELEVATION: 2000 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS:

MINING DIVISION: Fort Steele
UTM ZONE: 11 (NAD 83)
NORTHING: 5512758
EASTING: 527405

COMMODITIES: Tin Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 113 Sn veins and greisens

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Mount Nelson	

LITHOLOGY: Argillite
Granitic Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America

CAPSULE GEOLOGY

The property is located at approximately 1768 metres elevation, a short distance to the east of Rose Pass summit and some 45 kilometres west of Kimberley.

The showings were originally staked in the "nineties". The workings consisted of two shallow open cuts about 518 metres apart and a crosscut adit of unknown length.

The showings were restaked in 1936 but there is no report of work at that time. In about 1966, Rose Pass Mines Ltd acquired the Rose Pass property, comprising the Silver 5-10 claims, and staked the Vi 1-8 claims. An induced potential survey was apparently carried out over the property. The company name was changed in 1974 to Range Industries Ltd.

The showings were held in 1980 as the KJ claim (9 units) by Gerhardt Holdings Ltd, of Nelson. Geological mapping and a geochemical rock sample survey was carried out.

The ore occurs in quartz veins occupying fractures in black argillite of the Middle Proterozoic Mount Nelson Formation (Purcell Supergroup). A small dike or sill of granite porphyry intrudes the strata. The veins are well mineralized with galena, sphalerite, chalcopyrite, pyrite and a tin-bearing mineral, probably stannite. The vein strikes northeasterly and dips steeply west. It has an average width of about 30 centimetres. One sample yielded 312 grams per tonne silver and 1.15 per cent tin (National Mineral Inventory).

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GSC MAP 603A
GSC MEM 228-73
EMPR AR 1946-149
EMPR ASS RPT 8915

DATE CODED: 1985/07/24
DATE REVISED: 1999/11/30

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 162
REPORT: RGEN0100

MINFILE NUMBER: **082FNE112**

NATIONAL MINERAL INVENTORY: 082F16 Gem2

NAME(S): **GREENLAND CREEK BERYL**, BURNT CREEK, SKOOKUMCHUK

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 58 24 N
LONGITUDE: 116 11 09 W
ELEVATION: 2100 Metres

NORTHING: 5535983
EASTING: 558381

LOCATION ACCURACY: Within 500M
COMMENTS: PEGMATITE; GSC EC. GEOL. SER.#23 & MAP 1053A

COMMODITIES: Beryllium

MINERALS

SIGNIFICANT: Beryl
ASSOCIATED: Tourmaline Muscovite Garnet
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Pegmatite Industrial Min.
TYPE: O01 Rare element pegmatite - LCT family

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Pegmatite
Diorite
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Beryl occurs in pegmatite dikes cutting quartzite of the Middle Proterozoic Aldridge Formation (Purcell Supergroup) and dioritic intrusions, probably related to the Proterozoic Moyie Intrusions. Very pale, glassy beryl crystals occur. Black tourmaline is abundant, as are muscovite and garnet but beryl is rare.

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EM EXPL 1999-40-52
EM GEOS MAP 1998-4
EMPR ASS RPT 3927
EMPR EXPL 1979-73
GSC ECON GEO SERIES *23-62
GSC MAP 1053A
GSC MEM *292, pp. 43,44,64
GSC P *60-21, p. 11
WWW http://www.infomine.com/index/properties/GREENLAND_CREEK.html

DATE CODED: 1985/07/24
DATE REVISED: 1999/11/30

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE112**

CAPSULE GEOLOGY

dip is much steeper.

The deposit is comprised of white, medium-grained dolomite containing scattered crystals of various metamorphic minerals, especially tremolite. The dolomite develops a brown staining on weathered surfaces. Numerous randomly oriented fractures occur with spacings of 10 to 15 centimetres. A sample of randomly collected chips from the quarry analysed 30.26 per cent CaO, 20.17 per cent MgO, 2.14 per cent insolubles, 0.77 per cent R2O3, 0.92 per cent Fe2O3, 0.021 per cent MnO, 0.012 per cent P2O5, 0.01 per cent sulphur and 46.37 per cent ignition loss (Minister of Mines Annual Report 1964, page 184).

Imasco initially quarried dolomite on the south side of Crawford Creek, 600 metres north of the current mine site during 1962 and 1963. In 1964 quarrying began at the current site. Underground mining began in 1969 in order to produce a cleaner product. Between 1962 and 1988 some 734,500 tonnes of dolomite have been mined. The dolomite is trucked to the company's plant in Sirdar where it is crushed and screened for a variety of products, mostly agricultural soil conditioner, as a component in stucco and roofing materials, and is white, ornamental aggregate rock.

Inferred reserves at Crawford Creek are 2 million tonnes of dolomite grading 20.17 per cent MgO (Mining in British Columbia 1988).

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EMPR BULL 73, pp. 26,76,77
EMPR ENG INSP Annual Report 1989
EMPR EXPL 1985-A48; 1996-A14; 1997-51
EMPR GEM 1969-384; 1970-492; 1971-457; 1972-586; 1973-541
EMPR INF CIRC 1996-1, p 10; 1997-1, p. 13
EMPR MINING 1986-1987 p. 84-85; 1988 p. 83
EMPR MAP 65 (1989)
EMPR OF 1992-1; 1992-9; 1994-1
GSC MAP 603A
GSC MEM 228, pp. 20,21
GSC OF 929

DATE CODED: 1985/07/24
DATE REVISED: 1989/10/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE114**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRAWFORD CREEK QUARTZITE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 42 46 N
LONGITUDE: 116 47 09 W
ELEVATION: 777 Metres

NORTHING: 5506719
EASTING: 515440

LOCATION ACCURACY: Within 500M

COMMENTS: Western quarry, 100 metres east of Preacher Creek on the north side of the Crawford Creek Road (shown as gravel pit on National Topographic System map sheet 082F/10).

COMMODITIES: Aggregate Building Stone Silica

MINERALS

SIGNIFICANT: Quartz
MINERALIZATION AGE: Lower Cambrian

DEPOSIT

CHARACTER: Stratabound Stratiform Massive
CLASSIFICATION: Metamorphic Sedimentary Syngenetic Industrial Min.
TYPE: R07 Silica sandstone

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Hamill	Undefined Formation	

LITHOLOGY: Quartzite
Schist
Meta Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: Syn-mineralization GRADE:

CAPSULE GEOLOGY

Quartzite is produced from two quarries, 1.6 kilometres apart, along the road that follows the north side of Crawford Creek, east of Kootenay Lake. The western quarry is located 5.5 kilometres north-northeast of the north end of Crawford Bay, 100 metres east of Preacher Creek.

This area, on the north side of Crawford Creek, is underlain by Lower Paleozoic metasediments of the Lardeau and Hamill groups and the Badshot and Mohican formations, which are locally warped into a series of northerly trending folds. The two quarries are developed in quartzite of the Lower Cambrian Hamill Group, comprised of some 3500 metres of quartzite, schist and meta-siltstone. Two varieties of stone are quarried; a pale, translucent beige quartzite and a darker brown quartzite.

The quarries have been operated since 1966 by International Marble and Stone Ltd. The company trucks the quartzite to its processing plant at Sirdar where it is crushed and screened to produce construction aggregate for architectural, decorative and landscaping purposes. Some of the stone is oxidized by roasting to produce pink and reddish material (D. Gunning, personal communication, 1991).

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EMPR GEM 1969-384, 1970-492
EMPR BULL 73, p. 23
EMPR OF 1988-14
GSC MEM 228
GSC MAP 603A
GSC OF 481; 929

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE115**

NATIONAL MINERAL INVENTORY:

NAME(S): **PAKK, UPPER JACK, LOWER JACK,
UPPER JACK VENT, LOWER JACK VENT**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W 082F09E
BC MAP:

MINING DIVISION: Fort Steele
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 33 02 N
LONGITUDE: 116 16 32 W
ELEVATION: 2200 Metres

NORTHING: 5488913
EASTING: 552401

LOCATION ACCURACY: Within 500M
COMMENTS: Showing on Mount Evans between Meachen and Hellroaring creeks, about 26 kilometres southwest of the Sullivan mine and 37 kilometres west of the community of Cranbrook.

COMMODITIES: Zinc Lead Copper Tungsten

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite Scheelite
ASSOCIATED: Pyrrhotite Arsenopyrite
ALTERATION: Tourmaline Garnet Albite Actinolite Muscovite
 Biotite
ALTERATION TYPE: Tourmalin'z'n Albitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Vein Disseminated
CLASSIFICATION: Sedimentary
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag
DIMENSION: 800 x 30 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Fragmental structure traced in outcrop.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Helikian Purcell Aldridge

LITHOLOGY: Fragmental Sediment/Sedimentary
Altered Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America

CAPSULE GEOLOGY

The Lower Jack zone was discovered in 1999 during prospecting along a newly constructed logging road in a steep, overburden-covered area. A number of large, lead-zinc bearing, hydrothermally altered, angular tourmalinite and Aldridge Formation fragmental float boulders occur in a 300 by 300 metre area. The float boulders are well mineralized with galena, sphalerite, arsenopyrite and pyrrhotite. This discovery was staked in the summer of 1999 and is now part of what is called the Pakk property. The Upper Jack zone was also discovered by prospecting in the area and is located 2500 metres northwest of the Lower Jack zone. A third discovery, the Sinclair zone (082FNE117), is 2000 metres north-northeast of the Upper Jack zone. The Pakk property includes the Horn, Burn, Pit and Pakk claim groups.

At surface, the Upper Jack vent zone consists of a fragmental structure with abundant galena, sphalerite, pyrrhotite and arsenopyrite in massive lenses, veins and disseminations. The structure is 30 metres wide and is traced in outcrop for 800 metres. Helikian Aldridge Formation (Purcell Supergroup) marker beds outcrop nearby.

In 1999, Chapleau Resources Ltd. conducted a diamond drilling program on the Upper Jack Vent zone where three short holes were completed to acquire preliminary geologic data. The holes outlined a near-vertical dipping structure consisting of discordant fragmental rocks about 10 metres thick. The crosscutting fragmental rock is bracketed by a 20-metre thick zone of intensely altered sediments. Sulphides form all or part of the fragmental matrix. Sphalerite and galena are dominant, with lesser pyrrhotite, arsenopyrite and chalcopyrite. The fragmental hostrock is intensely tourmalinitized along with garnet, albite and actinolite with abundant muscovite and biotite. Scheelite is widely scattered throughout the fragmental

CAPSULE GEOLOGY

rocks and in the adjacent sediments. The scheelite occurs as large disseminated crystals and as thin veinlets.

Super Group Holdings Ltd. is directing the exploration and Champleau Resources Ltd. is performing the work on the property.

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EMPR ASS RPT 23622
EMPR OF 2000-22
GSC MAP 15-1957
GCNL *#192(Oct.6),*#204(Oct.25), 1999
WWW <http://www.infomine.com/>

DATE CODED: 1999/12/14
DATE REVISED: 1999/12/15

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE116**

NATIONAL MINERAL INVENTORY: 082F9 Zn1

NAME(S): **STEMWINDER (L.2998)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:
LATITUDE: 49 41 36 N
LONGITUDE: 116 00 58 W
ELEVATION: 1500 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Fort Steele

UTM ZONE: 11 (NAD 83)

NORTHING: 5505000
EASTING: 570959

COMMODITIES: Zinc Lead Silver Gold

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Galena Sphalerite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stratiform Stratabound Massive Vein
CLASSIFICATION: Syngenetic Sedimentary Exhalative
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag 105 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Middle Proterozoic
Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Argillaceous Quartzite
Hornblende Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Stemwinder hostrock consists of argillaceous quartzites of the Middle Proterozoic Aldridge Formation, Purcell Supergroup. These are intruded by several sills of hornblende gabbro of the Proterozoic Moyie Intrusions. The mineralized zone is a lens of massive sulphides entirely enclosed by the quartzites. The lens consists largely of pyrrhotite, strikes nearly north, and dips about 75 degrees west. The thickness of the sulphide zone is about 60 metres. The occurrence is considered to be similar to the Sullivan mine (082FNE052).

The ore zone lies along the footwall side of the sulphide lens. It consists of a fine-grained mixture of galena and sphalerite passing into a fine-grained mixture of pyrrhotite, pyrite and sphalerite. The ore zone has width of about 6 metres. It is separated from the normal quartzite by a cherty layer. Underground work and diamond drilling indicates a that the ore zone is 80 metres long with a width of 4.5 to 9 metres.

The Stemwinder property is located on Mark Creek about 2.4 kilometres west-northwest of the center of Kimberley, and is adjoined on the north by the Sullivan mine and on the south by the North Star property.

In 1896, the Stemwinder was one of 13 recorded claims held by the Mann & McKenzie interests as part of the North Star property, under the name of the North Star Mining Company, Limited Liability. Exploration work began in an adit about 140 metres above the creek and by 1899 this had been driven 183 metres, intersecting a mineralized zone which appeared to be mainly iron sulphide. The Stemwinder claim (Lot 2998) was Crown granted to D.D. Mann and Wm. McKenzie in 1899. Further limited development work was reported in 1905.

The Federal Mining and Smelting Company, a subsidiary of the American Smelting and Refining Company, optioned the property in 1917 and for 2 or 3 months during 1917-1918 carried out diamond drilling. Results were not encouraging and the option was dropped. In 1921 the Federal Mining and Smelting Company again optioned the Stemwinder and Ontario claims from the Mann & McKenzie interests and further diamond drilling was carried out; the option was subsequently dropped. The property was reported held in 1923 by the Stemwinder Mining Company, Limited but details are lacking. In 1923 O.C. Thompson & associates

CAPSULE GEOLOGY

bonded the property and in June 1924 gave a 3 year lease and option to Porcupine Goldfields Development and Finance Company, Limited, of London, England. Exploration and development work included sinking a shaft to the 78-metre level and crosscutting drifting, and raising totalling 1638 metres was done on the 24, 38, and 76 metre levels. Diamond drilling on surface and underground totalled 3762 metres. An additional 40 metres of shaft sinking was reported but details are lacking. This work indicated, on the 38-metre level, an orebody 79 metres long by 6 metres wide of mainly zinc ore. Ore reserves to the 206-metre level were estimated at 90,700 tonnes. Exploration and development work was suspended in May 1926, at which time ore shipments began to Trail. Ore shipments continued to December 1926 when operations were suspended due to poor mill recoveries and markets. The lease and option expired in 1927. Reserves were reported at 66,410 tonnes, grade unstated (Porcupine Goldfields Development and Finance Company, Limited June 1927 Annual Report). The Consolidated Mining and Smelting Company of Canada Limited purchased the property in 1929 for \$115,000.

The recorded total ore mined came from 1926 when 25,620 tonnes of ore was shipped and 1,955,197 grams of silver, 1,306 grams of gold, 3,990,900 kilograms of zinc and 945,317 kilograms of lead were recovered.

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EMPR AR 1896-518, 1898-1021, 1899-593,661,841, 1906-132,215,
1911-121, 1912-137, 1913-119, 1917-149, 1918-150,187,
1921-128-166, 1923-204, 1924-186, 1925-226, 1926-242, 1929-295
EMPR BC METAL MM00543
EMPR INDEX 3-215
EMPR OF 1998-10; 2000-22
GSC ECON GEOL SERIES 8-327
GSC MEM 76-135, 207-44
CIM SPECIAL VOL 8-271,272,286,287

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/01

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE117**

NATIONAL MINERAL INVENTORY:

NAME(S): **SINCLAIR, PAKK**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 33 59 N
LONGITUDE: 116 15 46 W
ELEVATION: 1800 Metres

NORTHING: 5490683
EASTING: 553308

LOCATION ACCURACY: Within 500M

COMMENTS: Showing on Mount Evans between Meachen and Hellroaring creeks, about 24 kilometres southwest of the Sullivan mine and 37 kilometres west of the community of Cranbrook.

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Galena
ASSOCIATED: Pyrrhotite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated
CLASSIFICATION: Sedimentary Syngenetic
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Helikian

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite
Silty Argillite
Mudstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Lower Jack zone was discovered in 1999 during prospecting along a newly constructed logging road in a steep, overburden-covered area. A number of large, lead-zinc bearing, hydrothermally altered, angular tourmalinite and Aldridge Formation fragmental float boulders occur in a 300 by 300 metre area. The float boulders are well mineralized with galena, sphalerite, arsenopyrite and pyrrhotite. The Upper Jack zone (082FNE115) was also discovered by prospecting in the area and is located 2500 metres northwest of the Lower Jack zone. A third discovery, the Sinclair zone, is 2000 metres north-northeast of the Upper Jack zone. The Pakk property includes the Horn, Burn, Pit and Pakk claim groups.

At the Sinclair showing, thin bedded lead-zinc mineralization occurs in a mudstone unit 60 metres thick which has been traced on surface for 600 metres. Chappleau Resources Ltd. completed two short diamond drill-holes on the showing in 1999. The first hole intersected a fault zone and did not find the mineralized zone. The second hole intersected the stratiform sphalerite mineralization 90 metres downdip from the surface showing. The hole cut forty, thin, bedding-parallel bands of disseminated sphalerite and pyrrhotite ranging in thickness from 1 to 10 centimetres. The sulphide-rich bands are scattered throughout the 150-metre section of thin-bedded argillite and silty argillite of the Helikian Aldridge Formation (Purcell Supergroup).

Super Group Holdings Ltd. is directing the exploration and Chappleau Resources Ltd. is performing the work on the property.

BIBLIOGRAPHY

EMPR ASS RPT 23622
EMPR OF 2000-22
GSC MAP 15-1957
GCNL *#192(Oct.6), *#204(Oct.25), 1999
WWW <http://www.infomine.com/>

DATE CODED: 1999/12/14
DATE REVISED: 1999/12/15

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE117**

MINFILE NUMBER: **082FNE118**

NATIONAL MINERAL INVENTORY:

NAME(S): **DYKES OPTION**, MINERAL DYKE

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 41 24 N
LONGITUDE: 116 51 34 W
ELEVATION: 800 Metres

NORTHING: 5504174
EASTING: 510138

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Copper Platinum Palladium

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic Syngenetic
TYPE: M02 Tholeiitic intrusion-hosted Ni-Cu

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic	Lardeau	Index	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Diorite
Gabbro
Schist
Marble

HOSTROCK COMMENTS: The occurrence is in an area of predominantly Index Formation schist and marble. The dike is probably gabbro and Eocene in age.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Pyrrhotite and chalcopyrite are disseminated in a flay-lying dike or sill, probably 12 to 15 metres thick, intruded into Lardeau Group sediments. Platinum and palladium are associated with the sulphides. An 80-metre long adit was driven in 1930 to test the mineralization.

BIBLIOGRAPHY

EM GEOFILE 2000-2; 2000-5
EMPR AR 1929-325, 1930-254
EMPR BULL 73-88
GSC MEM 228-60
GSC P 38-17-9

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/01

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE119**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD KING**, GOLD QUEEN

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 34 12 N
LONGITUDE: 116 48 16 W
ELEVATION: 800 Metres

NORTHING: 5490841
EASTING: 514139

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I06 Cu±Ag quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Horsethief Creek	Undefined Formation	
Upper Proterozoic	Windermere	Undefined Formation	

LITHOLOGY: Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Gold King prospect consists of a 15 centimetre vein in quartzite of the Upper Proterozoic Horsethief Creek Group (Windermere Supergroup). The vein carries chalcopyrite and pyrite and is reported to carry good gold values.

BIBLIOGRAPHY

EMPR PRELIM RPT 38-17, P9
EMPR MEM 228-P80
EMPR BULL 1, 1932-109
EMPR AR 1931-138, 1933-240, 1934-A27

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/01

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE120**

NATIONAL MINERAL INVENTORY:

NAME(S): **JACKPOT**, SUNSHINE 1

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 46 06 N
LONGITUDE: 116 50 34 W
ELEVATION: 766 Metres

NORTHING: 5512885
EASTING: 511322

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic
Cretaceous

GROUP
Lardeau

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Schist
Gneiss
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Jackpot showing occurs in schist and gneiss of the Middle Cambrian to Middle Devonian Lardeau Group. Sill like intrusions of granite, possibly of Cretaceous age, intrude the schist near the showings. The veins are characterized by brecciated structure, cemented and partially replaced with quartz. Sulphide minerals are sparse and consist of galena, sphalerite and possibly some grey copper. The widths vary from several centimetres up to 60 centimetres. A tunnel was driven on the more northerly of two veins for about 45 to 60 metres. Other scattered mineralization is reported in the property area.

BIBLIOGRAPHY

EMPR BULL 73
EMPR ASS RPT 74

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/02

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE121**

NATIONAL MINERAL INVENTORY: 082F15 Pb15

NAME(S): **KIRBY**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 24 N
LONGITUDE: 116 50 46 W
ELEVATION: 766 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5513441
EASTING: 511081

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena Pyrrargyrite Arsenopyrite

ASSOCIATED: Quartz Rhodochrosite Carbonate

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Cambrian
Unknown

GROUP
Lardeau

FORMATION
Index

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Schist
Quartzite
Granitic Sill
Granitic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The property is located on the east shore of Kootenay Lake, at the north edge of the community of Riondel and adjacent to the Bluebell mine claims.

The Kirby group of 7 claims, and fractions (Lots 13007-13013) was staked by A.J. Curle, of Kaslo, in 1919. Work on the showings to 1921 included a 17-metre crosscut and about 30 metres of drifting on the footwall of the main vein. Where intersected by the crosscut, the vein consisted of 3 metres of sparsely mineralized quartz with a narrow band of ore on the hangingwall and small bunches and stringers of galena on the footwall. The claims were Crown-granted to A.J. Curle, W.T. Kirby and R.V. Guthrie in 1922. The owners incorporated The Shepherd Mining Company, Limited in December 1922. A new low level crosscut adit, driven from near the lake shore, reached bedrock at 227 metres and was continued to 305 metres, cutting a vein at 274 metres and a stronger vein at 305 metres; the latter was drifted on for about 229 metres, connecting with a shaft to surface. The last reported work by the Company was in 1926.

The area is underlain by Middle Cambrian quartzites and schists of the Index Formation, Lardeau Group.

Three principal veins occur as distinct bedding fissure veins, mainly in schist but also cutting granitic dikes and sills locally. The calcareous schists are sparingly impregnated with sulphides, mainly pyrite. A series of steep fissures connect the main veins, cutting across the strike of the sediments. The ore minerals, pyrite, arsenopyrite, sphalerite, galena, pyrrargyrite occur with quartz, rhodochrosite and other carbonates in bedded shear zones, along with fragments of country rock.

Eight tonnes of ore was reported mined in 1920 and 7,558 grams of silver and 1,778 kilograms of lead were recovered.

BIBLIOGRAPHY

EMPR BULL 73, p. 88
EMPR INDEX 3-202
EMPR AR 1919-152, 1920-120, 1921-131,169, 1922-189,354, 1923-209,

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 175
REPORT: RGEN0100

BIBLIOGRAPHY

1924-188, 1925-233, 366, 1929-325
EMPR PR (Starr, C.C. (1929): Report of Preliminary Examination of the
Kirby Mine (6 pages)
GSC SUM RPT 1928A, p. 134

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/02

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE122**

NATIONAL MINERAL INVENTORY:

NAME(S): **BURNT**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 57 56 N
LONGITUDE: 116 09 27 W
ELEVATION: 1966 Metres

NORTHING: 5535141
EASTING: 560422

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Pyrrhotite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Middle Proterozoic
Proterozoic
Cretaceous

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions
Unnamed/Unknown Informal

LITHOLOGY: Siltstone
Meta Diorite
Granite
Granodiorite
Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The area of the Burnt occurrence is underlain by siltstone and wacke of the Middle Proterozoic (lower) Aldridge Formation of the Purcell Supergroup. Cretaceous intrusions consisting of granite, granodiorite and monzonite intrude the strata. Pyrite, chalcopyrite and pyrrhotite occur in narrow discontinuous veins and lenses in a small shear zone in quartzite, near meta diorite. A 5-metre adit exposes the shear which strikes 080 degrees and dips 37 degrees south.

BIBLIOGRAPHY

EM GEOS MAP 1998-4
EMPR ASS RPT 3927
EMPR EXPL 1979-74
GSC MEM *292, p. 63

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/02

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE123**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOT SPRING**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 57 49 N
LONGITUDE: 116 01 24 W
ELEVATION: 1500 Metres

NORTHING: 5535042
EASTING: 570047

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Hotspring

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Industrial Min.
TYPE: T02 Geothermal spring

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Middle Proterozoic Purcell
Cretaceous

FORMATION
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER
Unnamed/Unknown Informal

LITHOLOGY: Dolomite
Siltstone
Wacke
Granite
Granodiorite
Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Hot Spring occurrence is located in an area underlain by the contact of Middle Proterozoic Purcell Supergroup sediments consisting of dolomite, siltstone and wackes and Cretaceous intrusions consisting of granite, granodiorite and monzonite. The hot springs is considered the perfect temperature for bathing.

BIBLIOGRAPHY

EM GEOS MAP 1998-4
GSC MEM *292, p. 65

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/02

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE124**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOT SPRING 2**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 56 24 N
LONGITUDE: 116 30 46 W
ELEVATION: 1600 Metres

NORTHING: 5532073
EASTING: 534961

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Hotspring

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Industrial Min.
TYPE: T02 Geothermal spring

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Middle Proterozoic
Cretaceous

GROUP: Purcell

FORMATION: Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER: Unnamed/Unknown Informal

LITHOLOGY: Siltstone
Quartzite
Argillite
Dolomite
Granite
Granodiorite
Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Hot Spring 2 occurrence is located in an area underlain by the contact of Middle Proterozoic Purcell Supergroup sediments consisting of siltstone, quartzites, argillite and dolomite and Cretaceous intrusions consisting of granite, granodiorite and monzonite. The hot springs water is considered to hot for bathing.

BIBLIOGRAPHY

GSC MEM 292, p. 65

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/02

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE125**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEN DERBY**, UNF

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 36 00 N
LONGITUDE: 116 46 10 W
ELEVATION: 1600 Metres

NORTHING: 5494184
EASTING: 516660

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Molybdenite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Proterozoic
Upper Proterozoic
Cretaceous

GROUP

Horsethief Creek
Windermere

FORMATION

Undefined Formation
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Granite
Argillite
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Ben Derby showing occurs where Cretaceous granitic intrusions come into contact with argillites and quartzite of the Upper Proterozoic Horsethief Creek Group (Windermere Supergroup). Disseminated molybdenite was noted in the granite near the contact zone. Earlier exploration consisted of driving two adits on steeply dipping 1.2-metre-thick white quartz veins mineralized with molybdenite.

BIBLIOGRAPHY

EMPR AR 1918-159, 1966-217, 1967-248
EMPR ASS RPT 1176, 7933
EMPR EXPL 1979-68

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/02

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE126**

NATIONAL MINERAL INVENTORY: 082F9 Cu1

NAME(S): **JAG, GOOD HOPE, WHITEFISH,
FALLER, JAG 5**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W
BC MAP:
LATITUDE: 49 34 24 N
LONGITUDE: 116 20 04 W
ELEVATION: 1600 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Fort Steele
UTM ZONE: 11 (NAD 83)
NORTHING: 5491406
EASTING: 548119

COMMODITIES: Copper Silver Lead

MINERALS

SIGNIFICANT: Pyrite
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
Middle Proterozoic Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Meta Diorite
Meta Gabbro
Quartzite
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

This Jag property is located on the westerly side of Mount Evans, about 24 kilometres southwest of Kimberley. The Jag occurrence is underlain by quartzite and siltstone of the Middle Proterozoic (Middle) Aldridge Formation (Purcell Supergroup), intruded by meta gabbro or meta diorite of the Proterozoic Moyie Intrusions. Three or more of these sills, from 60 to 180 metres thick, strike in a northwest direction through the area for an aggregate length of 3.5 kilometres. This occurrence consists of pyrite and iron staining in a shear and tension zone in diorite. Assays over 1.5 metre yielded 4.89 grams per tonne silver, 0.30 per cent copper and 0.1 per cent lead (Assessment Report 4235). Prior to 1920 three properties, the Evans, Good Hope, and Whitefish, were located over a north-south distance of about 3.2 kilometres. A fourth property (Faller group) was located about 1.6 kilometres to the northwest) on the north side of Meacham Creek. The locations of the Good Hope and Evans prospects, as shown on Map 15-1957, appear to be reversed in view of the location of the Good Hope claim on Map 92 F/9 W, and the description given in the Report of Minister of Mines, British Columbia for 1915. The Faller group, of 6 claims, was first reported on in 1900 when some 91 metres of adit had been driven. The Selkirk Copper Mines, Limited, incorporated at Moyie in May 1903, is believed to be the company which carried out exploration work on the property until about 1905. The workings at that time included 2 adits totalling about 152 metres of crosscuts and drifts. Work on the Good Hope group prior to 1901 consisted of a 15 metre adit. In 1912 the Good Hope, Rose, and Toolips claims (Lots 9820-9822, respectively) were Crown-granted to Mr. C.H. Pollen. Messrs. C. and W. Evans, of Marysville, recorded assessment work on the Pacific, Curfew, Twilight, and Sunset claims on Fiddler Creek in 1904. Their holdings were expanded in about 1915 to include claims in Pollen Basin and Kelly Basin. Most of their exploration work to that time had been done at their main camp near the head of

CAPSULE GEOLOGY

Fiddler Creek, where approximately 91 metres of adit was driven. Their combined holdings were known as the Evans or Achilles property. Assessment work by the Evans brothers was reported yearly until about 1926.

The only report on the Whitefish group (3 claims) was in 1920 when the workings consisted of 50 metres of adit and a 6 metre winze.

The JAG 1-58 claims, staked in March 1972 by A. Hopkins, of Toronto, covered the four old properties mentioned above. Mount Evans Copper Corp. Inc., incorporated in Ontario in May 1972, acquired 18 of the Jag claims.

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EMPR AR 1900-799, 1901-1006, 1904-109, 1912-325, 1915-111, 1919-115, 1920-118
EMPR GEM 1973-70
EMPR ASS RPT 4235
GSC MEM 228-57, 76-144
EMPR ASS RPT 12825

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/02

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE127**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAUREL**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 53 54 N
LONGITUDE: 116 43 04 W
ELEVATION: 2000 Metres

NORTHING: 5527365
EASTING: 520269

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Molybdenite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Cretaceous			Fry Creek Intrusion

LITHOLOGY: Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The area is underlain by granodiorite and quartz monzonite of the Cretaceous Fry Creek Batholith. Molybdenite is found as rosettes and disseminations in granodioritic phases of the intrusion.

BIBLIOGRAPHY

EMPR ASS RPT 9599

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE128**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOR**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Open Pit

MINING DIVISION: Slocan

LATITUDE: 49 46 00 N
LONGITUDE: 116 57 34 W
ELEVATION: 1533 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5512689
EASTING: 502921

LOCATION ACCURACY: Within 1 KM
COMMENTS: FROM GEM DESCR.

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Slate
Argillite
Argillite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

A zone containing lead, zinc and silver was discovered in 1972. A sample yielded 1.78 per cent lead, 5.70 per cent zinc and 871 grams per tonne silver. The underlying rocks may be slate, argillite or limestone of the Mississippian to Lower Permian Milford Group.

BIBLIOGRAPHY

EMPR GEM 1972-61, 1973-81
EMPR EXPL 1979-72

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE129**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRYSTAL LAKE, SURE BET, PUP,
CRYSTAL, BROSTER, ARC,
CRAW**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W

UTM ZONE: 11 (NAD 83)

BC MAP:
LATITUDE: 49 38 30 N
LONGITUDE: 116 50 00 W

NORTHING: 5498804
EASTING: 512033

ELEVATION: 966 Metres
LOCATION ACCURACY: Within 5 KM
COMMENTS: Area of exploration activity.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Lardeau	Index	Unnamed/Unknown Informal
Cretaceous			

LITHOLOGY: Dolomite
Schist
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Trench
TERRANE: Ancestral North America

CAPSULE GEOLOGY

The Crystal Lake property was originally described as a vein occurrence of galena and sphalerite in limestone. In 1928, D. Broster, M. Johnson and associates staked the area and conducted tunnelling and trenching on two showings. Cominco Ltd. conducted surveys on the Craw claims from 1973 to 1979. Bruce Doyle prospected and sampled on the Sure Bet and Pup in 1991. Kokanee Explorations Ltd. surveyed and drilled the area in 1991 and 1992. Cominco surveyed and drilled in 1996, 1997 and 1998.

Cream Minerals Ltd. acquired the property in 1999. Previous exploration on the property has discovered two large airborne electromagnetic geophysical anomalies situated within a 1.3 km long silver-lead-zinc anomaly. Within this geochemical anomaly, massive sulfide boulders, some weighing up to 30 tonnes and containing more than 343 grams per ton silver have been found.

The area is underlain by schist and dolomite of the Cambrian to Devonian Index Formation (Lardeau Group). Cretaceous granite intrudes the rocks.

BIBLIOGRAPHY

EMPR AR 1928-303
EMPR ASS RPT 4132, 4814, 6247, 8006, 21793, 22216, 22219, 22578, 24351, 25316, 25750
EMPR BULL 73-88
PR REL Cream Minerals Ltd., Feb.24, June 18, 1999; Klondike Gold Corp., Feb.6, 2003
WWW <http://www.langmining.com>;
http://www.infomine.com/index/properties/CRYSTAL_LAKE.html;
<http://www.langmining.com/cream/news.htm>

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE130**

NATIONAL MINERAL INVENTORY:

NAME(S): **KOOTENAY**, KOOTENIAN

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 42 24 N
LONGITUDE: 116 51 40 W
ELEVATION: 633 Metres

NORTHING: 5506027
EASTING: 510014

LOCATION ACCURACY: Within 1 KM
COMMENTS: FROM GEM DESCR.

COMMODITIES: Lead Zinc Silver Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Paleozoic

GROUP

Lardeau

FORMATION

Index

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Calcite Marble
Limestone
Hornblende Gneiss
Amphibolite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Purcell Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1958

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver	140.5700	Grams per tonne
Gold	2.0600	Grams per tonne
Lead	5.7300	Per cent
Zinc	6.1000	Per cent

COMMENTS: From a 6 centimetre chip sample.

REFERENCE: Minister of Mines Annual Report 1958, page 42.

CAPSULE GEOLOGY

The area of the Kootenay occurrence is underlain by hornblende gneiss, amphibolite and calcite marble of the Middle Cambrian to Lower Devonian Index Formation, Lardeau Group. The map accompanying Bulletin 73 shows the occurrence within a band of calcite marble.

The occurrence consists of four parallel narrow quartz veins striking 036 degrees and dipping 068 degrees southeast. Occasional transverse quartz stringers connect adjoining veins. The main vein is reported to range in width erratically from nil to 15 centimetres, and is mineralized with galena, sphalerite and pyrite in vuggy quartz.

An 8-centimetre wide sample yielded 0.7 gram per tonne gold, 456.0 grams per tonne silver, 24.65 per cent lead and 0.2 per cent zinc; a 6-centimetre sample yielded 2.06 grams per tonne gold, 140.57 grams per tonne silver, 5.73 per cent lead and 6.1 per cent zinc (Bulletin 73).

BIBLIOGRAPHY

EMPR AR 1926-259, *1958-42

EMPR BULL *73, p. 89

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE130**

MINFILE NUMBER: **082FNE131**

NATIONAL MINERAL INVENTORY:

NAME(S): **VICTORIA**, SANTA FE

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 42 18 N
LONGITUDE: 116 40 40 W
ELEVATION: 633 Metres

NORTHING: 5505882
EASTING: 523234

LOCATION ACCURACY: Within 1 KM

COMMENTS:

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena Pyrite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Proterozoic	Horsethief Creek	Undefined Formation	
Upper Proterozoic	Windermere	Undefined Formation	

LITHOLOGY: Argillite
Phyllite
Quartzite
Grit

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Victoria showing occurs in an area consisting of Upper Proterozoic Horsethief Creek Group (Windermere Supergroup) phyllite, quartzite and grit. A Galena-bearing quartz vein occurs in black laminated argillite.

BIBLIOGRAPHY

EMPR AR 1954-130, 1956-88, 1957-48

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE132**

NATIONAL MINERAL INVENTORY:

NAME(S): **FIVE METALS**, GORDON LEAD, IRON SILVER,
IRON HAND, IRON MASK, IRON AGE,
IRON BOY, REDDING, SPECULATE HEMATITE,
PALOUSER, SPOKANE, TEKOA

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 38 08 N
LONGITUDE: 116 40 32 W
ELEVATION: 2200 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5498162
EASTING: 523427

LOCATION ACCURACY: Within 1 KM

COMMENTS: Reported to be on the north side of Sphinx Mountain at the head of
Houghton Creek (The Nelson Miner, January 28, 1905).

COMMODITIES: Iron Silver Lead Copper

MINERALS

SIGNIFICANT: Specularite Hematite

COMMENTS: Specular hematite assumed. Significant minerals were not reported.

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Industrial Min. Epigenetic

TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Windermere	Toby	
Middle Proterozoic	Purcell	Mount Nelson	

LITHOLOGY: Dolomite
Conglomerate
Limestone
Schist
Argillite
Dolomite
Quartzite
Arkose

HOSTROCK COMMENTS: The formations and lithologies are general for the area. The hostrock is not known.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The area is underlain by Middle Proterozoic rocks of the Purcell Supergroup and by Upper Paleozoic rocks of the Windermere Supergroup. Windermere rocks include conglomerate of the Toby Formation and quartzite, limestone, arkose and pebble conglomeration of the Horsethief Creek Group. Purcell rocks include laminated argillite, dolomite and quartzite of the Mount Nelson and Dutch Creek formations.

Iron ore with values in silver, lead and copper is reported to occur at the head of Houghton Creek. Except for the presence of a "lime dike" the host rocks are not described. One of the original claims was called "Speculate Hematite" which, along with the nearby Gray Creek specular hematite occurrences (082FNE094,095), indicates the probable nature of the ore. By 1905, over \$10,000 was spent in development by the Five Metals Company. At this time, men were still engaged in "running a deep level to tap the main ledge". This "ledge" was reported to be 30 metres wide. A furnace with 40 tonnes/day capacity was planned.

This occurrence has been created based on its given location at the head of Houghton Creek and on the north side of Sphinx Mountain (The Nelson Miner, 1905). Although in the same vicinity, the Gray Creek occurrences are well defined by J.T. Fyles in a 1956 report (Property File) as being to the south of Sphinx Mountain. Three Crown grants exist near the location at which the Five Metals should occur: Palouser (Lot 8797), Spokane (Lot 8796) and Tekoa (Lot 8798).

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 188
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1902-163
EMPR PF (*Article in The Nelson Miner, January 28, 1905; Report by
J.T. Fyles, Oct.5, 1956 (in 082FNE094 file))
GSC MEM 228

DATE CODED: 1985/07/24
DATE REVISED: 1999/11/19

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE133**

NATIONAL MINERAL INVENTORY:

NAME(S): **GENERAL - GRANT**, GENERAL (L.9266), GRANT (L.9267)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 47 36 N
LONGITUDE: 116 56 28 W
ELEVATION: 1700 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5515655
EASTING: 504238

LOCATION ACCURACY: Within 500M
COMMENTS: CENTRE OF LOTS 9266,9267

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Tetrahedrite Silver Galena Sphalerite

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Paleozoic
Triassic-Jurassic

GROUP

Milford

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Siliceous Limestone
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The area of the General - Grant is underlain by the Mississippian to Lower Permian Milford Group. Upper Triassic to Middle Jurassic intrusions cut the strata. Grey-copper (tetrahedrite) carrying small amounts of galena and sphalerite and high amounts of silver within small shoots in quartz-filled fissure veins which cut siliceous limestone near a granite contact. The vein has been accessed by two tunnels with considerable development. A sample across a 20-centimetre pay-streak in one stope gave: 0.69 gram per tonne gold, 21,579 grams per tonne silver, 13.3 per cent lead and 4.8 per cent zinc (Annual Report 1921). A shipment of 5 tonnes in 1972 yielded 7589 grams of silver, 107 kilograms of lead and 146 kilograms of zinc. In 1889 and from 1916 to 1921, 22 tonnes of ore was shipped and 298,718 grams of silver and 2489 kilograms of lead were recovered.

BIBLIOGRAPHY

EMPR BULL 53, pp. 44,82
EMPR GEM 1971-413, 1972-62
EMPR AR 1911-290, 1915-120, 1916-516, 1921-132
EMPR INDEX 3-198
EMPR ASS RPT 12621

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/06

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE134**

NATIONAL MINERAL INVENTORY:

NAME(S): **FOURTH (L.301)**, STORM CLOUD (L.300)

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 42 48 N
LONGITUDE: 116 57 04 W
ELEVATION: 1700 Metres

NORTHING: 5506760
EASTING: 503525

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Silver Lead

MINERALS

SIGNIFICANT: Galena
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic Middle Jurassic	Milford	Unnamed/Unknown Formation	Nelson Intrusions

LITHOLOGY: Argillite
Limestone
Quartzite
Porphyritic Granite
Granodiorite
Granite Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Fourth occurrence is situated near the contact of Mississippian to Lower Permian Milford Group strata, consisting of argillite, limestone and quartzite, and porphyritic granite, granodiorite and granite gneiss of the Middle Jurassic Nelson Batholith.

A vein, 0.9 metres wide, strikes southeast. A 150 metre long tunnel was reported in 1895. Assays indicated 686 to 2606 grams per tonne silver and 10 to 38 per cent lead. Galena is presumed. In 1968, approximately 5.5 tonnes of mud and high grade ore was stacked but not shipped. Some stripping and trenching were done in 1979.

BIBLIOGRAPHY

EMPR GEM 1976-E39
EMPR AR 1895-682, 1896-558,560
EMPR OF 1990-18

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/08

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE136**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOUNTY**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 43 54 N
LONGITUDE: 116 55 58 W
ELEVATION: 1700 Metres

NORTHING: 5508799
EASTING: 504844

LOCATION ACCURACY: Within 500M
COMMENTS: FROM MAP IN ASS. RPT. 6481

COMMODITIES: Zinc

MINERALS

SIGNIFICANT: Sphalerite
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Milford	Unnamed/Unknown Formation	
Lower Permian	Kaslo	Unnamed/Unknown Formation	

LITHOLOGY: Mica Schist
Quartzite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

Slide Mountain

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Bounty showing is underlain by hornblende-schists of the Kaslo and Milford groups and mica schists, garnet mica schists; quartzite and limestone probably of the Milford Group. Minor sphalerite in quartz vein was observed in and old shaft. The Kaslo Group is Lower Permian and the Milford Group is Mississippian to Lower Permian.

BIBLIOGRAPHY

EMPR GEM 1977-E50
EMPR ASS RPT 6481

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/09

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE137**

NATIONAL MINERAL INVENTORY:

NAME(S): **SERVANT**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 47 30 N
LONGITUDE: 116 27 16 W
ELEVATION: 1700 Metres

NORTHING: 5515610
EASTING: 539267

LOCATION ACCURACY: Within 1 KM
COMMENTS: EXPLORATION REPORT MAP 1977

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrrhotite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Middle Proterozoic

GROUP

Purcell

FORMATION

Creston

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Schist
Argillite
Siltstone
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The area of the Servant showing is underlain by siltstone, argillite and quartzite of the Middle Proterozoic Creston Formation, Purcell Supergroup. Chalcopyrite and pyrrhotite are found in small quartz veins in schist.

BIBLIOGRAPHY

EMPR GEM 1977-E54

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE138**

NATIONAL MINERAL INVENTORY: 082F10 Pb10

NAME(S): **DAVE DAVE-WALL, SANDY,
UMPIRE (L.7240), ORMONDE (L.7239)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:
LATITUDE: 49 30 42 N
LONGITUDE: 116 40 04 W
ELEVATION: 1700 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS: Centre of claims.

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5484391
EASTING: 524050

COMMODITIES: Barite Silver Lead Zinc Fluorite
Copper

MINERALS

SIGNIFICANT: Barite Fluorite Galena Sphalerite Chalcopyrite
ASSOCIATED: Quartz Carbonate
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal Industrial Min.
TYPE: I11 Barite-fluorite veins E17 Sediment-hosted barite
I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Middle Proterozoic
GROUP: Purcell
FORMATION: Dutch Creek
IGNEOUS/METAMORPHIC/OTHER:

LITHOLOGY: Limestone
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Dave area is underlain by the Middle Proterozoic Dutch Creek Formation (Purcell Supergroup) consisting of siltstone, argillite, quartzite and dolomite.

High geochemical readings in lead and zinc were obtained in the brecciated limestone and quartzite. Replacement type mineralization is found in the quartzite, near the contact with the argillite. Mineralized quartz-carbonate veins contain limited galena, sphalerite, chalcopyrite, barite and fluorite.

David Wiklund conducted geochemical soil surveys and diamond drilling from 1975 to 1979. Norcan Energy Resources Ltd. held an option on the property in 1980 and conducted geological mapping, an electromagnetic survey, geochemical surveys and trenching.

The Ormonde (Lot 7239) and Umpire (Lot 7240) Crown grants are located to the east. A 37-metre adit was driven on the Umpire claim in 1900.

Hunter Resources Ltd. conducted exploration for barite in 1995 on the Dave-Wall manto property.

BIBLIOGRAPHY

EMPR AR 1900-855; 1906-251
EMPR ASS RPT 5632, 6231, 6901, 7402, 8640
EMPR EXPL 1975-E36, 1977-E48, 1978-E60, 1979-66; 1980-77
EMPR INF CIRC 1996-1, p. 20
EMPR OF 1992-16
GSC MAP 603A
GSC MEM 228
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1998/10/06

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE139**

NATIONAL MINERAL INVENTORY:

NAME(S): **KOKANEE**, COLUMBIA BREWING COMPANY

MINING DIVISION: Slocan

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 42 10 N
LONGITUDE: 116 48 49 W
ELEVATION: 792 Metres

NORTHING: 5505602
EASTING: 513440

LOCATION ACCURACY: Within 500M

COMMENTS: Location centered on Hole #1, 4.25 kilometres north of Crawford Bay (Assessment Report 6337).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite

MINERALIZATION AGE: Lower Cambrian

ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Archaeocyathids

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
SHAPE: Irregular
MODIFIER: Folded
COMMENTS: Limestone band strikes north-northeast.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Undefined Group	Badshot	

DATING METHOD: Fossil
MATERIAL DATED: Archaeocyathids

LITHOLOGY: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP: Post-mineralization

GRADE:

CAPSULE GEOLOGY

International Marble & Stone Company carried out diamond drilling on a north-northeast trending band of limestone of the Lower Cambrian Badshot Formation, 4.25 kilometres due north of the head of Crawford Bay. The limestone bed is situated on the west flank of the Preacher Creek Antiform. The diamond drilling encountered white to blue limestone.

BIBLIOGRAPHY

EMPR EXPL 1977-E251
EMPR ASS RPT *6337
EMPR BULL 73, pp. 26,76,77
GSC MEM 228, pp. 20,21
GSC MAP 603A
GSC OF 929

DATE CODED: 1985/07/24
DATE REVISED: 1989/10/02

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE140**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALBION (L.3340)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:
LATITUDE: 49 43 30 N
LONGITUDE: 116 54 57 W
ELEVATION: 1700 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Plotted center of albion claim.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5508059
EASTING: 506066

COMMODITIES: Zinc Silver Lead Gold Cadmium

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Milford	Unnamed/Unknown Formation	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Micaceous Schist
Chlorite Schist
Quartzite
Limestone
Granite
Quartz Monzonite
Lamprophyre

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The Albion occurrence is hosted by micaceous and chlorite schists, quartzites, and limestones of the Mississippian to Lower Permian Milford Group intruded by sills of granite and quartz monzonite and lamprophyre dikes. The vein is parallel to bedding and schistosity and varies considerable in width and grade. The Albion was crown-granted in 1899 by the Albion Mining Co., and worked intermittently. The property was acquired by Yale Lead and Zinc Mines Ltd. in 1949 and worked as part of the Highlander (082FNE030) property until 1958. The Highlander vein outcrops on the Albion, Banker and Jackpot claims. See Highlander for further details. The average mining width is 2.3 metres made of about 0.6 metres of nearly barren hangingwall gouge, up to 1 metre of galena and sphalerite in a gangue of quartz and carbonates and up to 1 metre of footwall zone consisting of irregularly spaced veinlets of sphalerite in quartz. The ore is restricted to the vicinity of a shear and a lamprophyre in the vein.

BIBLIOGRAPHY

EMPR AR 1899-842, 1901-1030, 1906-142, 1917-155,188, 1924-188,191, 1925-239,445, 1927-282, 1928-301, 1951-144, 1954-131, 1955-57, 1956-91, 1957-49
EMPR INDEX 3-187
EMPR BULL 53
EMPR ASS RPT 8240, 8992

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE141**

NATIONAL MINERAL INVENTORY:

NAME(S): **AUGUST FRACTION (L.6287)**, KING SOLOMON

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 43 N
LONGITUDE: 116 54 16 W
ELEVATION: 533 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5514021
EASTING: 506880

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adit, Bulletin 53, Figure 31, page 116. The August Fraction (Lot 6287) is located on the west shore of Kootenay Lake, near the mouth of Woodbury Creek.

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Replacement Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic Lardeau Index

LITHOLOGY: Mica Schist
Silicate Marble

HOSTROCK COMMENTS: The formation was originally defined as the Early Bird but is equivalent to the Index.

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The area is underlain by the Middle Cambrian to Middle Devonian Index Formation of the Lardeau Group.

The August Fraction (Lot 6287) is located on the west shore of Kootenay Lake, near the mouth of Woodbury Creek. The claim was Crown granted in 1904 to King Solomon Mining Co. Ltd. A vein on the shore cliff was worked between 1948 and 1951 by L.D. Besecker. In 1947, Besecker also worked the King Solomon, which is likely in this area.

A 30-metre adit explored the vein, which occurs in mica schist. The vein contains quartz and calcite, with bands of galena, pyrite, sphalerite and chalcopyrite.

In 1894, the King Solomon produced 4 tonnes of ore, yielding 24,882 grams of silver and 1814 kilograms of lead. This King Solomon might be confused with the one at the head of Woodbury Creek (see 082FNW242).

BIBLIOGRAPHY

EMPR AR 1894-736; 1895-682; 1904-295; 1905-250; 1947-A37,168;
1948-140; 1949-181; 1950-136; 1951-39,159,161,162
EMPR BC METAL MM01116 (August Fraction); MM01259 (King Solomon)
EMPR BULL *53, pp. 71, 115-118
EMPR INDEX 3-188, 202

DATE CODED: 1985/07/24
DATE REVISED: 1997/08/05

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE142**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTHWIND**, OLD TIMER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 43 18 N
LONGITUDE: 116 55 34 W
ELEVATION: 1700 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5507688
EASTING: 505326

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Lead Silver

MINERALS

SIGNIFICANT: Galena
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Milford	Unnamed/Unknown Formation	
Permian	Kaslo	Unnamed/Unknown Formation	

LITHOLOGY: Schist
Slate
Hornblende Schist
Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

Slide Mountain

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Northwind (Old Timer) occurs in slates and schists. There are three veins of broken schistose material with some quartz. By 1899, a crosscut tunnel, 75 metres long, runs into the first of the three veins, on which a drift had been run to the right for 23 metres and to the left for 24 metres. There is in this tunnel a showing of galena. There is a second tunnel about 10 metre long on the same vein. A 1 tonne shipment made in 1899 yielded 2,239 grams of silver.

The Old Timer claim (as shown on Figure 3, Bulletin 53) is underlain by schist of the Mississippian to Lower Permian Milford Group and hornblende schist and gneiss of the Permian Kaslo Group.

BIBLIOGRAPHY

EMPR AR 1890-367, 1896-90,560, 1899-597,704
EMPR ASS RPT 8240, 8992

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE143**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAREY, EARLY BIRD, LAKESHORE,
KOOTENAY FLORENCE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:
LATITUDE: 49 45 36 N
LONGITUDE: 116 54 34 W
ELEVATION: 1700 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: NEAR LAKESHORE

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5511951
EASTING: 506522

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: J01 Polymetallic manto Ag-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Much of the Early Bird (082FNE017) and the Lakeshore (082FNE018) workings were reported to have taken place on the Carey claim. Galena and sphalerite occur in veins with associated silver. The zone is reported to 2.4 metres wide. The workings appear to be in limestone of the Mississippian to Lower Permian Milford Group (Bulletin 53, Figure 3).

There is some confusion between this occurrence and the Lakeshore which is reported to have existed on the Carey Crown grant. They were worked in the same years (see Annual Reports 1950 and 1953) but apparently at different locals.

BIBLIOGRAPHY

EMPR AR 1916-195, 1950-135, 1951-39, 1952-164, 1953-131
EMPR BULL 53-76
EMPR INDEX 3-191

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE144**

NATIONAL MINERAL INVENTORY:

NAME(S): **DIXIE FRACTION**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 54 N
LONGITUDE: 116 54 16 W
ELEVATION: 1700 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5514360
EASTING: 506879

LOCATION ACCURACY: Within 500M
COMMENTS: NEAR LAKESHORE

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena
MINERALIZATION AGE:

DEPOSIT

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

J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Paleozoic	Lardeau	Index	

LITHOLOGY: Calcareous Mica Schist
Silicate Marble

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

A vein was traced from the Budweiser No.2 claim onto the Dixie Fraction . The ore was reported to consist of galena. A total of 234 tonnes of ore was shipped from the Dixie Fraction. Except for 1 tonne shipped in 1951 the remaining 233 tonnes was mined in 1954 and 1955. From all ores mined, 16,298 grams of silver, 14,127 kilograms of lead and 1,375 kilograms of zinc were recovered.

The area is underlain by calcareous mica schist and silicate marble of the Index Formation, Lardeau Group.

BIBLIOGRAPHY

EMPR AR 1903-242, 1949-181, 1950-136, 1951-39,161
EMPR INDEX 3-194
EMPR BULL 53-79,115

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE145**

NATIONAL MINERAL INVENTORY:

NAME(S): **LADY OF THE LAKE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 42 54 N
LONGITUDE: 116 54 52 W
ELEVATION: 1700 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5506947
EASTING: 506168

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the western shore of Loon Lake.

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite

ASSOCIATED: Siderite

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Upper Paleozoic Milford

FORMATION
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Showings on the Lady of the Lake property consist of rusty siderite and quartz containing galena and sphalerite along a poorly defined vein in a limestone. The vein trends northward parallel to the formations. The area is underlain by the Mississippian to Lower Permian Milford Group. A total of 9 tonnes were recorded mined in 1895 and 1937 from which 25,500 grams of silver and 4564 kilograms of lead were recovered.

BIBLIOGRAPHY

EMPR AR 1890-367, 1892-532, 1894-736, 1895-680,682, 1898-1191,
1937-E51,A37
EMPR INDEX 3-202
EMPR BULL *53, p. 101
EMPR ASS RPT 8240, 8992

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE146**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAURA M**, KOOTENAY FLORENCE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 06 N
LONGITUDE: 116 55 10 W
ELEVATION: 1700 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5512877
EASTING: 505801

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Silver

Lead

Zinc

Cadmium

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite
ASSOCIATED: Quartz Calcite Fluorite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: J01 Polymetallic manto Ag-Pb-Zn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Paleozoic

GROUP

Milford

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Schist
Greenstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The area of the Laura M is underlain by limestone, schist and greenstone of the Mississippian to Lower Permian Milford Group. The property was part of the Kootenay Florence mine (082FNE016) and was developed in conjunction with that property.

Production from the Kootenay Florence group consisted of silver, lead, zinc, cadmium and gold. Replacement ore in limestone consists of galena and sphalerite with some pyrite and chalcopyrite. Gangue minerals include quartz, calcite and fluorite.

BIBLIOGRAPHY

EMPR AR 1899-845, 1950-135, 1953-131, 1956-A51,92, 1957-A46,
1958-A46, 1959-A49, 1960-A55
EMPR INDEX 4-123, 3-203
EMPR BULL 53, p. 44

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE147**

NATIONAL MINERAL INVENTORY:

NAME(S): **JEANETTE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 44 29 N
LONGITUDE: 116 55 31 W
ELEVATION: 1700 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5509880
EASTING: 505384

LOCATION ACCURACY: Within 1 KM

COMMENTS: The location is for the centre of the Jeanette claim (Bulletin 53, Figure 3),

COMMODITIES: Lead Silver

MINERALS

SIGNIFICANT: Galena

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Milford	Unnamed/Unknown Formation	

LITHOLOGY: Limestone
Schist
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

In 1926, 10 tonnes of ore was shipped and 2995 grams of silver and 5002 kilograms of lead were recovered from the Jeanette property. The ore is assumed to consist primarily of vein galena. The area of the claim is underlain by quartzite, schist and limestone of the Mississippian to Lower Permian Milford Group.

BIBLIOGRAPHY

EMPR AR 1899-844, 1926-269
EMPR ASS RPT 8240, 8992

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE148**

NATIONAL MINERAL INVENTORY:

NAME(S): **LULU**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 54 N
LONGITUDE: 116 54 40 W
ELEVATION: 1700 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5514360
EASTING: 506399

LOCATION ACCURACY: Within 500M

COMMENTS: Continuation of Vigilant vein on south side of woodbury creek.

COMMODITIES: Lead Silver Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Paleozoic	Lardeau	Index	

LITHOLOGY: Schist
Quartzite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Lulu property shipped 5 tonnes of ore in 1954 and 3515 grams of silver, 3249 kilograms of lead and 200 kilograms of zinc were recovered. The extension of the Vigilant vein (082FNE005) was traced along strike onto the Lulu claim. Many steep fractures, containing narrow widths of quartz cross Woodbury Creek in this area. The Vigilant veins contains lenses of galena with some sphalerite. Replacement ore typically extends 60 to 100 centimetres from the quartz veins. The most favourable replacement rock is a soft brownish biotitic calcareous schist. Vein widths vary up to 1.3 metres.

The country rocks are micaceous and chloritic schists, quartzites and limestone of the Cambrian to Devonian Index Formation, Lardeau Group.

BIBLIOGRAPHY

EMPR AR 1896-559, 1949-181, 1954-50,133,134
EMPR BULL 53

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE149**

NATIONAL MINERAL INVENTORY: 082F10 Pb3

NAME(S): **BLACK DIAMOND & LITTLE PHIL**, BLACK DIAMOND (L.5047), LITTLE PHIL (L.477)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 43 30 N
LONGITUDE: 116 55 07 W
ELEVATION: 1000 Metres

NORTHING: 5508059
EASTING: 505866

LOCATION ACCURACY: Within 500M

COMMENTS: About 1 kilometres north-northwest of Loon Lake.

COMMODITIES: Lead Silver Zinc Gold Cadmium

MINERALS

SIGNIFICANT: Galena Sphalerite

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic Milford Unnamed/Unknown Formation

LITHOLOGY: Limestone
Micaceous Quartzite
Mica Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The hostrocks of the mineralized features are mapped as brown micaceous quartzite, fine-grained mica schist and minor limestone of the Mississippian to Lower Permian Milford Group (Bulletin 53, Figure 3). Minor amounts of disseminated galena and sphalerite are found in some limestone and quartz veins. Gouge and breccia from the main shear zone varies in thickness from 0.6 to 6 metres.

These claims are located about 1 kilometres southwest of Ainsworth and may be reached by about 6.4 kilometres of road that winds up the mountain side. They adjoin the Highlander and Albion claims on the west.

In 1892 the Black Diamond and Little Donald claims were owned by J.F. Stevens of St. Paul, Minnesota. A joint 4001 crosscut tunnel was driven on the dividing line between the Black Diamond and Little Phil claims. Two veins were reached. The first one was driven on for 61 metres, the second for 14 metres.

The Highlander Mining and Milling Co. took over the Black Diamond and Little Donald claims in 1899. The Highlander tunnel, driven from the Eagle claim at the foot of a high bluff, cut the two Black Diamond veins, the first at 760 metres, the second, at 795 metres. The dip of the veins at this horizon is about 260. The Highlander mine closed in 1911 and the property lay idle until 1949.

Yale Lead and Zinc Mines Ltd. obtained the property in 1949. Leasers shipped the old dump and did about 30 metres of drifting during 1949 and 1950. The company mined the Black Diamond in 1951 and early 1952 and the Little Phil for the balance of 1952.

Intermittent mining occurred from 1895 to 1964. A total of 985 tonnes were mined. From this, 701,872 grams of silver, 31 grams of gold, 335,273 kilograms of lead, 13,935 kilograms of zinc and 26 kilograms of cadmium were recovered.

BIBLIOGRAPHY

EMPR AR 1893-1045, 1894-736, 1895-681, 1896-92, 1897-527, 1898-1080, 1899-696, 1901-1223, 1904-154, 1906-142,248, 1907-95,213, 1908-93, 1917-155,188, 1918-159,193, 1919-153, 1920-119, 1949-179, 1950-123, 1951-145, 1952-156, 1953-44,123, 1958-A46, 1959-A48, 1963-A50, 1964-A55,120, 1955-58
EMPR BULL 3,1896, P37,89,92

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 206
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 53
EMPR INDEX 3-189,203; 4-119,123
GSC MEM 117
GSC P 44-13
GSC MAP 603A
UBC MSC THESIS, ORR 1971
EMPR ASS RPT 8240, 8992

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/14

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE150**

NATIONAL MINERAL INVENTORY:

NAME(S): **LITTLE MAMIE (L.2830)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:
LATITUDE: 49 43 08 N
LONGITUDE: 116 54 52 W
ELEVATION: 1000 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Claim lot, just north of Loon Lake.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5507380

EASTING: 506167

COMMODITIES: Lead Silver Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Milford	Unnamed/Unknown Formation	

LITHOLOGY: Mica Schist
Limestone
Micaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Little Mamie consists of a thin cavernous quartz vein along the footwall of a lamprophyre sheet. Ore mineralization is lean at surface, but intersections of as much as 60 centimetres of 30 per cent galena and sphalerite were obtained in drill core. The rocks are described as mica schist, micaceous quartzites and limestone of the Mississippian to Lower Permian Milford Group.

A shipment of 10 tonnes of ore was made in 1921 from which 17,107 grams of silver and 4989 kilograms of lead were recovered.

BIBLIOGRAPHY

EMPR AR 1894-736, 1898-1191, 1899-596, 1921-134,342, *1951-144,154
EMPR ASS RPT 8240, 8992
EMPR BULL 53

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/14

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE151**

NATIONAL MINERAL INVENTORY: 082F15 Mn1

NAME(S): **MANGANESE** CURLES, MANGANESE NO.1 (L.10674)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

MINING DIVISION: Slocan

LATITUDE: 49 57 10 N
LONGITUDE: 116 59 01 W
ELEVATION: 1000 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5533380
EASTING: 501176

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Lot 10674 on the west side of the Kaslo River, 7 kilometres northwest of Kaslo

COMMODITIES: Manganese

MINERALS

SIGNIFICANT: Psilomelane

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Residual

Sedimentary

Epigenetic

Industrial Min.

TYPE: B07 Bog Fe, Mn, U, Cu, Au

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

Permian

GROUP

Kaslo

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Greenstone
Chlorite Schist
Hornblende Schist
Gneiss
Mafic Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The property is located at 850 metres elevation on the east side of Kaslo River, 7 kilometres northwest of Kaslo.

The showings were discovered by A.J. Curle, of Kaslo, in 1907 but not being of economic value lay dormant until July 1917 when he staked 6 claims, the Manganese, Manganese 1-4, and Cantan. Two claims Manganese (Lot 10673) and Manganese No. 1 (Lot 10674) were Crown-granted to Mr. Curle in 1925. The No. 1 deposit, on the Manganese claim, was evaluated by some 85 test pits and trenches. On the No. 2 deposit (Manganese No. 1 claim) Mr. Curle sank a large number of test pits. A trial shipment of 27 tonnes (490 sacks) of ore was made in 1917 by Mr. Curle and A.G. Larson, of Spokane. In 1918 the property was under lease to Col. F.B. Millard, of Spokane, and 15 car-loads of ore were shipped by the Kaslo Nakusp Railway which bordered the lower edge of the property. The high water content of the first shipment necessitated the installation of a dryer but results were not entirely satisfactory and work ceased in October of that year. Mr. Curle made further shipments in late 1918 and 1919. The analysis of samples sent by Mr. Curle to the Mines Branch, Ottawa, in 1940 indicated the sample material was of low quality and didn't warrant further testing. Curle estimated from 700 to 800 tons averaging 30 per cent manganese remained on the Manganese claim following the 1918-19 production. On the Manganese No. 1 claim, Hanson, 1932, estimated 2270 tons; and analysis of this material gave 31.57 per cent manganese, 12.03 per cent silica, 3.75 per cent limonite.

The area is underlain by greenstone (mafic volcanics), chlorite and hornblende schist and gneiss of the Permian Kaslo Group. Three manganese deposits have been located: a lower deposit located just above the old railway bed is exposed for 21 metres along the slope; two deposits occur on a single terrace or bench some 90 metres above the railway bed and consist of the No.1 deposit covering about 20,000 square metres and the No.2, located about 350 metres to the north of the No.1, and covering about 10,000 square metres. Within these areas, the bog manganese varies from less than 2 centimetres to 1 metre in thickness. The deposits consist of different forms of wad

MINFILE NUMBER: **082FNE151**

CAPSULE GEOLOGY

or bog manganese interstratified with, but generally distinct from, various amounts of hydrous iron oxides, calcareous tuffa or sinter and layers of clay-rich subsoil.

BIBLIOGRAPHY

EMPR PF (RPT BY A.D.NASH 1917)
MANGANESE OCCURRENCES IN B.C., H. SARGENT, MEXICO, 1956
GSC ECON. GEOL. SERIES NO. 12-107
GSC MEM 184-231
GSC SUM RPT 1917 PT. B P 30
EMPR AR 1917-156,185, 1918-160, 1919, FACING P. 126 (2 ILLUSTRATIONS)
EMPR ASS RPT 11415
GCNL #27, 1985

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/14

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE152**

NATIONAL MINERAL INVENTORY: 082F15 Mn2

NAME(S): **HARP, ZWICKY**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 55 47 N
LONGITUDE: 116 59 01 W
ELEVATION: 1065 Metres

NORTHING: 5530817
EASTING: 501176

LOCATION ACCURACY: Within 1 KM

COMMENTS: No values have yet been obtained which are of commercial importance (MMAR 1918).

COMMODITIES: Rhodonite Manganese Garnet Gemstones Copper

MINERALS

SIGNIFICANT: Rhodonite Garnet Chalcopyrite Pyrrhotite Pyrite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Industrial Min. Epigenetic Hydrothermal
TYPE: H06 Epithermal Mn Q02 Rhodonite

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Permian Kaslo Unnamed/Unknown Formation

LITHOLOGY: Argillite
Greenstone
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The showings are reported to be at 820 metres elevation, east of Zwicky. The Harp, Collingwood, and Black Diamond claims comprising this property were owned in 1918 by W.J. Murphy, of Kaslo. The workings at that time included trenches and a 10-metre drift adit.

A series of quartz veins occur in sedimentary rocks or along the contact of sediments with greenstone schist of the Lower Permian Kaslo Group. The footwall rock of one vein was explored by a short adit. It consists of a greenish schist carrying abundant rhodonite in lens-like masses from 5 to 45 centimetres wide, adjacent to the quartz vein. The hangingwall is a quartzitic argillite containing manganeseiferous garnet, partly altered to manganese oxide.

The veins consist of vitreous to smoky quartz mineralized with pyrrhotite, pyrite and chalcopyrite.

BIBLIOGRAPHY

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CAN ROCKHOUND FEB 1966-9
GSC P72-53-61, P64-37-22
GSC MEM 173-127,
GSC ECON. GEOL. SERIES NO 12-111
GSC MEM 184-221
GSC SUM RPT PT B, 30
EMPR AR 1918-161

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/14

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE153**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOOTLEG, BOOT**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 39 58 N
LONGITUDE: 116 08 50 W
ELEVATION: 2400 Metres

NORTHING: 5501858
EASTING: 561538

LOCATION ACCURACY: Within 500M

COMMENTS: Geology Map (Assessment Report 26186).

COMMODITIES: Silver Lead

MINERALS

SIGNIFICANT: Galena
COMMENTS: Galena is assumed.

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stratiform Stratabound Disseminated
CLASSIFICATION: Syngenetic Sedimentary Exhalative
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Lower Aldridge	
Middle Proterozoic	Purcell	Upper Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Siltstone
 Quartzite
 Wacke
 Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The initial claims on the Bootleg property were staked in 1996 by Eagle Plains Resources Ltd. and Miner River Resources Ltd. A two-day geological reconnaissance program consisting of stream sediment sampling and prospecting was undertaken on the Bootleg Claims in August 1996.

Field work on the Bootleg Claims during the 1997 and 1998 consisted of prospecting, soil sampling, silt sampling and minor geological mapping. A total of 62 were samples collected. Geochemical results confirmed the presence of elevated base metal levels within prospective Aldridge Formation stratigraphy.

The south and central part of the Bootleg claims cover a shallow dipping package of siltites, quartzites and wackes assigned to the Middle Proterozoic Lower Aldridge Formation which are conformably overlain by Middle Proterozoic Middle Aldridge Formation sediments in the northern part of the property. Within this sedimentary package are a number of intrusive Middle Proterozoic Moyie sills. A fragmental unit has been mapped near the northern boundary of the Boot 2 Claims. This unit appears to occur stratigraphically near the Lower-Middle Aldridge Contact (LMC), similar to the LMC-fragmental relationship at the Sullivan Mine.

Bedding throughout the property area is generally shallow in the 10 to 30 degree west dip range, with strikes roughly orientated south-east/north-west.

Samples of silicified sediments assayed 8 grams per tonne silver and 0.51 per cent lead (Eagle Plains website, February 1999). Rio Algom signed an agreement to option the property in January, 2000 and drilled a single 675 metre drillhole in the same year, which failed to intersect the target horizon. Rio Algom elected to withdraw from the project following the drillhole results.

BIBLIOGRAPHY

EMPR ASS RPT 24907, 25872, 26186, 26362, 26363
GSC MAP 15-1957

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 212
REPORT: RGEN0100

BIBLIOGRAPHY

N MINER July 31, 2000
WWW <http://www.eagleplains.bc.ca/bc>; <http://www.infomine.com/>

DATE CODED: 2001/04/05
DATE REVISED: 2001/04/05

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE154**

NATIONAL MINERAL INVENTORY:

NAME(S): **JANET**, PERRY CK, JANET 1,
GOLD, BIRDIE LOAD

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 32 54 N
LONGITUDE: 116 01 28 W
ELEVATION: 1065 Metres

NORTHING: 5488871
EASTING: 570567

LOCATION ACCURACY: Within 1 KM
COMMENTS: SEE 082FSE087

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Hematite Pyrite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I01 Au-quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	

LITHOLOGY: Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Quartz vein occurs in argillaceous quartzites of the Middle Proterozoic Creston Formation, Purcell Supergroup. Mineralization includes hematite and pyrite with gold, silver and lead values. The characteristic of the Janet gold occurrence are assumed from the nearby Anderson occurrence (082fne056).

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STAR, LUKE, MARK, JOHN. BY D.F.SYMOND DEC 1 1978
LONE EAGLE, ECLIPS, ANNA, STANDARD, AGNES, PIONEER, OYSTER, EVENING
GEOL. AND GEOCHEM RPT ON THE JANET, JANET 1, BIRDIE LOAD, GOLD, QUARTZ CK
JULY 5 1978
EMPR MEIP 78/79. RPT ON THE PERRY CK GOLD PROS. J.H.MONTGOMERY
EMPR ASS RPT 8598, 11802

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE155**

NATIONAL MINERAL INVENTORY:

NAME(S): **PROCTER, B & P LIME**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 37 13 N
LONGITUDE: 116 55 31 W
ELEVATION: 549 Metres

NORTHING: 5496416
EASTING: 505397

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location centered on outcrop of limestone on railway, 2.4 kilometres east of Proctor (Canmet Report 811, page 198).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Dolomite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 15 Metres

STRIKE/DIP: 025/30W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Paleozoic

GROUP

Lardeau

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Dolomite
Schist

HOSTROCK COMMENTS: Lardeau Group ranges from Cambrian to Mississippian in age.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Trench

RELATIONSHIP: Post-mineralization

GRADE:

INVENTORY

ORE ZONE: UNDERGROUND WORKINGS

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1944

SAMPLE TYPE: Grab

COMMODITY

GRADE

Limestone

44.1800

Per cent

COMMENTS: Grade given for calcium oxide. Grade is in per cent.

REFERENCE: Canmet Report 811, page 202, Sample 68.

CAPSULE GEOLOGY

Limestone was once mined underground by Cominco Ltd. as a source of flux beside the C.P. Railway, 2.4 kilometres east of Proctor on the west shore of Kootenay Lake.

A 9 to 15 metre thick bed of limestone in schist of the Mississippian Milford Group outcrops along the railway track and continues up the steep mountain side west of the lake. The bed strikes 0.25 degrees and dips 30 degrees northwest.

The limestone is coarse to fine grained and white to bluish white in colour. The rock is comprised largely of calcium limestone with some thin beds of dolomite. The limestone is cut by some veins of white quartz. A sample comprised of chips taken at various places in underground workings contained 44.18 per cent CaO, 7.34 per cent MgO, 5.61 per cent SiO₂, 0.20 per cent Al₂O₃, 0.26 per cent Fe₂O₃ and 0.02 per cent sulphur (Canada Bureau of Mines Report 811, p. 202, Sample 68)

The deposit was explored underground by 490 metres of drifting by Cominco between 1935 and 1938. 6896 tonnes of limestone were mined during this development work. In 1960 the property was leased to B & P Lime Development, which mined 318 tonnes.

BIBLIOGRAPHY

EMPR AR 1936-E54; 1938-E45; 1959-172; *1960-145

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 215
REPORT: RGEN0100

BIBLIOGRAPHY

CANMET RPT *811, Part 5, pp. 198,202
GSC MEM 288, pp. 30,31
GSC MAP 603A
GSC OF 929

DATE CODED: 1985/07/24
DATE REVISED: 1989/09/26

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

MnO	0.12	0.57	0.03	trace	trace	trace
P2O5	0.04	0.06	0.05	0.04	0.02	0.02
Sulphur	0.003	0.004	0.005	0.003	0.003	0.003
Ig. Loss	44.76	44.64	43.78	45.53	44.7	43.98

All samples were taken on logging roads just south of Lendrum Creek.
Samples 943 to 945 represent a single continuous section across 8.83
metres.

BIBLIOGRAPHY

EMPR AR 1959-172
EMPR BULL 53, pp. 18,24, Fig.3
EMPR PF (*Memo by Fyles with assays, J.T., Dec.4, 1961)
GSC MAP 603A
GSC MEM 288, pp. 30,31
GSC OF 929
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1989/09/27

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE157**

NATIONAL MINERAL INVENTORY:

NAME(S): **RIONDEL**, AINSWORTH, BLUEBELL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F15W
BC MAP:

Open Pit

MINING DIVISION: Slocan

LATITUDE: 49 45 40 N
LONGITUDE: 116 51 34 W
ELEVATION: 558 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5512080
EASTING: 510123

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location centered on surface trace of limestone band (Unit Ebm) on the east side of Kootenay Lake (Geological Survey of Canada Open File 929).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Dolomite Quartz Tremolite Graphite Silicate
Sulphide

MINERALIZATION AGE: Lower Cambrian

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 1600 x 60 Metres

STRIKE/DIP: /35W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Badshot	

DATING METHOD: Fossil

LITHOLOGY: Limestone
Dolomite
Mica Schist
Hornblende Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Trench

RELATIONSHIP: Post-mineralization GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1944
SAMPLE TYPE: Chip
COMMODITY: Limestone GRADE: 48.7100 Per cent

COMMENTS: Taken across 15 metres. Grade given for calcium oxide. Grade is in per cent.

REFERENCE: Canmet Report 811, page 212, Sample 84.

CAPSULE GEOLOGY

Limestone of the Lower Cambrian Badshot Formation outcrops along the west shore of Galena Bay on the east side of Kootenay Lake and continues northward across a small promontory jutting into the lake for 1600 metres. The bed strikes 000 degrees and dips 35 degrees west. Thicknesses vary up to 60 metres. The unit is overlain by mica schist of the Index Formation (Lardeau Group) and underlain by hornblende schist of the Hamill Group.

The bed is comprised predominantly of calcium limestone interbedded with dolomite. In the vicinity of the Bluebell Mine (82F 043) the limestone contains sulphides with silicates and graphite. Tremolite and quartz become abundant near the top and bottom of the bed. A sample taken south of the Bluebell Mine across a 15 metre section contained 48.71 per cent CaO, 3.93 per cent MgO, 4.96 per cent SiO₂, 0.22 per cent Al₂O₃, 0.16 per cent Fe₂O₃ and 0.02 per cent sulphur (Canada Bureau of Mines Report 811, p. 212, Sample 84).

A small amount of limestone was once quarried to produce lime.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 219
REPORT: RGEN0100

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EMPR AR 1959-172
EMPR BULL 73
CANMET RPT *811, Part 5, pp. 211,212
GSC MEM 228, pp. 20,21
GSC MAP 603A
GSC OF 481; 929
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1989/09/27

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE158**

NATIONAL MINERAL INVENTORY:

NAME(S): **KASLO MARBLE** KOOTENAY MARBLE

STATUS: Past Producer Open Pit

MINING DIVISION: Slocan

REGIONS: British Columbia

NTS MAP: 082F15W

BC MAP:

LATITUDE: 49 55 02 N

LONGITUDE: 116 51 59 W

ELEVATION: 760 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: East shore of Kootenay Lake opposite Kaslo (Information Circular 1988-6).

UTM ZONE: 11 (NAD 83)

NORTHING: 5529436

EASTING: 509592

COMMODITIES: Marble Dimension Stone Building Stone

MINERALS

SIGNIFICANT: Calcite

COMMENTS: Marble.

ASSOCIATED: Dolomite Tremolite Mica Quartz

MINERALIZATION AGE: Upper Cambrian

DEPOSIT

CHARACTER: Stratiform Massive

CLASSIFICATION: Metamorphic Industrial Min.

TYPE: R04 Dimension stone - marble

R09 Limestone

SHAPE: Regular

DIMENSION: 14 x 13 x 8 Metres

STRIKE/DIP: 320/37S

TREND/PLUNGE:

COMMENTS: Dimensions of quarry. Attitude of remnant bedding.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Upper Cambrian

GROUP

Undefined Group

FORMATION

Badshot

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY:

Marble

Crystal Limestone

Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1944

SAMPLE TYPE: Chip

COMMODITY

GRADE

Marble

46.9900

Per cent

COMMENTS: Taken across 6.1 metres of strata. Grade given for calcium oxide.

REFERENCE: CANMET Report 811, page 212, Sample 83.

CAPSULE GEOLOGY

Marble from a small quarry located on the east shore of Kootenay Lake opposite Kaslo, was used to construct the Nelson City Hall, courthouse and Government building and the Kaslo and Grand Forks Government buildings. The stone varies in colour from white to blue-grey, is coarse-grained (greater than 5 and up to 16 millimetres) and contains tremolite which has a tendency to turn yellow with time.

The quarry is 13 metres long by 14 metres across by 8.5 metres high. Joints are irregular, striking between 0 and 90 degrees with dips varying from 60 to 90 degrees northwest. Remnant bedding strikes 320 degrees and dips 35 to 40 degrees southwest. Eighty-five per cent of the joints and fractures measured are spaced wider than 50 centimetres apart. Potential reserves of marble, similar to the stone in the quarry extend north parallel to the lakeshore. No production figures are available.

BIBLIOGRAPHY

EMPR AR 1959-172

EMPR BULL 73

EMPR FIELDWORK *1986, pp. 309-342

EMPR INF CIRC *1988-6

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 221
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 603A
GSC MEM 173, p. 34; 228, pp. 20,21
GSC OF 929
CANMET RPT *452, Vol.5, pp. 135-138; *811, Part 5, pp. 210,211

DATE CODED: 1985/07/24
DATE REVISED: 1987/11/09

CODED BY: GSB
REVISED BY: GVW

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNE159**

NATIONAL MINERAL INVENTORY: 082F16 Gem1

NAME(S): **WHITE CREEK**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 54 00 N
LONGITUDE: 116 20 04 W
ELEVATION: 2280 Metres

NORTHING: 5527725
EASTING: 547797

LOCATION ACCURACY: Within 5 KM
COMMENTS: The head of white creek.

COMMODITIES: Beryl

MINERALS

SIGNIFICANT: Tourmaline Beryl
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Pegmatite Industrial Min.
TYPE: O01 Rare element pegmatite - LCT family

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic Cretaceous	Purcell	Aldridge	Unnamed/Unknown Informal

LITHOLOGY: Pegmatite
Granite
Granodiorite
Monzonite
Siltstone
Wacke

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Small amounts of blue-green beryl occur locally with black tourmaline in pegmatite. The showing occurs in the contact area of a Cretaceous intrusion (the White Creek Batholith) consisting of granite, granodiorite and monzonite and Middle Proterozoic Aldridge Formation wacke and siltstone (Purcell Supergroup).

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GSC P60-21, p. 11
GSC MEM 228, p. 33; 292, pp. 43,44
GSC MAP 1045A-M2 NO.8

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/15

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE160**

NATIONAL MINERAL INVENTORY:

NAME(S): **VULCAN 5**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F16W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 45 36 N
LONGITUDE: 116 22 07 W
ELEVATION: 2066 Metres

NORTHING: 5512138
EASTING: 545475

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Vulcan 5 claim ((Assessment Report 14198).

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Sphalerite Galena
ASSOCIATED: Graphite
ALTERATION: Biotite Silica
ALTERATION TYPE: Silicific'n Biotite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stratiform Stratabound
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Quartz Wacke
Quartz Arenite
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Foreland
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

Sedimentary rocks of the Aldridge Formations underlie the area. The sediments are Proterozoic in age and consist of quartzwackes, quartz arenites, and siltstones. Diorite of the Proterozoic Moyie Intrusion occurs as dikes and sills.

A drill hole on the Vulcan 5 intersected fine-grained wackes to quartz wackes of the Aldridge Formation with gabbro sills. Bedding varies from finely laminated argillaceous rocks to medium bedded, more quartzitic units. Metamorphism is greenschist level with local development of intense biotite and or silicification. There are very minor occurrences of graphite along fractures and as narrow 'bedded' seams. The sulphides, most commonly pyrrhotite and pyrite, occur sporadically as fine laminations or as cross-cutting veins and fracture fillings. Minor associated sphalerite and galena were noted locally.

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EMPR AR 1958-51
EMPR ASS RPT 3300, 7689, 12931, *14198, 15239
GSC MEM 292-63
GCNL #49, 1982
WWW <http://www.infomine.com/>

DATE CODED: 1999/11/26
DATE REVISED: 1999/11/26

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE161**

NATIONAL MINERAL INVENTORY:

NAME(S): **MATTHEWS CREEK**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 38 00 N
LONGITUDE: 116 04 04 W
ELEVATION: 1050 Metres

NORTHING: 5498282
EASTING: 567316

LOCATION ACCURACY: Within 5 KM
COMMENTS: WEST OF MATTHEWS CREEK

COMMODITIES: Graphite

MINERALS

SIGNIFICANT: Graphite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Industrial Min.
TYPE: P03 Microcrystalline graphite

P04 Crystalline flake graphite

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE: Middle Proterozoic

GROUP: Purcell

FORMATION: Lower Aldridge

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Micaceous Schist
Porphyry Dike
Porphyry Dike
Siltstone
Wacke

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

Graphite occurs, apparently along the contact of a micaceous schist and a porphyry dyke. The area of the occurrence is underlain by siltstone and wacke of the Middle Proterozoic lower Aldridge Formation (Purcell Supergroup).

BIBLIOGRAPHY

EMPR AR 1921-129

DATE CODED: 1985/07/24
DATE REVISED: 1999/12/16

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE162**

NATIONAL MINERAL INVENTORY:

NAME(S): **COMMONWEALTH (L.4172)**, SULTAN (L.4171), REPUBLIC (L.4173)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:
LATITUDE: 49 40 18 N
LONGITUDE: 116 40 10 W
ELEVATION: 2000 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS: CENTER OF RCG 4172

MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5502179
EASTING: 523851

COMMODITIES: Lead Zinc Silver Copper

MINERALS

SIGNIFICANT: Galena Tetrahedrite Chalcopyrite Pyrargyrite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Stockwork Vein
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Windermere	Undefined Formation	
Upper Proterozoic	Horsethief Creek	Undefined Formation	

LITHOLOGY: Dolomite

GEOLOGICAL SETTING

TECTONIC BELT:
TERRANE:

CAPSULE GEOLOGY

Mineralization consists of galena, tetrahedrite, ruby silver and chalcopyrite in quartz stockwork that intrudes buff coloured dolomite within a sequence of Upper Proterozoic Horsethief Creek Group (Windermere Supergroup) argillites.

BIBLIOGRAPHY

EMPR AR 1896-94, 1900-982,987,988
EMPR ASS RPT 7947, 10463

DATE CODED: 1985/07/24
DATE REVISED: 2000/01/13

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE163**

NATIONAL MINERAL INVENTORY:

NAME(S): **MALLANDAINE PASS**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F09W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 30 45 N
LONGITUDE: 116 17 44 W
ELEVATION: 2040 Metres

NORTHING: 5484669
EASTING: 550994

LOCATION ACCURACY: Within 1 KM
COMMENTS:

COMMODITIES: Magnesite

MINERALS

SIGNIFICANT: Magnesite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Replacement Hydrothermal Industrial Min.
TYPE: E09 Sparry magnesite
SHAPE: Irregular
MODIFIER: Fractured Sheared

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Purcell	Cranbrook	

LITHOLOGY: Quartzite
Argillite
Magnesite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

This occurrence is reported from several sources as being located along the ridge east of Mallandaine Pass and Mount McKay and within the main body of the Lower Cambrian Cranbrook Formation quartzites to the west of Hellroaring Creek.

An exact location and detailed description of the magnesite is unavailable other than it is hosted by quartzites and is of good grade.

BIBLIOGRAPHY

GSC SUM RPT 1932, Part A, p. 103
GSC P 37-27, p. 17
GSC MEM 228, pp. 29,56
GSC MAP 603A
EMPR AR 1901-1006; 1906-251; 1907-217; *1964-193-194
EMPR OF 1987-13

DATE CODED: 1986/10/16
DATE REVISED: / /

CODED BY: BG
REVISED BY:

FIELD CHECK: N
FIELD CHECK:

MINFILE NUMBER: **082FNE164**

NATIONAL MINERAL INVENTORY:

NAME(S): **LA FRANCE CREEK**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Open Pit

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 31 41 N
LONGITUDE: 116 46 25 W
ELEVATION: 597 Metres

NORTHING: 5486185
EASTING: 516383

LOCATION ACCURACY: Within 500M

COMMENTS: Located where limestone (Unit Hn5) crosses La France Creek
(Geological Survey of Canada Open File 929).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Hadrynian

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 1000 Metres
COMMENTS: Bedding attitude just north of La France Creek.

STRIKE/DIP: 016/55W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Hadrynian	Horsethief Creek	Undefined Formation	

LITHOLOGY: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Trench

RELATIONSHIP: Post-mineralization

GRADE:

CAPSULE GEOLOGY

A band of grey limestone of the Hadrynian Horsethief Creek Group trends northward along the east side of Kootenay Lake. The band is exposed over a width of 1000 metres, where it crosses La France Creek. The unit strikes 006 to 016 degrees and dips 45 to 55 degrees west, just north of the creek.

Limestone was quarried on La France Creek during 1923 and 1927 by Thomas Wall for agricultural purposes. A total of 83 tonnes were quarried.

BIBLIOGRAPHY

GSC MEM 228, pp. 17-19
GSC MAP 603A
GSC OF 481; *929

DATE CODED: 1989/09/28
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK:

MINFILE NUMBER: **082FNE165**

NATIONAL MINERAL INVENTORY:

NAME(S): **PILOT BAY**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F10W
BC MAP:

Open Pit

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 38 36 N
LONGITUDE: 116 53 00 W
ELEVATION: 1746 Metres

NORTHING: 5498983
EASTING: 508423

LOCATION ACCURACY: Within 500M

COMMENTS: The exact location of the old tailings and dumps in the Pilot Bay area of Kootenay Lake is not verified. The above location is for the dock area as indicated by topographic map (1:50,000 scale).

COMMODITIES: Silver Zinc Lead Gold

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrrhotite Pyrite Arsenopyrite
Chalcopyrite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown
COMMENTS: Tailings and ore dump material.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Lardeau	Badshot	

LITHOLOGY: Limestone
Marble

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Pilot Bay smelter and concentrator was erected from 1891 to 1895 at a cost of 250,000 dollars. It was built with the intention of treating ore from the Bluebell mine (082FNE043) but financial difficulties caused the mine to cease operation in 1895 and the smelter the following year.

Besides the Bluebell mine which apparently did ship 47,000 tonnes to Pilot Bay in 1895, several other nearby mines are known to have shipped ore to Pilot Bay in the same year. These include the Ruth (082FNW052) (91 tonnes), Howard (082FNW136) (6.3 tonnes), Skyline (082FNE048) (1360 tonnes), Number One (1380 tonnes) (082FNW203), Lady of the Lake (6.3 tonnes) (082FNE145), Dellie (082FNE024) (11 tonnes), Mile Point (50 tonnes), Highlander (082FNE030) (4.5 tonnes) and Canadian Pacific Mg. Co. (68 tonnes). The Rambler (16.3 tonnes), Howard (11 tonnes), Fern (082FSW183) (22.7 tonnes), Skyline and California (082FNW005) (2.7 tonnes) shipped ore to Pilot Bay in 1886.

The Pilot Bay plant and Blue Bell mine were idle until 1905 when new owners took down the smelter and used part of the plant to construct a new concentrating mill at the mine. The Pilot Bay locality was purchased from Cominco by a private concern in 1947 and in the following two years shipped crude ore that had been recovered from the old ore dumps that remained from before the turn of the century. A small mill was established near the old smelter site in 1950 and the concern commenced the dredging and processing of old tailings that had been dumped off shore. It was estimated in 1952 that about 32,000 tonnes remained available for processing.

Records indicate that between 1948 and 1952 and between 1978 and 1980 and again in 1989 a total of at least 2686 tonnes of ore were shipped and 628 grams of gold, 994,686 grams of silver, 164,611 kilograms of lead and 733,545 kilograms of zinc were recovered.

The majority of the of the tailings and dump rock are likely to have been originally extracted from the Bluebell mine where Lower Cambrian Badshot Formation (Lardeau Group) limestone/marble host galena, sphalerite, pyrrhotite, pyrite, arsenopyrite and chalcopyrite.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 229
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 73
EMPR AR 1892-532; 1893-1061; 1894-738; *1895-677,678,680,683;
1896-41,62,72,80,86,91,94,95,531; 1897-527,528; 1898-1081,1088;
1899-699; 1904-29,148; 1905-22,157; 1906-142; *1908-95; *1948-13;
1949-176; 1950-131; 1951-39; *1952-42,154
EMPR BC METAL MM01359
EMPR BC MINERAL STATISTICS - ANNUAL SUMMARY TABLES for 1989

DATE CODED: 1996/04/30
DATE REVISED: / /

CODED BY: GJP
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNE166**

NATIONAL MINERAL INVENTORY:

NAME(S): **JODI**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F10E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 34 30 N
LONGITUDE: 116 39 39 W
ELEVATION: 1890 Metres

NORTHING: 5491434
EASTING: 524521

LOCATION ACCURACY: Within 500M

COMMENTS: Location of Jodi claims.

COMMODITIES: Silver Lead Zinc Copper Molybdenum
 Tungsten

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Stratabound
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Middle Proterozoic
Upper Proterozoic

GROUP

Purcell
Horsethief Creek

FORMATION

Mount Nelson
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Dolomitic Limestone
Phyllite
Argillite
Siltstone
Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The area is underlain by Hadrynian Horsethief Creek and Middle Proterozoic Mount Nelson Formation (Purcell) rocks. Sulphide mineralization occurs over a 100-metre strike length in two dolomitic limestone zones, separated by 100 meters of phyllite and argillite. A sample assayed 7.73 per cent lead, 1.59 per cent zinc and 119 grams per tonne silver (Assessment Report 24287).

The stratabound zinc was discovered by G. Johnstone while prospecting with a Prospector Assistance grant. Subsequent investigations focused on molybdenite mineralization to the north, associated with the old Baker occurrence (082FNE004).

BIBLIOGRAPHY

EM EXPL 1997-49
EMPR ASS RPT 24287
EMPR OF 1994-8

DATE CODED: 1998/01/14
DATE REVISED: 1998/06/18

CODED BY: LDJ
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW001**

NATIONAL MINERAL INVENTORY: 082F14 Pb14

NAME(S): **APEX (L.1911)**, MOUNTAIN CHIEF NO. 2 (L.474)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 59 29 N
LONGITUDE: 117 20 14 W
ELEVATION: 762 Metres

NORTHING: 5537728
EASTING: 475828

LOCATION ACCURACY: Within 500M

COMMENTS: Location of the Apex mineral occurrence (Geological Survey of Canada Memoir 173, Map 273A). See also Mountain Chief (082FNW177).

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Tetrahedrite Silver Chalcocite

COMMENTS: Galena contains blebs of native silver and tetrahedrite visible with the naked eye.

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

DIMENSION: 1 Metres STRIKE/DIP: 070/40S TREND/PLUNGE:

COMMENTS: The vein width is 60 to 90 centimetres, striking 070 degrees and dipping 40 degrees southwest.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

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

LITHOLOGY: Argillaceous Sediment/Sedimentary
Calcareous Sediment/Sedimentary
Slate
Limestone
Porphyritic Granite
Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

CAPSULE GEOLOGY

The Apex occurrence, a past producer, is located 2 kilometres east of New Denver, British Columbia and 250 metres west of the former Mountain Chief mine (082FNW177).

Work on the Apex claim was confined to a quartz vein striking 070 degrees and dipping 40 degrees to the south. The vein was intersected at 148 metres from the portal of a 172-metre long crosscut. The vein was worked at this level and a second level, 26 metres vertically above the crosscut. Historically, the Apex occurrence has been under lease to the same operators as those of the Mountain Chief.

The Apex occurrence is underlain by argillaceous and calcareous sediments, slate and limestone of the Triassic Slocan Group. These strata have a general strike of 040 degrees and dip 45 degrees southwest and are intruded by large porphyry dikes and a porphyritic granite stock.

Mineralization consisted of blebs and disseminations of argentiferous galena and sphalerite, and lesser chalcocite hosted in a quartz vein and brecciated wallrock. Galena contains blebs of native silver and tetrahedrite visible with the naked eye. The maximum width of the vein is 60 to 90 centimetres.

Production records for the Apex occurrence show 520,446 grams of silver, 466 grams of gold and 4403 kilograms of lead recovered from 154 tonnes of ore, mined intermittently between 1912 and 1925.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 232
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BIBLIOGRAPHY

EMPR AR 1893-10441052,1060,1062; 1895-675; 1896-559; 1898-1188; 1911-134; 1912-150,322; 1913-420; 1914-288; 1915-121; 1916-198; 1924-19,198; 1925-246
EMPR BC METAL MM01112
EMPR INDEX 3-188
EMPR LMP Fiche No. 60035
EMPR P 1989-5
GSC MAP 273A; 1091A; 1667
GSC MEM *173, *184, p. 15; *308, p. 146
GSC SUM RPT 1916

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/19

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 234
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1900-986; 1904-180; 1919-154,370; 1920-125; 1924-198; 1925-
245; 1949-189
EMPR BC METAL MM01321
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-206
EMPR OF 1988-11
EMPR P 1989-5
GSC MAP 273A; 1091A; 1667
GSC MEM *173; *184, pp. 90,91; *308, pp. 150,151,153
GSC SUM RPT 1916

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/20

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW003**

NATIONAL MINERAL INVENTORY: 082F14 Ag37

NAME(S): **BOSUN**, BOATSWAIN FR. (L.3112), FIDELITY (L.2411),
FIDELITY FR. (L.3748), TYRO (L.3111), TYRO FR. (L.3113),
CRACKER JACK (L.3747), BROKEN LOCK (L.3735), WEST,
CENTRAL, THIRD, ALPHA (L.3733),
LAKEVIEW FR. (L.3734), CORNCRACKER FR. (L.4854), SEELIG FR. (L.4855),
FRISCO (L.4879)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 58 13 N
LONGITUDE: 117 21 42 W
ELEVATION: 615 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adits and buildings.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5535389
EASTING: 474064

COMMODITIES: Silver Lead Zinc Gold Cadmium
Copper Tin

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite Chalcopyrite Pyrite
Pyrargyrite Silver Cassiterite
ASSOCIATED: Quartz Calcite Siderite
ALTERATION: Pyrite
ALTERATION TYPE: Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Discordant
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Fractured
DIMENSION: 150 x 150 x 1 Metres STRIKE/DIP: 060/50S TREND/PLUNGE:
COMMENTS: Orientation and dimensions of the Central orebody. The ore zone
ranged from a few centimetres up to 1.5 metres.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Argillaceous Quartzite
Slate
Limestone
Biotite Quartz Monzonite
Quartz Monzonite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Bosun mine is situated on the east side of Slocan Lake, between Silverton and New Denver at 615 metres elevation above sea level in the Slocan Mining Division. The mine is located on the Boatswain Fraction Crown grant (Lot 3112).

The showings, discovered in 1898 were staked as the Fidelity and Fidelity Fr. claims; the Fidelity (Lot 2411) was Crown-granted to F.L. Byron and associates in 1898. Development work in several adits and a shaft was carried out under the name Fidelity Mining Company. Adjacent showings, staked as the Tyro, Botswain Fr. and Tyro Fr. (Lots 3111-3113, respectively), were Crown-granted to the North-West Mining Syndicate in 1899. The Bosun Mines, Limited, incorporated in England to consolidate the above companies, was registered in B. C. in 1899. The Fidelity Fr., Cracker Jack and Broken Lock (Lots 3748, 3747 and 3735) were Crown-granted to Bosun mines in 1900. Operations continued into 1903 when development work totalled some 1095 metres of drifts, crosscuts and raises in 5 adits and a 23-metre shaft.

Roseberry Surprise Mining Company, Limited was incorporated in November 1917 to acquire the Bosun property and others in the same

CAPSULE GEOLOGY

area. The company owned a mill at Rosebery, about 6.5 kilometres up the lake, and Bosun ore was milled there in 1918-19. Development work continued into 1928 and included the No. 6 (Main) level driven 915 metres from the lake shore, and a 43-metre inclined winze sunk at 832 metres from the portal to establish No. 7 level.

The property was purchased by Colin Campbell, of New Denver, in 1928. Lessees continued intermittent operations in various areas of the mine until 1943. Santiago Mines, Limited acquired the property in 1945. Development work in the lower levels included a winze from No. 7 level to establish No. 8 level. New Santiago Mines Limited was incorporated in January 1951 and development work continued from November to mid 1953. Lessees continued to explore and mine ore remnants in various areas of the mine into 1959 and in 1963. In 1970 the company name (New Santiago) was changed to Santico Mining and Exploration Ltd. In 1982 the company amalgamated with Heather Resources Inc. under the latter name.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slokan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slokan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slokan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The Bosun mine is hosted by impure quartzite, slate and limestone of the Slokan Group that generally strike 115 degrees and dip 45 to 75 degrees southwest. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slokan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Dikes and sills of biotite quartz monzonite, one to 25 metres thick, cut the sedimentary rock and several fault structures are evident and host vein mineralization in the area. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Horizontal displacement can be several metres to over 90 metres. Drag features are also present.

The occurrence consists of a vein within a fracture striking 060 degrees and dipping 35 to 65 degrees southeast. The vein has been developed by six main adits and several intermediate levels and raises. The No. 6 or main level is about 1130 metres long and explores three separate orebodies known as, from west to east, the West, the Central and the Third orebody. The West orebody plunges at low angles to the west but the Central and Third do not show this trend. Within the workings, the vein is discontinuous, varying from a few centimetres up to 1.5 metres. For the most part, it follows an altered quartz monzonite dike. The ore consists of galena and sphalerite associated with minor pyrite, tetrahedrite, pyrargyrite, native silver and chalcopyrite in a gangue of quartz, siderite and calcite. Minor cassiterite also occurs within the high grade sphalerite ore. The wallrock immediate to the vein contains disseminated pyrite.

As followed northeast along the levels, the vein is offset to the southeast by bedding plane shears that strike 125 degrees. These shears appear to lie along narrow altered sills of quartz monzonite. The structure is further complicated in the vicinity of the Central orebody by a split commencing below the No. 4 level. The ore follows mainly the hangingwall section of this split which has provided most of the production from the mine. The Central or main orebody was mined almost continuously from surface down to the No. 7 level, about 150 metres below surface. The ore was stoped from large blocks about 150 metres long generally bound by bedding plane shears. The fracture hosting the deposit appears to pinch out below the No. 8 level where it contains only siderite and minor sulphide mineralization.

Production from the Bosun mine between 1898 and 1976 yielded about 60 tonnes of silver, 4906 tonnes of lead, 3145 tonnes of zinc, 814 kilograms of cadmium, 37 kilograms of copper and 3 kilograms of gold from 63,222 tonnes mined.

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EMPR AR 1898-1074; 1899-688,842,847; 1901-1026; 1902-149,301;

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1918-166,169; 1919-124; 1920-124,127; 1921-136,138; 1922-194;
1923-227; 1924-197; 1925-245; 1926-254; 1927-276; 1928-293;
*1929-315; 1930-230,251; 1932-160,178; 1933-200; 1934-A26;
1935-A26,E35; 1936-E52; 1937-A37,E55; 1938-A36,E43; 1939-39,95;
1940-26,81; 1941-27,75; 1942-27,72; 1943-73; 1945-107;
*1946-35,157; 1947-170; 1948-145; 1950-141,147; 1951-42,174,315;
1952-43,177,336; 1953-141; 1955-64; 1956-95; 1957-A46,56; 1958-44;
1959-A48,70; 1960-A55; 1962-A47,82,83; 1974-121; 1976-104
EMPR ASS RPT 1974
EMPR BC METAL MM00144
EMPR BULL 29
EMPR EXPL 1974-24
EMPR GEM 1969-327; 1970-451
EMPR INDEX 3-190; 4-119
EMPR LMP Fiche No. 60145-60148
EMPR P 1989-5
EMPR PF (See 082FNW General - Geological plan of the Silverton area,
B.C. Department of Mines, 1966; Several letters, documents and
sketches by C.C. Starr pertaining to the Bosun Mine (1946-1956))
EMR MP CORPFILE (The Roseberry Surprise Company, Limited.; Santiago
Mines Limited; Santico Mining and Exploration Ltd.)
GSC MAP 272A; 273A; 1091A; 1667; 1956-3
GSC MEM 173, p. 12; *184, p. 20; *308, p. 134, Fig.9
GSC SUM RPT 1925 Part A, p. 190
CANMET IR 12 (1906), pp. 209-213
CIM Oct. 1946, p. 593
WWW <http://www.infomine.com/index/properties/BOSUN.html>

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/17

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

Santiago Mines Limited in 1946. The two lowest adits were reopened and sampled. In 1951, the New Santiago Mines Limited was incorporated and acquired the Hartney claim group.

Hostrocks of the Hartney occurrence are massive argillite and pyritic, carbonaceous slate of the Triassic Slocan Group.

Galena and sphalerite mineralization are hosted in a quartz-calcite-siderite vein. Cassiterite is reported associated with the sphalerite. Minor pyrite was found coating vugs in the ore. The vein ranges from 2 centimetres to 122 centimetres width and contains brecciated wallrock.

The best ore pitched with the slope of the hillside. Three samples were taken in 1946. The best of these samples, a 15-centimetre chip sample, yielded 285 grams per tonne silver, 3.1 per cent lead, 33.7 per cent zinc, 0.49 per cent cadmium and 0.08 per cent tin (Canadian Mining and Metallurgical Bulletin, October 1946, page 593).

Production records indicate 256 tonnes of ore were mined sporadically between 1900 and 1917. A total of 522,810 grams of silver, 81,876 kilograms of lead and 7900 kilograms of zinc were recovered.

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- EMPR AR 1899-688; 1900-827; 1902-148,299; 1905-161; 1906-249;
1907-214; 1917-322; 1913-420; 1914-288,510; 1917-488; 1937-E55;
*1946-165
EMPR BC METAL MM01222
EMPR INDEX 3-199
EMPR LMP Fiche No. 60700
EMPR P 1989-5
EMPR PF (Several letters, documents and sketches pertaining to the Hartney Mine by C.C. Starr (1945-1947); Starr, C.C. (1946): Report on the Hartney Mine; Starr, C.C. (1945): Report on a Brief Inspection of the Hartney Group and the Marion and California Claims)
EMR MP COMM FILE (Report of the Zinc Commission, Report No. 12 (1905) pp. 208,209)
EMR MP CORPFILE (New Santiago Mines Ltd., Santiago Mines Limited)
GSC BULL *173, Map 273A; *184, p. 51; *308, p. 126
GSC MAP 272A; 273A; 1091A; 1667; 1956-3
GSC MEM 173, p. 14; *184, p. 51; *308, pp. 126, 134-135
GSC SUM RPT 1916
CIM Oct. 1946, p. 593

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/23

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW005**

NATIONAL MINERAL INVENTORY: 082F14 Pb3

NAME(S): **CALIFORNIA (L.918)**, CLIPPER (L.3997), PHOENIX (L.2358)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 00 N
LONGITUDE: 117 19 11 W
ELEVATION: 1600 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5536827
EASTING: 477079

LOCATION ACCURACY: Within 500M

COMMENTS: California mineral occurrence (Geological Survey of Canada Memoir 173, Map 273A).

COMMODITIES: Lead Silver

MINERALS

SIGNIFICANT: Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

STRIKE/DIP: 075/75S

TREND/PLUNGE:

COMMENTS: The vein varies from 5 to over 30 centimetres width.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Triassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Siliceous Argillite
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

CAPSULE GEOLOGY

The California occurrence is located at 1600 metres elevation on the northwestern flank of Idaho Peak. New Denver, British Columbia lies 3.5 kilometres to the northwest.

The California (Lot 918) and Clipper (Lot 3997) Crown grants were worked intermittently from 1897 to 1907. There has been no record of further development on this occurrence although it was owned by California Clipper S.L. Mines Limited in 1935. Workings consisted of two crosscut adits from which drifts extend.

The California occurrence is composed of a quartz fissure vein with argentiferous galena. The vein width varies from 5 centimetres to over 30 centimetres width, crosscutting siliceous argillites and quartzites of the Triassic Slocan Group. The vein has a general strike of 075 degrees and dip of 75 degrees to the southeast.

A total of 308 tonnes of ore are recorded produced from the California occurrence. This ore yielded 906,839 grams of silver and 151,784 kilograms of lead.

BIBLIOGRAPHY

EMPR AR 1897-570; 1898-1074; 1899-688; 1900-827; 1904-202; 1905-161; 1906-249; 1907-100,214; 1914-288; 1920-125

EMPR BC METAL MM00941

EMPR INDEX 3-191

EMPR P 1989-5

EMPR PF (Starr, C.C. (1945): Report on a Brief Inspection of the Hartney Group and the Marion and California Claims, in 082FNW004)

GSC MAP 272A; 273A; 1091A; 1667

GSC MEM *173, p. 12; *184, pp. 23,78,193; 308, p. 126

GSC SUM RPT 1916

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/23

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

The lode has a variable strike from 355 to 066 degrees and dips from 55 to 70 degrees east and southeast. The mineralized zone consists of breccia hostrock in a matrix of calcite, quartz and ankerite? carrying streaks and blebs of galena and sphalerite. Galena occurs as bands with sphalerite or lenses of massive and sheared to coarse-grained galena up to 0.3 metre thick. In general, the lode appears to be closely associated with the hangingwall of a subparallel, quartz feldspar porphyry dike.

Near the face of the main adit the lode has been stoped to about 41 metres height. The ore was hand sorted and roughly jigged before shipment. Production records are incomplete but indicate 303 tonnes have been mined. From this 303 tonnes, 1,379,294 grams of silver, 684 grams of gold and 153,936 kilograms of lead were recovered.

BIBLIOGRAPHY

EMPR AR 1895-678; 1896-55; 1898-1190; 1899-598; 1900-984,988; 1902-148; 1904-181,202; 1905-161; 1908-99; 1909-115; 1929-312; 1935-123; 1956-93
EMPR BC METAL MM01391
EMPR GEM 1969-327; 1970-452; 1971-409
EMPR INDEX 3-200,212
EMPR OF 1998-10
EMPR P 1989-5
EMR MP CORPFILE (Swim Lake Mines Ltd.)
GSC MAP 273A; 1090A; 1091A; 1667
GSC MEM *173, p. 15; *184 p. 123; *308, pp. 119,126,131
GSC SUM RPT 1916
W MINER July 1955, pp. 45,416

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

associates. The Idaho occurrence was developed by six adits over 244 vertical metres. The No. 5 adit also explores the adjacent Cumberland lode and two lodges on the St. John claim.

The Idaho occurrence is hosted by massive, banded argillites and quartzites of the Triassic Slocan Group. Two quartz diorite stocks lie north and west of the occurrence.

The deposit consists of three lodges, the Idaho, Cumberland and St. John, all continuations of the Standard lode (082FNW180). The Idaho lode strikes 045 degrees and dips about 55 degrees to the southeast. The lode forms a strong shear or fracture zone varying in width from less than 30 centimetres to 7.6 metres. Evidence indicates downward and eastward motion along the faulted hangingwall. It has been explored over 762 metres length. The lodges carry lenses of galena, sphalerite, tetrahedrite and pyrargyrite in a gangue of principally calcite but also quartz and siderite which are locally dominant. The vein is commonly brecciated. The main shoot was up to 3 metres thick and included up to 61 centimetres of clean galena on the hangingwall side. Ore from lower levels contained abundant calcite gangue. Hostrocks are locally silicified.

The St. John and Cumberland lodges are branches of the Idaho lode on the footwall or north side. The St. John is nearly parallel with the Idaho and diverges to the west. It was explored by two adits and little is known about the lode. It is located 46 to 61 metres northwest of the Idaho lode. It is reported to have consisted of a vein carrying galena, sphalerite and pyrargyrite in a gangue of siderite, calcite and quartz. The Cumberland lode merges with the Idaho lode near the No. 5 adit and diverges to the northeast. It was explored by two adits and in the No. 5 adit over 442 metres length. It is a steep, well-defined fissure with little or no fault displacement, cutting argillite and quartzites at low to moderate northeastern dips. The best section was composed of 30 centimetres of siderite with seams of sphalerite and a little galena.

The majority of ore was mined from the upper two levels and on surface above the No. 1 and 2 adits of the Idaho. Production records for the Idaho occurrence show 26,866 tonnes of ore was mined intermittently between 1893 and 1984. Recovery from this ore included 50,643,149 grams of silver, 715 grams of gold, 2,316,299 kilograms of lead and 225,235 kilograms of zinc.

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- EMPR AR 1892-531; 1893-1056; 1894-740; 1895-678; 1896-37,47,49,54,66,558; 1897-532; 1898-1074,1155,1159; 1903-136; 1904-182,192,201; 1905-25,160; 1906-145,249; 1907-100,214; 1909-115; 1910-243; 1911-284; 1912-149,322; 1913-420; 1914-288; 1915-445; 1916-516; 1917-159,448; 1918-166,168; 1919-124,154; 1923-222; 1927-275; 1928-294; 1929-308; 1947-153; 1948-145; 1949-139,145; 1950-147; 1951-173; 1952-175; 1962-A50; 1964-A55,123
EMPR BC METAL MM01240
EMPR BULL *29, pp. 11,81,82,99
EMPR INDEX 3-200; 4-122
EMPR IR 1986-1, p. 111
EMPR LMP Fiche No. 60780-60785
EMPR P 1989-5
EMR MP CORPFILE (Alamo Silver-Lead Mining Company Ltd.; Consolidated Queen Bess Mines, Limited; Bralorne Mines Limited)
GSC ANN RPT 1897A, p. 28
GSC MAP 273A; 1090A; 1667
GSC MEM *173, p. 13; *184, p. 59; 308, p. 146
GSC SUM RPT 1916, pp. 56-57

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/26

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

Queen Bess (082FNW010) properties were amalgamated. Hemsworth and associates obtained the property in 1947, after the death of Mr. Cunningham. Work was reported on the No. 5 adit by Alamo Silver-Lead Mining Company Ltd. in 1948. An agreement was reached between Cunningham Mines Ltd., Bralorne Mines Limited and Kelowna Exploration Company Limited to incorporate Bess Mines Limited in the following year. An option was acquired on the Idaho, Alamo and Queen Bess properties with development work confined to the latter.

The Alamo occurrence is hosted by massive, banded argillites and quartzites of the Triassic Slocan Group. These metasediments have a gentle dip with minor folding and faulting and are intruded by two quartz diorite stocks. On the north or footwall side of the Alamo occurrence, strata are overturned while those on the hangingwall are right-side-up. These represent displaced limbs of a large-scale dragfold with a near horizontal axial plane. The lode is deflected from its west-southwest strike to a northwest strike following bedding in this vicinity.

The lode consists of a curving vein of steep to shallow dip where hostrocks have been brecciated and cemented by quartz. The strike changes from 250 to 290 degrees. The dip averages about 60 degrees south but varies considerably. The lode varies in width from a few centimetres up to 3 metres thick with ore shoots composed of massive galena, tetrahedrite and minor sphalerite in a gangue of quartz, siderite, calcite and brecciated hostrock. A small amount of pyrrargyrite was associated with galena and tetrahedrite was prominent in the higher grade ore. Pyrite and chalcopyrite were also present with chalcopyrite locally forming unusually high proportions for ores from this area. Quartz was the dominant gangue mineral and higher grade silver values were reported associated with finely crystalline vuggy quartz.

The main ore shoot extends from surface to 15 metres below the No. 4 level and plunges to the east and formed in the upper part of the steep buckle of the lode. The maximum length is about 152 metres, between the Nos. 1 and 2 levels and decreases on lower levels to less than 61 metres on the No. 4 level. The lower workings are reported to contain ore richer in sphalerite. It is important to note that the hangingwall of the more productive sections of the workings were hosted by porphyry dikes.

A total of 538 tonnes of ore is recorded as mined from the Alamo occurrence periodically between 1920 and 1969. From this ore 976,199 grams of silver, 155 grams of gold, 55,563 kilograms of lead, 47,240 kilograms of zinc and 38 kilograms of cadmium are reported recovered.

BIBLIOGRAPHY

- EMPR AR 1893-1047,1057; 1894-740; 1895-678; 1896-54; 1897-534; 1898-1159; 1899-599; 1903-136; 1905-160; 1907-100,214; 1910-243; 1911-284; 1912-149; 1914-288; 1915-445; 1916-198,516; 1917-159,189,448; 1918-166; 1919-124,154; 1923-222; 1926-251; 1927-275; 1928-294; 1929-285,308; 1948-145; 1950-147; 1951-173; 1969-A55
- EMPR BC METAL MM01101
- EMPR BULL *29, pp. 11,79-81,99,124
- EMPR GEM *1969-428
- EMPR INDEX 3-187
- EMPR LMP Fiche No. 60002,60003
- EMPR P 1989-5
- EMR MP CORPFILE (Alamo Mining Company; Alamo Silver-Lead Mining Company Ltd.)
- GSC ANN RPT 1897A, pp. 10-28
- GSC MAP 273A; 1090A; 1667
- GSC MEM *173, p. 12; *184, pp. 59-62; 308, p. 146
- GSC SUM RPT 1916, pp. 56-57

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/26

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW009**

NATIONAL MINERAL INVENTORY: 082F14 Pb27

NAME(S): **CONDUCTOR (L.1251)**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 58 50 N
LONGITUDE: 117 17 02 W
ELEVATION: 1800 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5536507
EASTING: 479646

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adit. The vein is probably the extension of the Idaho-Alamo vein system. See Idaho, 082FNW007 and Alamo, 082FNW008.

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Calcite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Middle Jurassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Argillite
Limestone
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Conductor property is situated near the headwaters of Howson Creek at 1800 metres elevation above sea level, in the Slocan Mining Division. The underground workings are on Reverted Crown grant Lot 1251. The claim was staked about 1898 and developed then and in 1903.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly interbedded black argillite, quartzite and limestone of the Slocan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

On the Conductor property, the sedimentary rocks strike 145 degrees and dip 50 degrees northeast. The occurrence consists of a fissure vein striking 068 degrees. The vein has been explored with at

CAPSULE GEOLOGY

least one 45 metre long adit and about 20 metres of drifting. The vein is 2 to 15 centimetres wide and contains disseminated coarse galena and calcite. Surface exposures of the vein are strongly oxidized. The vein is probably an extension of the Idaho-Alamo vein system exposed on the Idaho (082FNW007) and Alamo (082FNW008) properties to the west. There is no record of production from this property.

BIBLIOGRAPHY

EMPR AR 1898-1187; 1903-137
EMPR ASS RPT *7083
EMPR BULL *29, p. 74, 80
EMPR EXPL 1978-E65
EMPR GEM 1969-329
EMPR P 1989-5
EMPR PF (Prospectus, Whitey Wilson Oil & Gas (N.P.L) November 24, 1971; See 082FNW - General: Geological compilation of the Silverton area, B.C. Department of Mines, 1966)
GSC MAP 273A; 1090A
GSC MEM 173; 184; 309

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/08

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

2 were in poor condition. Two short adits Nos. 6 and 7, now caved, did not encounter the lode. B vein adit was driven from near the lower road, on the supposed course of the B vein is in the hanging wall of the lode. Only the lowest of the C vein adits, about 122 metres northwest of the main lode, is accessible.

The last work recorded, was in 1957, when Bess Mines Limited carried out some underground development.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slokan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slokan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slokan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The Queen Bess occurrence is hosted by massive argillite and quartzite of the Slokan Group. The sedimentary rocks are intruded by quartz porphyry dikes probably related to the Nelson intrusions. The rocks generally strike 125 degrees and are folded in a tight synclinal structure. The upper strata are mostly deformed and slaty whereas the lower beds are mainly massive, argillaceous and quartzitic. The sedimentary rocks are cut by several pre-mineral faults with variable displacements.

At least three fissure veins have been mined on the Queen Bess property. From south to north, these are the A, B and C veins. Of these, the A vein has produced the bulk of the ore. A small tonnage has been shipped from the C vein and little or no production is attributed to the B vein which is believed to be a faulted segment of the A vein.

The A vein correlates with the Palmita (082FNW012) to the northeast and the Idaho (082FNW007) to the southwest. It has been developed by nine main levels over a vertical range of about 150 metres. The vein strikes 045 to 050 degrees, dips 40 degrees southeast and has been explored for 500 metres of strike length. It is within a fault zone that displaces a quartz porphyry dike about 33 metres to the left. Within the fault zone, the vein is up to 8 metres thick with orebodies of massive, sheared galena up to 5 metres wide. The ore is located in flexures of the vein where there is less gouge and more brecciation. The largest orebody was developed on the No. 5 level and was about 90 metres long, 3 metres thick and extended for about 90 metres downdip.

Mineralization consists of argentiferous galena and sphalerite with minor amounts of pyrargyrite, pyrite, chalcocite, native silver, and chalcopyrite in a quartz gangue. The vein is broadly zoned with sphalerite being more abundant in the lower workings and galena being more concentrated in the upper levels of the mine.

Production from the Queen Bess between 1893 and 1978 yielded about 42 tonnes of silver, 8558 tonnes of lead, 19 tonnes of zinc and 849 grams of gold from 16,573 tonnes mined. Production in 1961 was likely attributed to a property called Bess, operated by M. Tarnowski.

BIBLIOGRAPHY

- EMPR AR 1892-531; 1893-1057,1060; 1896-37,49,55,560; 1897-532;
1898-1074,1156,1159; 1899-598,688; 1900-828; 1901-1024; 1902-148;
1903-137; 1904-189; 1905-161; 1907-100; 1908-99; *1916-198,516;
1917-159,189,448; 1918-166; 1919-124; 1920-124; 1921-138; 1922-198;
1923-222; 1924-197; 1925-246; 1926-254; 1927-275; 1928-294;
1929-308; 1930-248; 1931-142; 1936-E53; 1937-A38; E51; 1948-145;
1950-147; *1951-173; 1961-A49; 1978-128
EMPR ASS RPT 14160
EMPR BC METAL MM01125 (Bess); MM01364
EMPR BULL *29, pp. 98-102, Fig. 11
EMPR INDEX 3-209; 4-119
EMPR LMP Fiche No. 61357,61358
EMPR P 1989-5
EMPR PF (Sharp, W.M. (1950): Geology map of the Queen Bess-Idaho-Alamo area, geology of underground workings, detail map or West Portals area, geological cross-sections of Queen Bess mine and composite longitudinal sections of hangingwall and footwall portion of Queen Bess mine; Mayo, E.B. (1941): Geology of the No. 5 level, Queen Bess Mining Company; see Silverite,

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 251
REPORT: RGEN0100

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082FNW011 - Billingsley, P. (1956): Picture model of Silver Ridge
and Howson Creek area)
EMR MP RESFILE MR Ag301.00 B.C.
GSC MEM 173, p. 85; *184, pp. 100-103; 309, p. 127
GSC MAP 273A; 1090A

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/12

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW011**

NATIONAL MINERAL INVENTORY: 082F14 Pb6

NAME(S): **SILVERITE** SILVER RIDGE (L.14624), SILVER RIDGE FR. (L.14625),
BLACK COLT (L.1721), SPECULATOR, CONSOLIDATED VIRGINIA,
ELK, G. FR.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W

Underground

MINING DIVISION: Slocan

BC MAP:
LATITUDE: 49 59 29 N

UTM ZONE: 11 (NAD 83)

LONGITUDE: 117 16 03 W

NORTHING: 5537708

ELEVATION: 1433 Metres

EASTING: 480826

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adit and dump on Lot 14624. See also Black Colt
(082FNW223).

COMMODITIES: Silver

Lead

Zinc

Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

Shear

Breccia

CLASSIFICATION: Epigenetic

Hydrothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic

Middle Jurassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Argillite
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Silverite property is situated on Shea Creek in the Slocan Mining Division. The underground workings are on Reverted Crown grant Lot 14624 at 1433 metres elevation above sea level.

This property consists of the Silver Ridge, Silver Ridge Fraction, Speculator, Consolidated Virginia, Elk and G. Fraction claims, adjacent to the Violamac (082FNW204) and Queen Bess (082FNW010) groups. The claims were prospected in the early years of the district's history and in 1929 an adit was driven on the Silver Ridge Fraction in search of the downward extension of the Black Colt (082FNW223) ore zone. In 1938 the property was operated under lease by Clarence Cunningham and by others during the next 3 years.

Excelda Mines Limited rehabilitated the camp in 1945 and in 1946 Sylverite Mines Limited was formed to take over the property. In 1950 Slocan Base Metal Mines took over the claims and in 1951 and 1952 did considerable stripping and drove an adit in a westerly direction 88 metres to the Violamac boundary. This adit was collared at an elevation of 1350 metres in the northeast corner of the Silver Ridge claim. At 46 metres from the portal a fracture was followed 38 metres to the southwest, and at 27 metres from the commencement of the drift another fracture was followed to the west for 36.5 metres. All work ceased in 1952, and in 1960 the property was optioned to Violamac Mines Limited.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in

CAPSULE GEOLOGY

the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly interbedded black argillite and quartzite of the Slocan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

On the property, the Slocan Group rocks strike southeast and dip 30 degrees southwest. The occurrence consists of a fissure vein striking about 055 degrees. The vein has been explored with an adit driven for about 135 metres in a westerly direction from the Silver Ridge Fractional Reverted Crown grant (Lot 14625). A northerly crosscut extends 53 metres into the Black Colt (Lot 1721) (082FNW223) and a raise connects the crosscut to the No. 2 level of the Black Colt workings. An adit located on the main road, 122 metres northwest of the Black Colt No. 1 portal, extends 61 metres to the west in broken ground.

The occurrence is developed on the downdip extension of the Black Colt vein exposed on Lot 1721 to the south. The mineralized vein is within a fault zone that is about 20 metres wide. The wider portions of the fault zone are brecciated and contain fragments of argentiferous galena, pyrite and sphalerite mixed in a quartz matrix. The fissure zone is mostly filled with crushed wallrock.

Production from the Silverite occurrence between 1919 and 1949 yielded 254,143 grams of silver, 57,920 kilograms of lead, 4189 kilograms of zinc and 31 grams of gold from 103 tonnes mined.

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1930-248; 1936-E53; 1937-E55; 1938-A37,E43; 1939-29,95; 1940-27,80;
1942-27,72; 1945-105; 1946-164; 1947-170; 1948-144; 1949-187;
1951-172; 1952-176
EMPR ASS RPT *15444, 18244, 18570
EMPR BC METAL MM01402; MM01403
EMPR BULL *29, p. 116
EMPR INDEX 3-213
EMPR P 1989-5
EMPR PF (Billingsley, P. (1956): Picture model of Silver Ridge and
Howson Creek area; see Palmita, 082FNW012 - Plan of Black Colt
mine, 1947; Starr, C.C. (1926): Report of Examination of the
Black Coalt Mine, 6 p., plan of workings 1" = 40', in 082FNW223)
GSC MAP 273A; 1091A
GSC MEM 173, p. 15; *184, p. 16; 308, p. 128
CMH 1961, p. 24

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/11

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW012**

NATIONAL MINERAL INVENTORY: 082F14 Ag7

NAME(S): **PALMITA (L.4880)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 31 N
LONGITUDE: 117 16 26 W
ELEVATION: 1610 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5537771
EASTING: 480368

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adit and dumps. See also Lone Batchelor, 082FNW205.

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
 Calcareous Argillite
 Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Palmita property is situated west of Shea Creek in the Slocan Mining Division. The underground workings are on Reverted Crown grant Lot 4880 at 1610 metres elevation above sea level.

The Palmita was owned in 1952 by G.W. Robinson. The earliest development on the claim was on the eastward extension of the Queen Bess lode (082FNW010), and several adits were driven on the general lode zone. Later development, starting about 1928, was from the upper Black Colt adit (082FNW223), and mining was later carried out by Clarence Cunningham when the Palmita was part of the Consolidated Queen Bess holdings. In 1949 a discovery was made on the main road crossing the claim. An option was taken by Kelowna Exploration, but the option was later dropped.

Workings consist of 4 short adits on the steep hillside between 2 branches of the main road, driven many years ago. One adit was cleaned out by Kelowna Exploration but the other 3 are caved. The workings on the Palmita, driven from the Black Colt No. 1 adit were in poor condition when examined by Hedley in 1949. A raise almost on the boundary line reaches a level 10 metres above Black Colt No. 1 level. A crosscut 32 metres long leads to a northeasterly drift section 73 metres long. A second raise reaches a level 14 metres higher on the same zone and a level 9 metres still higher, 15 metres long. The ore, mined locally to widths of 3 metres, has all been taken out to fault boundaries.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and

CAPSULE GEOLOGY

compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly black and locally calcareous argillite and quartzite of the Slocan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

The occurrence consists of four short adits driven on a vein that correlates with the "A vein" on the Queen Bess property (082FNW010). The vein strikes east and dips 40 degrees south. It is within a 2 metre wide shear zone and consists mostly of galena and sphalerite in a gangue of quartz and calcite. The ore is concentrated in pockets and lenses that pinch and swell from 0.1 to 3 metres along the vein.

Production from the Palmita property between 1930 and 1951 yielded about 1612 kilograms of silver, 371,011 kilograms of lead and 34,939 kilograms of zinc from 711 tonnes mined.

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EMPR AR 1905-252; 1929-308; 1930-230; 1934-A26,E34; 1935-A26,E35,G51;
1936-E53; 1937-A38,E51; 1938-A37; 1939-39; 1949-187; 1950-146;
1951-43,172
EMPR ASS RPT 15444
EMPR BC METAL MM01283
EMPR BULL *29, p. 95
EMPR INDEX 3-208
EMPR P 1989-5
EMPR PF (Plan of Black Colt mine, 1947)
GSC MAP 273A; 1090A; 1667
GSC MEM 173; 184; 308, p. 127

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/12

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW013**

NATIONAL MINERAL INVENTORY: 082F14 Ag11

NAME(S): **HINCKLEY (L.1720)**, BEAR PAW

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 082F14W
 BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 35 N
 LONGITUDE: 117 15 41 W
 ELEVATION: 1220 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5537891
 EASTING: 481264

LOCATION ACCURACY: Within 500M

COMMENTS: Location of buildings and adit (ca. 1988). See Silvana (082FNW050).

COMMODITIES: Silver Zinc Lead Cadmium Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Quartz Siderite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Discordant

CLASSIFICATION: Epigenetic Hydrothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Bladed

MODIFIER: Sheared

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Argillaceous Quartzite
 Quartzite
 Porphyritic Quartz Diorite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Unclassified
 QUANTITY: 54400 Tonnes

YEAR: 1994

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	290.0000	Grams per tonne
Lead	3.4000	Per cent
Zinc	4.7000	Per cent

COMMENTS: Reserves at the Silvana (082FNW050) and Hinckley mines as of April 1993.

REFERENCE: Information Circular 1995-1, pages 8,11.

CAPSULE GEOLOGY

The Hinckley property is situated on Shea Creek in the Slocan Mining Division. The underground workings are on Crown grant Lot 1720 at 1220 metres elevation above sea level. See also Silvana (082FNW050).

In 1898 the property, owned by the Hinckley-Black Colt Mining Company, was developed by R.A. Grimes in 1923, and by the Standard Silver-Lead Mining Company in 1924 and 1925. In 1936 and 1937 it was worked under lease and a small amount of ore produced. Some additional work was done in 1941 but remained dormant until 1954.

Workings consist of 5 adits and a shaft. A fifth adit on the Bear Paw Mineral Claim passes into the Hinckley from the north. Three short adits, one of which is caved, are located at an elevation of nearly 1160 metres, at the edge of the creek. A short access road was made in 1954 to one of these adits, located on the east side of the stream, and between 1954 and 1957 mining operations were carried on intermittently by the owners, and the adit extended. About 76 metres northeast of this adit a series of small pits exposes an irregular mineralized fracture, and an adit a little lower in

CAPSULE GEOLOGY

elevation explores what is presumably the same zone. The shaft is at an elevation of 1128 metres near the north boundary of the claim and is inaccessible. A small caved adit is located close to the collar of the shaft. The adit from the Bear Paw claim is located 46 metres lower and 107 metres to the northeast, and has a length of 79 metres. This adit was driven in argillites for 55 metres where it encountered a 24 metre porphyry sill. A crosscut 24 metres to the west encountered a fissure zone, perhaps the same as that on which the shaft was sunk, which was drifted on for 60 metres. In the property the zone is gougy, but in the argillite it is a quartz vein about 15 centimetres wide.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The property is underlain by quartzite and argillaceous quartzite of the Slocan Group. A prominent sill or dike of porphyritic quartz diorite about 45 metres wide is exposed along Shea Creek. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. On the Hinckley property, the strata generally strike east and dip steeply south.

Mineralization occurs in a vein up to 1 metre thick. The vein follows a near vertical, northeast-trending fissure which is parallel to a joint set within the quartzite. The fissure vein has been explored with at least six short adits and a vertical shaft. It consists of lenses of massive, coarse grained, commonly cubic pyrite containing irregular to wispy bands of coarse-grained sphalerite, fine to coarse grained, sheared galena, and a discontinuous band of siderite at the footwall. Quartz forms irregular lenses and bands in the vein.

Moskogee Minerals Inc. conducted diamond drilling in 1985 and underground development in 1988.

The Silvana mine closed indefinitely in April, 1993. In October, 1994, Amcorp Industries Ltd. signed an agreement to buy the Silvana mine and mill at Sandon from Treminco Resources Ltd. A review of the Silvana (082FNW050) and Hinckley mines' ore reserves by Amcorp indicated that about 54,400 tonnes of ore grading 290 grams per tonne silver, 3.4 per cent lead and 4.7 per cent zinc, remain in the developed areas of the mines with potential to develop additional reserves. Amcorp expected to resume production in early 1995 (Information Circular 1995-1, page 8). Amcorp changed their name in May 1996 to Molycor Gold Corporation, part of the Verdstone Group of companies.

Past production from the Hinckley mine, between 1936 and 1988, yielded 265,512 grams of silver, 113,309 kilograms of zinc, 54,840 kilograms of lead, 59 kilograms of cadmium and 481 grams of gold from 106 tonnes mined.

During the end of 1997, underground access to the Hinckley and Silvana lodes was re-established. Mining started on the Hinckley lode and the Silvana mill was re-commissioned. In 1997, Treminco Resources extracted and processed 1905 tonnes, averaging 285 grams per tonne silver, 5.29 per cent zinc and 5.15 per cent lead from the eastern extension of the Hinckley lode (GCNL #10, 1998). In 1998, Treminco signed a Letter of Intent with Regeena Resources Inc. to purchase the Silvana and Hinckley operations. Treminco changed their name to Elkhorn Gold Mining Corporation in February 1999. In June 1999, Klondike Gold Corp. plans to acquire the Silvana and Hinckley mines. Selective mining on the 4625 level, surface drilling and trenching are planned in July 1999.

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1941-75; 1954-141; 1955-A49,63; 1956-A51,95; *1957-54; 1964-123
EMPR BC METAL MM01241
EMPR BULL *29, p. 79
EMPR EXPL 1985-A38; 1997-48
EMPR FIELDWORK ; 1987, pp. 31-48; 1989, pp. 251-255; 1990, pp.
171-178

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 258
REPORT: RGEN0100

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EMPR INDEX 3-200; 4-122
EMPR INF CIRC 1995-1, pp. 8,11
EMPR LMP Fiche No. 60763
EMPR MIN STATS 1990, p. 28
EMPR P 1989-5
GSC MAP 273A; 1090A
GSC MEM 173; 184; 308, p. 127
CMH 1998-99, p. 447
GCNL #10 (Jan.15), 1998
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/15

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW014**

NATIONAL MINERAL INVENTORY: 082F14 Ag10

NAME(S): **CINDERELLA (L.3621)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W 082K03W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 59 N
LONGITUDE: 117 16 02 W
ELEVATION: 1210 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5538634
EASTING: 480849

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits and dumps.

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Carbonaceous Argillite
Quartzite
Biotite Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Cinderella property is situated west of Shea Creek in the Slocan Mining Division. It is located on the steep slope above Carpenter Creek, adjacent to the Victor group (082FNW040). The underground workings are on Crown grant Lot 3621 at 1210 metres elevation above sea level.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by massive and carbonaceous argillite and quartzite of the Slocan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. On the property, the Slocan Group rocks strike southeast and dip at shallow angles to the northeast or southwest. The rocks are intruded by dikes and a stock of biotite quartz diorite.

The old workings include 6 adits and one short incline adit and range in elevation from about 30.4 to 243.8 metres above Carpenter Creek. Two adits between 122 and 152.4 metres north of the Lone Bachelor adits (082FNW205) are driven on steep joints in thick bedded argillite that dips southwestward into the hill. The upper adit is caved and the other, 18.2 metres lower, is about 61 metres long. Two other adits are located at the old camp. The upper adit is reported to be 198 metres long. The other adit, 30.4 metres lower, is nearly

CAPSULE GEOLOGY

244 metres in length. The adits explore fissure veins that follow a joint system striking 042 degrees and dipping 70 degrees southeast. The veins vary from a mere fracture to about a metre in width. They consist mainly of crushed wallrock with stringers of galena, pyrite and oxidized sulphides in a matrix of quartz. Within the underground workings, several mineralized fractures were intersected, some striking parallel but most striking across the bedding planes of the enclosing rocks. In the lower parts of the mine, the veins contained mainly sphalerite and siderite with only minor galena and quartz.

In November 1948 the property was acquired by Violamac Mines Limited. In 1953 the No. 9 adit of the Victor mine (082FNW040) was collared on the Cinderella claim and in the next few years was advanced to a point 1280 metres from the portal; most of the workings being on the Victor property. A vein was exposed near the portal of this level in 1953, and in 1955 a similar vein, possibly the same one, was exposed 30.4 metres lower and 91.4 metres to the northeast. In 1956 No. 10 adit was started on this vein, and in 1957 had a length of over 247.3 metres. A raise was put up from this level to the surface near No. 9 portal. Some short sections of ore were encountered in the raise and some stoping was done. In 1956 some of the old workings, consisting of 2 connected adits and approximately 609.6 metres of workings, were reopened, mapped and surveyed. In 1957 a new No. 11 adit was started near the old workings at a point 45.7 metres northeast and 30.4 metres lower than No. 10 portal. The adit was driven southwestward to intersect the old shaft workings at 45.7 metres from the portal. By the end of 1957 this adit was 170.6 metres long but little ore was encountered. In January 1958 work on both No. 10 and No. 11 adits was suspended and there has not been any record of work on the property since.

Production from the Cinderella mine between 1904 and 1936 yielded 574,317 grams of silver, 149,814 kilograms of lead and 11 kilograms of zinc from 226 tonnes mined.

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EMPR AR 1899-843; 1904-182,201; 1905-161; 1912-149; 1913-420;
1914-510; 1920-125; 1923-222; *1924-196; 1925-244; 1927-270;
1933-206; 1936-E53; 1952-176; 1957-53
EMPR BC METAL MM01144
EMPR BULL *29, p. 74
EMPR INDEX 3-192
EMPR P 1989-5
EMR MP CORPFILE (Violamac Mines (B.C.) Ltd.)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 12; *184, p. 30; 308, p. 127
GSC OF 288; 464

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/15

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

claims (Lots 1918, 1919 and 1920, respectively).

Sandon Mining & Milling Company, Limited Liability held the property from about 1898. Underground work in 4 adits totalled about 460 metres. The company charter was surrendered in 1912 and the claims eventually reverted to the Crown for taxes.

The Altoona claim was re-Crown-granted to A.J. Murphy, of Sandon, in 1926. Altoona Mines, Limited was incorporated in August 1929 to acquire the Altoona and Bowknot Crown-grants and the Commander located claim. Work during 1930 included trenching and a short crosscut driven from No. 1 adit; the claims were subsequently abandoned.

The claims were acquired by E. Doney in 1949 and optioned the following year to Kootenay Belle Gold Mines, Limited, operator of several properties in the Sandon area. Ore from stopes in No. 1 and 2 adits was shipped to the Whitewater mill during 1950-51.

During 1965-66 Sven Hallgren and associates carried out mining in No. 1 adit under the name Hallmac Mining Syndicate. The Altoona and Bowknot claims were optioned from E. Doney by A. Hewitson in November 1968 and assigned to Hallmac Mines Limited in January 1969. In addition the company acquired the Tawanada Crown-grant, the Hall 1-3 located claims, and the adjoining Majestic property (082FNW017). Intermittent work to 1980 included geological mapping, crosscutting on No. 2 level, diamond drilling, and a geochemical soil survey. In 1981-83 development and mining operations were carried out in two adits vertically apart on a new showing discovered in 1980. A third adit was begun in 1983 on a newly discovered adjacent structure. Operations were suspended in 1984 due to the low silver price. The company name (Hallmac) was changed in February 1986 to Royal Oak Resources Ltd. The mineral inventory at closure in 1984, including stockpiled high-grade and mill feed and ore in place is estimated to contain 7,651,500 grams of silver, 726 tonnes of lead and 193 tonnes of zinc (Royal Oak Resources Ltd. June 30, 1986 Annual Report).

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Hallmac mine area is underlain by a sequence of siltstone, argillite, carbonaceous graphitic and pyritic slate, phyllite and quartzite of the Slocan Group. The sedimentary rocks have been intruded by porphyritic and aplitic dikes and sills apparently related to the emplacement of the Nelson intrusions.

The sedimentary rocks strike 310 to 320 degrees and dip steeply east and west. Within individual beds, crenulations related to soft sediment deformation are evident. A penetrative axial plane cleavage occurs subparallel to the bedding. This is best developed in the more phyllitic units. A more pronounced fracture cleavage, generally normal to bedding, is characteristic of the slates.

Sedimentary rocks and dikes are cut by fractures, joints and faults along several diverse directions. Two fault orientations, one striking 070 degrees and dipping 58 degrees southeast, and the second striking 068 degrees and dipping 39 degrees southeast, appear to be favourable for economic mineralization.

Very low rank regional metamorphism has converted former shales and mudstones to slates and phyllites. Minor biotite occurs along narrow (25 millimetre) "bake" zones adjacent to intrusive contacts.

Argentiferous galena with variable amounts of sphalerite and minor tetrahedrite and arsenopyrite occurs in a siderite-quartz-calcite gangue in brecciated vein structures crosscutting argillite-slate-quartzite host strata. The silver-bearing galena varies from coarse, massive aggregates to fine, foliated or lined "steel" galena. Similarly, sphalerite in the zinc-rich veins varies from clusters of coarse subhedral brown crystals to very fine, dark brown to nearly black (iron-rich) massive aggregates.

The brecciated fault controlled vein structures strike in a general 070 to 085 degree direction and dip from 50 to 65 degrees

CAPSULE GEOLOGY

southeast. Pinching and swelling is common and vein structures can vary in width from 0.25 to over 2 metres. Average mining width is about 1 metre. Galena can occur in aggregates, pods, lenses and sinuous bands along the footwall, hangingwall and within the fissure structures. This, together with the friable nature of the oxidized breccia host, has made control difficult. Extensive timbering and rock-bolting was required for ground stabilization in stoping areas (Assessment Report 18551).

Work done to date suggests there is a vertical transition from galena to sphalerite between the 1735 and 1690 levels. Silver grades appear to decrease somewhat in the high zinc zone.

Extensive surface oxidation has penetrated the vein structure and oxide contamination is prevalent throughout the galena-bearing lodes. However, mineralization intersected in the 1988 underground program comprises clean, unoxidized sulphides indicating the limit of surface oxide contamination has been passed in this area of the mine.

Just above the 1735-metre elevation west of section 83740E (mine grid), the main Hallmac zone bifurcates downward into two separate vein lodes termed the Footwall (FW) and Hangingwall (HW) zones, respectively. Exploration to date suggests that the HW zone pinches out at about the 1725-metre elevation east of 83740E; this is conjectural, however, due to lack of drilling data. Though apparently locally offset by sinistral north-northeast striking faults, the main FW zone of the Hallmac system is more or less continuous on strike for at least 250 metres (Assessment Report 18551).

In late 1984, a 1-metre wide section of zinc-silver mineralization was exposed in a crosscut which crossed the FW zone at the east end of the 1690 level. This discovery suggested that the limits of the effects of surface oxidation had been reached (on the 1690 level at least) and that uncontaminated commercial ore might be intersected east to the crosscut exposure (Assessment Report 18551).

Based on a diamond drilling and underground exploration program in 1988, the mineral inventory (indicated/probable/possible reserves) of the Hallmac mine was 11,398 tonnes of ore grading 778.1 grams per tonne silver, 7.75 per cent lead and 2.84 per cent zinc (Assessment Report 18551).

Past production from the Hallmac between 1951 and 1990 yielded about 7754 kilograms of silver, 874,298 kilograms of lead, 172,704 kilograms of zinc, 382 kilograms of cadmium and 703 grams of gold from a minimum of 8041 tonnes mined.

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EMPR ASS RPT *18551
EMPR BC METAL MM01108; MM01217
EMPR BULL 1, pp. 47,48; *29, p. 67
EMPR EXPL 1978-E62
EMPR GEM 1970-454; 1974-76; 1978-E62
EMPR INDEX 3-187
EMPR IR 1984-2, p. 102; 1984-3, p. 108; 1984-4, p. 121; 1984-5, p. 115; 1986-1, p. 111
EMPR MEIP 1978/1979 Locksmith, L.B. and Stacey, N.W. (1980): Soil Geochemistry and Diamond Drilling at Altoona Mine
EMPR MIN STATS 1990, pp. 31,34
EMPR MINING 1975-1980, Vol. 1, pp. 32,74
EMPR OF 1998-10
EMPR P 1986-1, pp. 289-301; 1989-5
EMPR PF (Goldsmith, L.B. and Stacey, N.W. (1980): Soil Geochemistry and Diamond Drilling at Altoona Mine; *Salazar, G. (1983): Geological Report on the Hallmac Mines Ltd. Property; Mill, G.L. (1970, 1972): Report on the Altoona Mine; Rpts. by Mills, G.L. (1970, 1972): in Hallmac Mines Ltd. Prospectus (1972); Starr, C.C. (1928): Report of Preliminary Examination of the Altona Group, 4 p.; Starr, C.C. (1951): Golden Slipper Mines Ltd. properties, 4 p; Golden Slipper Mines Ltd. (1951): Plan Showing Holdings, in 082FNW General)
EMR MIN BULL MR 223 B.C. 38
EMR MP CORPFILE (Altoona Mines, Limited; Kootenay Belle Gold Mines, Limited; Hallmac Mines Limited)
GSC BULL 161
GSC MAP 273A; 1090A; 1091A; 3-1956
GSC MEM 173; 184, pp. 4,5; 308, p. 191
GSC OF 481; 1195
GCNL #185, 1980; #131, 1981; #79,#157, 1982; #85, 1984; #85, 1985; #143, 1986
N MINER Jan.22, Oct.8, Dec.10, 1981; May 13, Aug.19, Sept.2, Dec.9,30, 1982; Apr.14, 1983; Jan.6, July 28, 1986

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 264
REPORT: RGEN0100

BIBLIOGRAPHY

Royal Oak Resources 1986 Annual Report

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/19

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

The Mercury occurrence consists of two subparallel fissure veins striking 035 degrees and dipping 55 degrees southeast. The veins vary in thickness from a few millimetres to 1.5 metres. The main vein is exposed in the No. 1 adit near the boundary between the Mercury and Redress Fraction No. 2 claims. The vein has been developed on both properties from the same adit. It consists of tetrahedrite, galena, sphalerite, pyrite and chalcopyrite in a gangue of quartz and siderite. Gypsum occurs with limonite in the weathered surface exposures. A second vein is exposed 25 metres north of the No. 1 adit. This vein has been explored with the No. 2 adit on the Mercury Reverted Crown grant and the Mercury No. 3 adit on the Redress Fraction No. 2 property to the northeast.

Production from the Mercury and Redress Fraction No. 2 properties yielded about 1056 kilograms of silver, 70,966 kilograms of lead and 1635 kilograms of zinc from 201 tonnes mined between 1901 and 1980. Although most of the production came from the No. 1 adit on the Mercury property, 4 tonnes were mined from the Mercury No. 3 adit on the Redress Fraction No. 2 property in 1921 to produce 29,548 grams of silver and 2182 kilograms of lead.

Golden Slipper Mines Ltd. held the property in the early 1950s. Yukon Minerals Corporation investigated the property in 1986.

BIBLIOGRAPHY

- EMPR AR 1902-148,301; 1903-136; 1904-202,297; 1905-161; 1906-249;
1915-445; 1919-154; 1921-138; 1929-307; 1937-A37,E55; 1955-50;
1967-252; 1968-252
EMPR ASS RPT *15628
EMPR BC METAL MM01300; MM01303; MM01369
EMPR BULL 29
EMPR EXPL 1987-C57
EMPR GEM 1970-454
EMPR INDEX 3-205,210
EMPR IR 1984-2, p. 102
EMPR MINING 1975-1980, Vol. 1, pp. 32,74
EMPR P 1989-5
EMPR PF (Starr, C.C. (1928): Report of Preliminary Examination of
the Silver Bill Group, 4 p.; Starr, C.C. (1951): Golden Slipper
Mines Ltd. properties, 4 p.; Golden Slipper Mines Ltd. (1951):
Plan Showing Holdings, in 082FNW General)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 13; *184, pp. 81,112; 309, pp. 133,146
GSC OF 288; 464

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/05

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW017**

NATIONAL MINERAL INVENTORY: 082F14 Pb7

NAME(S): **MAJESTIC (L.1405)**, UNEXPECTED (L.2231)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 59 44 N
LONGITUDE: 117 13 49 W
ELEVATION: 1645 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of No. 3 adit.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5538162
EASTING: 483495

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Sheared
DIMENSION: 18 Metres STRIKE/DIP: 075/50S TREND/PLUNGE:
COMMENTS: The vein was stoped for about 18 metres updip where it was about one metre wide. The length of the stope is not known.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	Nelson Intrusions
Middle Jurassic			

LITHOLOGY: Argillite
Slaty Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Majestic occurrence is situated on the north slope of Carpenter Creek at 1645 metres elevation above sea level, in the Slocan Mining Division. The property includes underground workings on the Majestic and Unexpected Crown grants (Lots 1405 and 2231 respectively).

The claims were Crown-granted to F.H. Bourne and C. French in 1899. Lessees work the property during the 1904-07 period and again in 1910. The owners did some work in 1912 and 1916. Small shipments of ore were reported in most of the above years and again in 1922. Development work to date included 3 adits, the lowest (No. 3) consisting of about 180 metres of drifting. The vein above No. 3 was locally stoped through No. 2 and No. 1 levels to the surface. In 1929 H.A. Turner optioned the property from Bourne and French for Coast interests. The No. 4 adit was begun and driven to 76 metres at last report.

Hallmac Mines Limited, owner of the adjacent Altoona property (082FNW015) acquired a 3 year lease on the Majestic and Unexpected from A.R. Bourne in 1980. The company name (Hallmac) was changed in February 1986 to Royal Oak Resources Ltd.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six

CAPSULE GEOLOGY

texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The property is underlain by massive to slaty argillite of the Slocan Group. The sedimentary rocks generally strike 115 degrees and dip 35 degrees northeast. The occurrence consists of a fissure vein striking 055 to 075 degrees and dipping 50 degrees southeast. The vein varies from a few centimetres up to a metre in width. An ore shoot was stoped between the No. 1 and No. 3 adits for an updip distance of 18 metres. The ore consisted of massive galena with pyrite and minor sphalerite in a quartz matrix. A total of 300 metres of drifting has been carried out on this fissure vein from at least three separate adits.

A second subparallel vein is exposed some 150 metres northwest and 15 metres below the portal of the No. 3 adit. This vein strikes 075 degrees, dips 62 degrees southeast and includes 10 to 15 centimetres of oxidized vein material carrying little sulphide mineralization.

Production from the Majestic occurrence between 1904 and 1922 yielded 452,425 grams of silver and 148,838 kilograms of lead from 221 tonnes mined.

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1910-244; 1912-322; 1916-516; 1921-138; 1922-202; *1929-307
EMPR BC METAL MM01289
EMPR BULL 29
EMPR INDEX 3-204
EMPR P 1989-5
EMR MP CORPFILE (Hallmac Mines Limited)
GSC MAP 273A; 1091A
GSC MEM 173, p. 13; *184, p. 75; 308, p. 128
N MINER Dec.22, 1983; Sept.6, 1984

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW018**

NATIONAL MINERAL INVENTORY: 082F14 Ag17

NAME(S): **SAPPHIRE (L.1857)**, MINNEAPOLIS (L.578), GEM (L.1858)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E 082K03E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 59 59 N
LONGITUDE: 117 13 16 W
ELEVATION: 1980 Metres

NORTHING: 5538623
EASTING: 484154

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits in southern part of Lot 1857.

COMMODITIES: Lead Silver

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
Calcareous Quartzite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Sapphire occurrence is situated on the northwest face of Mount Payne at 1980 metres elevation above sea level, in the Slocan Mining Division. The property includes underground workings on the Sapphire, Minneapolis and Gem Crown grants (Lots 1857, 578 and 1858, respectively).

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The property is underlain by quartzite, calcareous quartzite and limestone of the Slocan Group. The sedimentary rocks generally strike 130 degrees and dip 55 degrees southwest. The occurrence consists of a fissure vein striking 050 degrees and dipping steeply southeast. The vein varies from a few centimetres up to 20 centimetres in width and carries argentiferous galena and quartz. The vein is exposed on the southwest portion of the Sapphire Crown grant and on the northeast slope on the Gem Crown grant. It has been explored with several short adits, raises and shafts. A similar, narrow, subparallel fissure vein is exposed about 200 metres southeast on the Minneapolis Crown grant. This vein has been exposed in three short adits, but there is no recorded production.

RUN DATE: 25-Jun-2003
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CAPSULE GEOLOGY

Production from the Sapphire vein yielded 41,087 grams of silver and 9116 kilograms of lead from 15 tonnes mined in 1899.

BIBLIOGRAPHY

EMPR AR 1897-572; 1898-1190; 1899-688; 1924-196
EMPR BC METAL MM01383
EMPR BULL 29
EMPR INDEX 3-212
EMPR OF 1998-10
EMPR P 1989-5
GSC MAP 273A; 1091A; 1091A
GSC MEM 173, p. 14; *184, p. 122; 308, p. 128
GSC OF 288; 464
GCNL #40, 1984

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/05

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REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW019**

NATIONAL MINERAL INVENTORY: 082F14 Ag25

NAME(S): **AJAX (L.585)**, CROWN POINT (L.586), RANDOM SHOT (L.1726),
TREASURE VAULT (L.587), EAST, WEST

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 59 35 N
LONGITUDE: 117 12 24 W
ELEVATION: 1935 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adits.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5537879
EASTING: 485187

COMMODITIES: Silver Lead Copper Gold

MINERALS

SIGNIFICANT: Galena Tetrahedrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
Argillaceous Quartzite
Slate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Ajax occurrence is situated on Crown grant Lot 585, on the north side of Carpenter Creek east of Mount Payne. The property consists of the Ajax Crown grant and the Crown Point and Random Shot Reverted Crown grants (Lots 586 and 1726, respectively).

The claims were worked in the early 1890's until the close of that decade. Since 1900 the property has lain idle and the workings inaccessible. During the first few years the property was controlled by Matthews and Braden, representing the Ontario Gold Fields Mining and Development Company of Toronto.

In 1898 the claims were acquired by The Ajax Mining and Development Company, Limited; they were struck off the Companies Register in 1942.

Most production has come from the "West vein" of the West lode. This vein has been explored by 4 adits which, together with stopes extending for 24.3 metres above the highest adit, give a vertical depth of about 152 metres. The "Main vein" of the West lode was explored by an adit 38.4 metres feet vertically lower than the lowest adit on the "West vein". This adit is a crosscut for about 70 metres to where it meets a strongly sheared zone striking 030, for about 46 metres southwest and 137 metres northeast. On a possible continuation of this lode on the Crown Point claim, an adit 7.6 metres lower than the lowest on the West vein has been driven 20 metres along the lode to its termination in a broad slate belt and another adit, 30.4 metres below was also driven. Work on the East lode comprises 3 short adits aggregating about 122 metres of crosscut and drift.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been

CAPSULE GEOLOGY

regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Ajax occurrence is hosted by quartzite and argillaceous quartzite of the Slocan Group. The sedimentary sequence generally strikes 120 degrees and dips 58 degrees southwest. For the most part, the sedimentary rocks are well bedded and banded. South of the Ajax Crown grant, the quartzite and argillite that host the occurrence are overlain by black slate.

Two veins have been exploited on the Ajax property, an East and West vein. Most of the production came from the West vein which has been explored with at least four adits. The West vein strikes 020 degrees, dips 70 degrees southeast and parallels a prominent set of joint planes in the host rock. It consists mainly of crushed wallrock and small veinlets of galena with tetrahedrite.

The East vein is similar and parallel to the West vein. It is a millimetre to a few centimetres wide fracture that locally carries galena and tetrahedrite. The vein has been explored with at least three short adits.

Production from the Ajax property in 1899 and 1900 yielded 81,303 grams of silver and 10,456 kilograms of lead from 27 tonnes mined. Production from the Treasure Vault in 1898 and 1899 yielded 31 grams of gold, 239,928 grams of silver and 42,490 kilograms of lead from 135 tonnes.

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- EMPR AR 1895-579,676; 1896-58; 1898-1074,1159; 1899-599,687; 1900-829; 1901-1026,1222,1227; 1906-249; *1911-144
EMPR ASS RPT 13405
EMPR BC METAL MM01100; MM01441
EMPR BULL 29
EMPR INDEX 3-187,216
EMPR P 1989-5
EMPR PF (Starr, C.C. (1925): Abstract of Report on the American Boy - Noble Five - Silver Chord - Ajax Mines, 5 p., in 082FNW181)
GSC MAP 273A; 1090A; 1091A
GSC MEM 173; *184, pp. 1-3; 308, p. 129

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW020**

NATIONAL MINERAL INVENTORY: 082F14 Ag27

NAME(S): **LAST CHANCE (L.717)**, AMERICAN BOY (L.571), CHICAGO (L.622)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 46 N
LONGITUDE: 117 12 05 W
ELEVATION: 2165 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5538218
EASTING: 485566

LOCATION ACCURACY: Within 500M

COMMENTS: Location of underground workings. Same vein system as American Boy (082FNW181). The workings are connected to Noble Five (082FNW037).

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite Tetrahedrite Pyrargyrite

ASSOCIATED: Quartz Siderite

MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Bladed

MODIFIER: Sheared

DIMENSION: 825 x 400 Metres STRIKE/DIP: 060/65S

TREND/PLUNGE:

COMMENTS: The vein strikes 060 degrees on the Last Chance and 045 degrees on the American Boy claim. The massive sulphide portion of the fissure vein is usually less than 10 centimetres wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
Argillaceous Quartzite
Calcareous Argillite
Quartz Porphyritic Dike
Quartz Porphyry
Slate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Last Chance occurrence is situated on Crown grant Lot 717 at 2165 metres elevation above sea level, in the Slocan Mining Division. The property is on the north side of Carpenter Creek northeast of Mount Payne.

The Last Chance and American Boy (082FNW081) adjoin and the mine workings are on the same lode system. The principal claims making up the properties were located in 1891 and were among the first to be staked in Slocan.

Development commenced on both properties in the early 1890's and continued at a fairly steady pace until 1908 when activity ceased. Work on the American Boy was carried out by Tom McGuigan and by the American Boy Mining and Milling Company, formed in 1897, later (1918) reorganized and renamed American Boy Mining Company. Work on the Last Chance was carried out by the Last Chance Mining and Milling Company.

In 1920 work recommenced on the Last Chance property and in 1922 on the American Boy. Activity was intermittent and lasted until about 1927. From that time until 1953 nothing was done on either property. In 1951 Cody-Reco Mines Limited bought up several properties in the Slocan area including the American Boy and Last Chance. A new road system was put in connecting the workings with a new mill built at Cody in 1952.

Workings on the main vein lode comprise 11 adits and several intermediate levels aggregating about 4.8 kilometres of drift and crosscut. These workings are connected by raises and explore the

CAPSULE GEOLOGY

lode over a vertical depth of about 350 or 396 metres measured down dip. Most of the work was done on the main lode and only short crosscuts were required in any distance. Certain workings are continuous on the 2 properties and have developed the main lode a length of 823 metres.

In 1953 No. 9 adit of the American Boy was reopened and some drifting done. In 1954 about 106.6 metres of drifting to get around a cave on No. 9 adit level and raises were rehabilitated down to No. 10 and No. 11 levels. In 1960 Cody-Reco Mines Limited was reorganized and its name changed to Vespar Mines Limited.

Reco Silver Mines Limited in October 1968 acquired a lease, renewable every 4 years, on 21 claims in the Last Chance and Noble Five (082NW037) groups. Vespar amalgamated with Lakehead Mines Limited in January 1979 under the name Parlake Resources Limited. In May 1980 Reco Silver Mines changed its name to Silvex Resources Corporation.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slokan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slokan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slokan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Last Chance occurrence is hosted by quartzite, argillaceous quartzite and calcareous argillite of the Slokan Group intruded by various dikes of quartz porphyry probably related to the Nelson intrusions. The sedimentary sequence generally strikes 120 degrees and dips 58 degrees southwest. For the most part, the sedimentary rocks are well bedded and banded. The quartz porphyritic dikes, in general, tend to follow the strike of the sedimentary rocks, and are 3 to 10 metres thick.

The occurrence consists of two or more fissure veins that cut across the sedimentary and intrusive rocks. The veins strike 045 degrees on the American Boy Crown grant and 060 degrees on the Last Chance Crown grant; dips are 60 to 65 degrees southeast. The veins have been explored for about 825 metres along strike and 400 metres down dip on both the American Boy and Last Chance Crown grants. The veins pinch-out to the southwest on the Chicago Crown grant where they cut fissile slate of the Slokan Group. The strike and dip of each fissure varies from point to point so that fissures meet and separate at irregular intervals developing a braided structure varying from a few millimetres to over 6 metres in width. The fissures are mostly filled with crushed wallrock. Argentiferous galena, sphalerite, pyrite, tetrahedrite and pyrargyrite occur with quartz and siderite concentrated in narrow veinlets near the walls of the fissures. The sulphide material is usually less than 10 centimetres wide except where crossfaults cut the fissure veins and pockets of massive sulphide up to 75 centimetres wide are developed. In general, sphalerite increases with depth.

Production from the Last Chance portion of the fissure vein structures between 1895 and 1922 amounts to about 33 tonnes of silver and 3493 tonnes of lead from 8448 tonnes mined.

BIBLIOGRAPHY

- EMPR AR 1896-37,47,49,58,559; 1897-532; 1898-1074,1156,1159;
1899-598,687; 1901-1024,1188; 1902-149; 1903-136; 1904-201;
1905-160; 1906-145,249; 1908-99,247; 1910-99; *1911-143; 1912-149;
1917-161; 1920-125; 1921-138; 1922-199; 1923-224; *1925-243;
1951-170; 1952-174; 1953-138; 1954-140; 1955-61; 1956-94; 1957-53
EMPR BC METAL MM01265
EMPR BULL 29
EMPR INDEX 3-203
EMPR P 1989-5
EMPR PF (See Reco - 082FNW035, Claim location map; Starr, C.C.
(1925): Abstract of Report on the American Boy - Noble Five -
Silver Chord - Ajax Mines, 5 p., in 082FNW181)
EMR MP CORPFILE (American Boy Mining Company; Vespar Mines Limited)
GSC ANN RPT 1897 Part A, pp. 10-30

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
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PAGE: 275
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 273A; 1091A;
GSC MEM 173, p. 13; *184, pp. 5-11; 308, p. 129
CANMET IR 12 (1906), p. 255

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

The Surprise deposit consists of two fissure veins, the Main or Surprise vein and the Little vein. The Main vein strikes 065 degrees and dips 65 degrees southeast. It is a well-defined zone varying from a few centimetres up to 5 metres in width. The zone tends to steepen where it crosses massive quartzite or quartz porphyry dikes. The vein consists mainly of crushed wallrock, quartz and siderite. The ore, which consists of massive galena, is mostly hosted by quartzite and the quartz porphyry dikes. Sphalerite is usually restricted to the edges of the massive galena bodies. Galena contains inclusions of tetrahedrite whereas pyrargyrite is reported to occur in veinlets cutting across both galena and sphalerite. Pyrite and chalcopyrite are common accessory minerals. Where the vein crosses more argillaceous sedimentary rocks, the ore is restricted to narrow bands concentrated along the walls of the fissure which is mostly filled with crushed wallrock. The widest ore shoot, which has been stoped for about 130 metres downdip, appears to be associated with a series of pre-mineral shears that strike between 015 and 020 degrees and dip 50 degrees southwest. The Main vein is believed to be an extension of the Last Chance vein (082FNW020) exposed on Lot 717 about one kilometre southeast.

The Little vein is subparallel to the Main vein and about 30 metres to the northwest. The vein is only a few centimetres wide and consists mostly of sphalerite and quartz. Although the Little vein has been explored with a shaft and several adits, no production figures are available for this vein.

Production from the Surprise occurrence between 1893 and 1929 yielded about 59 tonnes of silver, 5606 tonnes of lead, 3537 tonnes of zinc and 124 grams of gold from 44,475 tonnes mined.

BIBLIOGRAPHY

EMPR AR 1895-676; 1896-37,49,63,560; 1897-534; 1901-1026; 1907-100;
1910-99; *1911-134,143; 1912-149; 1913-126,420; 1914-287,510;
1915-121,445; *1916-197,516; 1917-159; 1919-124; 1920-124;
1921-138; 1923-222; 1924-196; 1925-245; 1926-251; 1927-276;
1928-285; 1929-285
EMPR BC METAL MM01427
EMPR BULL 29
EMPR INDEX 3-215
EMPR P 1989-5
EMPR PF (See Noble Five, 082FNW037 - Longitudinal section of Surprise
and Noble Five mines, 1949)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 15; *184, pp. 146-149; 308, pp. 133,147
GSC SUM RPT 1925 Part A, p. 208

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

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW022**

NATIONAL MINERAL INVENTORY: 082F14 Pb12

NAME(S): **FOURTH OF JULY (L.2052)**, TEXAS (L.4889), TEXAS-COWBOY,
SAN ANTONIO, MINNIE, TORONTO,
GARLAND FR., LUCKY ED

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E 082K03E
BC MAP:
LATITUDE: 49 59 51 N
LONGITUDE: 117 08 14 W
ELEVATION: 1875 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adit portal. See also Texas (082KSW016).

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5538362
EASTING: 490165

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Calcareous Argillite
Shale
Siltstone
Biotite Granodiorite Dike
Biotite Granodiorite

HOSTROCK COMMENTS: Biotite granodiorite dike of Nelson intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Fourth of July occurrence is situated on Crown grant Lot 2052 in the Slocan Mining Division. The property is at 1875 metres elevation above sea level, between Robb and Stenson creeks. The Texas (Lot 4889) (082KSW016) has been intermittently developed in conjunction with the Fourth of July occurrence in the past.

This property comprises the Fourth of July, Texas Cowboy, San Antonio, Minnie, Toronto, Garland Fraction, and Lucky Ed. Crown-granted claims and 4 others held by location.

The Fourth of July claim was one of the first staked in the region and by 1890, 90 metres of tunnelling had been done. In 1898 it was Crown-granted to Columbia Mining Company Limited and an initial shipment of ore made. In 1918 the property was bonded and some 45 tonnes of ore was said to have been mined. In 1926 the workings on both the Texas and Fourth of July groups were examined and sampled by A.G. Langley. Intermittent development work continued on the Texas until 1933.

On the Texas claim the workings consist of a shaft and 3 adits. The shaft was driven southwest in fine-grained granodiorite for 20 metres where it passed into argillite and quartzite and, 6 metres further, into limestone in which it continued to the face 33.5 metres from the portal. From this point a narrow fissure vein has been drifted on 7.6 metres southeast and 50.2 metres northwest. The lower 2 tunnels are caved, but the upper adit is partly open. It starts in limestone in a direction 65 degrees west, but is caved at a raise 30.4 metres from the portal.

In 1959 the property was optioned by Lucky Edd Mines Limited. July Silver Mines Ltd. acquired the property in 1960. Just over three kilometres of road was constructed to complete the road to the Fourth of July and Texas claims. The property can now be reached by 9.6 kilometres of road which leaves the Kaslo-New Denver highway at a

CAPSULE GEOLOGY

point 25.7 kilometres from Kaslo. Operations during 1961 were confined to the Texas vein; No. 2 tunnel was reopened and No. 3 tunnel was extended to pick up the downward extension of the vein from No. 2 tunnel.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

On the Fourth of July property, the sedimentary rocks of the Slocan Group strike northwest and dip steeply southwest. The sedimentary sequence is intruded by a medium grained, biotite granodiorite dike up to 200 metres wide. The occurrence consists of a quartz vein developed within a northwest trending fissure zone which conforms closely to the bedding of the enclosing calcareous argillite. The vein, which consists of white quartz and siderite with bands of pyrite, galena and sphalerite, is less than a metre wide at surface. Ore shoots up to 1.2 metres wide are developed where the vein changes strike slightly and is intersected by crossfaults (Assessment Report 9240). The vein has been explored with a crosscut and some 60 metres of drifting.

Limited production from the occurrence in 1898, 1937 and 1979 yielded 16,174 grams of silver, 2446 kilograms of lead and 503 kilograms of zinc.

BIBLIOGRAPHY

- EMPR AR 1890-367; 1892-532; 1893-1056; 1898-1189; 1918-159; *1926-264; 1933-209,210; 1937-A37,E51; 1948-142; 1958-45; 1959-67; 1960-75; 1961-76; 1979-130
- EMPR ASS RPT *9240
- EMPR BC METAL MM01197
- EMPR BULL 29
- EMPR GEM 1969-331; 1970-455
- EMPR INDEX 3-196
- EMPR LMP Fiche No. 60600
- EMPR P 1989-5
- GSC MAP 1667; 273A; 1090A; 1091A
- GSC MEM 173; 184, p. 218; *308, p. 122
- GSC SUM RPT 1916, pp. 56,57

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/10

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW023**

NATIONAL MINERAL INVENTORY: 082F14 Pb20

NAME(S): **BOADICEA**, BOADICEA (L.1961)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 59 50 N
LONGITUDE: 117 07 46 W
ELEVATION: 1735 Metres

NORTHING: 5538330
EASTING: 490723

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits on northeast claim boundary.

COMMODITIES: Lead Silver Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Quartz Siderite

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Limestone
Andalusite Schist
Slate
Biotite Granodiorite Dike
Biotite Granodiorite
Breccia

HOSTROCK COMMENTS: Biotite granodiorite dike related to Nelson intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Boadicea occurrence is situated on forfeited Crown grant Lot 1961 in the Slocan Mining Division. The property is at 1735 metres elevation above sea level near the headwaters of Robb Creek.

This claim was Crown-granted in 1911. Three adits were driven in a southerly direction near the northeasterly claim line, in a direction parallel with, and within a few metres of the northern edge of the body of granodiorite. The uppermost and lowermost are about 76 metres apart vertically and over 91 metres horizontally. The lowermost adit is about 91 metres long, but the length of the other two is not known. A fourth adit is located about 114 metres west of, and nearly 122 metres below the lowest of the 3 adits referred to. This adit is not accessible, but has been driven under an outcrop oxidized vein matter about 3 metres wide. The relationship of this lode to the easterly lode is not known, but they are probably different lodes.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson

CAPSULE GEOLOGY

intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

On the Boadicea property, the sedimentary rocks of the Slocan Group strike northwest and dip steeply southwest. The sedimentary sequence is intruded by a lenticular, medium grained, biotite granodiorite dike up to 200 metres wide. The dike underlies most of the central part of the Crown grant and the Slocan Group rocks are only exposed near the northern and southern contacts of the dike. The occurrence consists of a breccia zone within a band of limestone, slate and andalusite schist developed near the northern contact of the granodiorite dike. The breccia zone strikes 120 degrees, dips 85 degrees southwest and follows the contact between limestone and andalusite schist. It is 60 to 90 centimetres wide and contains coarse-grained galena, pyrite and minor sphalerite in discontinuous streaks 5 to 10 centimetres wide and disseminated in a gangue of quartz and siderite. The zone has been developed with at least four adits totalling 115 metres.

Limited production in 1937 yielded 12,472 grams of silver and 2407 kilograms of lead from 8 tonnes.

BIBLIOGRAPHY

EMPR AR 1898-1188; 1911-290; *1926-265; 1933-210; 1937-A38,E50
EMPR BC METAL MM01135
EMPR BULL 29
EMPR INDEX 3-190
EMPR P 1989-5
GSC MAP 273A; 1090A; 1091A
GSC MEM 173; *184, p. 198; 308, p. 130

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW024**

NATIONAL MINERAL INVENTORY:

NAME(S): **CARBENET NO. 2 (L.6811)**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E 082K03E
BC MAP:
LATITUDE: 49 59 58 N
LONGITUDE: 117 07 34 W
ELEVATION: 1675 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Crown grant Lot 6811.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5538577
EASTING: 490962

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena
COMMENTS: Other unknown sulphides are also present.
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Biotite Granodiorite Dike
Biotite Granodiorite
Shale
Argillite
Siltstone
Quartzite
Limestone

HOSTROCK COMMENTS: Biotite granodiorite dike of Nelson intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Carbenet No. 2 occurrence is situated on Crown grant Lot 6811 in the Slocan Mining Division. The property is at 1675 metres elevation above sea level near the headwaters of Robb Creek. Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies. South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5). On the Carbenet No. 2 property, the sedimentary rocks of the Slocan Group strike northwest and dip steeply southwest. The sedimentary sequence is intruded by a lenticular, medium grained, biotite granodiorite dike up to 200 metres wide. The dike underlies most of the northern part of the Crown grant; the sedimentary-igneous contact strikes southeast. A 15-centimetre wide shear is developed within the granodiorite near the sedimentary contact. The shear, which strikes 060 degrees

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CAPSULE GEOLOGY

and dips 50 degrees southeast, has been explored with two short adits. Within the shear the granodiorite is crushed and partly cemented by quartz and galena. Other unknown sulphides are also present (Geological Survey of Canada Memoir 184).

BIBLIOGRAPHY

EMPR AR 1917-452; 1933-210
EMPR BULL 29
EMPR P 1989-5
GSC MAP 273A; 1090A; 1091A
GSC MEM 173; *184, pp. 200,250; 308

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/15

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW025**

NATIONAL MINERAL INVENTORY: 082F14 Pb26

NAME(S): **LUCKY BOY (L.632)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 59 39 N
LONGITUDE: 117 09 16 W
ELEVATION: 2195 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adits.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5537994
EASTING: 488930

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Lucky Boy (Lot 632) is situated on the south slope of Goat Mtn. which is at the head of Jackson (Stenson) Creek, a tributary of Kaslo Creek. It is accessible by road and trail up Jackson Creek from Retallack station.

Work on the claim was begun in 1893 and continued intermittently up to 1910. Thereafter the property lay idle for many years and the workings, including two, perhaps more, adits, became inaccessible. In 1946 the claim was acquired by L. Garland of Retallack and he in turn sold it to Silverite Mines Ltd. later in the year. There is no record of this company having done any work on the property. Leasers did some work on the claim in 1949, however the extent of the underground workings at this time are not known.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The occurrence consists of a quartz vein within well-banded argillite and limestone of the Slocan Group. The vein changes strike from 070 to 030 degrees and back to 070 degrees. Argentiferous galena, sphalerite and oxidized pyrite are developed in the vein where it strikes 030 degrees and follows a series of closely-spaced joints

CAPSULE GEOLOGY

and fractures.

The property has been explored with at least two adits and 18 tonnes of high-grade ore were mined in 1893 but recoveries are unknown. Other small shipments are reported to have been made in 1903 and 1910. Of these one of 1.8 tonnes carried an average of 4285.7 grams per tonne silver and 70 per cent lead (GSC Memoir 184, page 230).

A total of 11,353 grams of silver, 1942 kilograms of lead and 94 kilograms of zinc were recovered from 2 tonnes mined in 1976.

BIBLIOGRAPHY

EMPR AR 1893-1047,1057; 1894-737; 1901-1225; 1946-160; 1948-143;
1949-186; 1968-256; 1976-104
EMPR BC METAL MM01279 (also includes 082KSW042 data, a different
Lucky Boy)
EMPR BULL 29
EMPR MINING 1975-1980, p. 60
EMPR P 1989-5
GSC MAP 273A; 1667; 1090A; 1091A
GSC MEM 173; *184, p. 230, Fig.13; 308
GSC SUM RPT 1916, pp. 56,57

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW026**

NATIONAL MINERAL INVENTORY:

NAME(S): **U.S. (L.1055)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 59 24 N
LONGITUDE: 117 09 10 W
ELEVATION: 2125 Metres

NORTHING: 5537530
EASTING: 489049

LOCATION ACCURACY: Within 500M

COMMENTS: Location of underground workings.

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Upper Triassic
Middle Jurassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Siliceous Argillite
Slate
Mafic Dike
Felsic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The U.S. occurrence is located at 2125 metres elevation above sea level on Crown grant Lot 1055, in the Slocan Mining Division.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

On the U.S. Crown grant, the Slocan Group rocks consist of interbedded pyritic slate and argillite. The strata strike north, dip 55 degrees east and are intruded by mafic and felsic dikes. The occurrence consists of three separate brecciated fissure veins that have been exposed in four adits. The main vein is conformable to bedding, 1 to 5 centimetres wide, and consists of bands of pyrite associated with sparsely disseminated sphalerite. The fissure is marked by several centimetres of gouge and crushed siliceous argillite. A second fissure vein, 200 metres northeast of the main vein, strikes northeast and dips 50 degrees southeast. This vein consists mainly of 10 to 20 centimetres of gouge and crushed argillite carrying disseminated pyrite and veinlets of galena and sphalerite along joints and fractures within the argillite. A third vein, 100 metres south of the main vein, strikes 050 degrees and dips southeast.

CAPSULE GEOLOGY

This vein is at the contact between argillite and a mafic dike. It consists of broken quartz mineralized with disseminated pyrite.

Records indicate that 163 tonnes of ore were mined from the property between 1913 and 1914 to produce 8528 kilograms of zinc (Geological Survey of Canada Memoir 173, page 81).

BIBLIOGRAPHY

EMPR AR 1900-988,1055; 1913-124,420; 1914-286,509; 1915-120
EMPR BULL 29
EMPR INDEX 3-216
EMPR P 1989-5
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 81; *184, p. 251, Fig. 13; 308, pp. 184,191

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/21

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

On the Almeda Crown grant, the Slocan Group rocks consist of interbedded slate and fractured argillite. The strata strike north, dip 55 degrees east and are intruded by mafic and felsic dikes. The occurrence consists of at least two separate veins. The main Almeda vein strikes 020 degrees and dips 55 degrees southeast. It underlies and partly cuts across a sill-like quartz porphyritic intrusion and is cut off to the south by a northwest-trending fault. The vein has been explored for 45 metres along strike and 55 metres downdip, in at least five adits and a shallow shaft.

Approximately 60 metres west of the main vein, the Old Original Echo vein strikes southeast and dips 45 degrees southwest. This vein consists of a 10-centimetre wide seam of sphalerite, galena, pyrite and siderite within fractured argillite. The vein has been exposed in at least one 120-metre long adit. A short distance east of the shaft, a series of stopes break through to the surface. These are aligned southeast, dip 45 degrees southwest and may represent the faulted extension of the Old Original vein (Geological Survey of Canada Memoir 184).

Production from the Almeda and Old Original Echo veins in 1903 yielded 52,129 grams of silver and 7815 kilograms of lead from 13 tonnes mined.

BIBLIOGRAPHY

EMPR AR 1898-1083,1188; 1899-843; 1904-199
EMPR BC METAL MM01175
EMPR BULL 29
EMPR INDEX 3-195
EMPR P 1989-5
GSC MAP 273A; 1090A; 1091A; 1667
GSC MEM 173, p. 16; *184, pp. 185,214, Fig.13; 308, p. 130
CANMET IR 12 (1906), p. 182

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/21

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW028**

NATIONAL MINERAL INVENTORY: 082F14 Pb19

NAME(S): **BELL (L.1165)**, SUNSET (L.1164), TRADE DOLLAR (L.1432)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 59 45 N
LONGITUDE: 117 09 54 W
ELEVATION: 1920 Metres

NORTHING: 5538180
EASTING: 488174

LOCATION ACCURACY: Within 500M

COMMENTS: Location of vein at surface. See also Sunset-Trade Dollar (082FNW227).

COMMODITIES: Zinc Silver Lead Gold

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite

ASSOCIATED: Siderite

MINERALIZATION AGE: Unknown

DEPOSIT

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

J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Calcareous Argillite
Carbonaceous Argillite
Quartzite
Porphyritic Dike
Argillite
Slate
Felsic Porphyritic Intrusive

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Bell mine occurrence is located at 1920 metres elevation above sea level on Crown grant Lot 1165, in the Slocan Mining Division. The property has been developed in conjunction with the Sunset-Trade Dollar occurrence (082FNW227).

The principal producing years on the Bell claims were 1916, 1917 and 1918. After 1918 little work was done on any of the claims until the autumn and winter of 1926-27, when lessees shipped over 100 tons from old workings on the Trade Dollar.

Workings on the Bell claim include 3 short adits over a vertical range of 27.4 metres. In 1927 those workings in the vicinity of the productive sections, were mostly inaccessible. Two bodies of nearly pure zinc ore were encountered in the No. 1 adit, but these did not continue far below this level. On No. 2 level a stope 12 metres long extends 4.5 metres above the level. This stoped area contained small lenses and streaks of galena, and in places as much as 0.9 metres of good zinc ore. The same zone continues to No. 3 level, 9 metres below, but at this level mineralization is only narrow streaks of vein matter containing some sphalerite.

On the Bell claim, several hundred tonnes of high-grade zinc ore were recovered from old dumps, and pillar and stope remains in the underground workings during 1943, 1944 and 1945.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been

CAPSULE GEOLOGY

regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Bell Crown grant is underlain by quartzite, calcareous argillite and slate of the Slocan Group. The strata generally strike northwest, dip 43 to 58 degrees southwest and are folded in a northwest-trending syncline. The central portion of the syncline is underlain by quartzite and calcareous argillite which host most of the ore. Beneath the core of the syncline are slate and thinly banded argillite which are cut by numerous felsic porphyritic intrusions. The Bell mine occurrence consists of a vein of nearly pure sphalerite within carbonaceous and calcareous argillite. The main body has an average thickness of 75 centimetres, strikes 110 degrees and dips 65 degrees southwest. It occurs near the lower contact of a porphyritic sill and is cut by numerous faults and fractures which complicate its geometry. Some north-trending fractures appear to be pre-mineral and the vein is thickest where it intersects these fractures, locally attaining up to 3 metres in width. The ore consists of massive sphalerite brecciated and cemented by yellow siderite and cut by veinlets of pyrite with minor galena. The vein has been exploited in three separate adits.

Production from the Bell mine between 1916 and 1944 yielded 158,408 grams of silver, 248 grams of gold, 761,892 kilograms of zinc and 14,594 kilograms of lead from 2189 tonnes mined. A small amount of ore was recovered from the Sunset-Trade Dollar occurrence between 1916 and 1918 and is included with the Bell mine production.

BIBLIOGRAPHY

EMPR AR 1896-64; 1900-981; 1904-199; 1905-159; 1915-120; 1916-196,516;
1917-25,156,186,448; 1918-160; 1928-301; 1940-26; 1941-27,63;
1942-73; 1943-71; 1944-34,70; 1945-103; 1946-153; 1955-60; 1967-254
EMPR BC METAL MM01423
EMPR BULL 29, p. 12
EMPR INDEX 3-189,215,216
EMPR LMP Fiche No. 60093
EMPR P 1989-5
EMPR PF (Geology Report Bell Group, 1967)
GSC MAP 273A; 1091A; 1667
GSC MEM 173; *184, pp. 141,144, Fig.13; 308, p. 130
CANMET IR 12 (1906), p. 181

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/22

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW029**

NATIONAL MINERAL INVENTORY: 082F13 Sb1

NAME(S): **CAROLINE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F13E
BC MAP:

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 48 06 N
LONGITUDE: 117 35 04 W
ELEVATION: 173 Metres

NORTHING: 5516743
EASTING: 457943

LOCATION ACCURACY: Within 1 KM

COMMENTS: The Caroline property is located on the south side of Gwillim Creek, 9 kilometres northwest of the town of Slocan. An old upgraded wagon road connects the property to the town.

COMMODITIES: Antimony Gold

MINERALS

SIGNIFICANT: Stibnite Gold
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: 109 Stibnite veins and disseminations

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Unknown			Valhalla Complex

LITHOLOGY: Granitic Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Caroline property consisted of 9 claims and is located on the south side of Gwillim Creek, 9 kilometres northwest of the town of Slocan. An old upgraded wagon road connects the property to the town.

In 1948, Antimony Mines & Metals (Slocan), Limited, purchased the group from J.N. Russell. This company traced the vein for about 762 metres and did some sampling which showed good stibnite values, as well as traces of gold and other metals. It was planned to drive an adit into the vein, but the following year three holes were drilled on the vein exposures revealed no antimony. This company surrendered its charter in 1951.

The showing consists of a quartz vein in the bed of a northerly flowing tributary of Gwillim Creek. The country rock is a granite gneiss. The hillside is quite steep, and the vein is exposed along the creek bed for a vertical height of about 460 metres. The vein ranges in width from 0.6 to 1.5 metres and appears to be nearly vertical. Two lenses of stibnite, up to 7.6 centimetres in width, occur in the vein.

BIBLIOGRAPHY

EMPR AR 1948-148, 1949-191

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

(Paper 1989-5).

The Green Horn and Home Rule Reverted Crown grants are underlain by quartzite, calcareous argillite and slate of the Slocan Group. The strata are folded in a northwest-trending syncline with limbs dipping at low angles to the north and south. The occurrence consists of two or more well-defined fissure veins striking 080 degrees and dipping steeply to the south. The main vein is 25 centimetres wide and consists mostly of fragments of galena enclosed in quartz which cements blocks of wallrock. Small pockets of more massive galena also occur along the vein. Siderite, pyrite and chalcopyrite occur in minor amounts with the galena. The vein has been explored in at least two adits on the Home Rule claim and several trenches on the Green Horn property.

Production in 1915 and again in 1965 yielded 10,544 grams of silver, 31 grams of gold, 2329 kilograms of lead and 1076 kilograms of zinc from a total of 14 tonnes mined.

BIBLIOGRAPHY

EMPR AR 1893-1059; 1897-571; 1903-242,2055; 1915-445; 1928-288;
1949-189; 1965-A55,192
EMPR BC METAL MM01215; MM01235
EMPR BULL 29
EMPR INDEX 3-198,200
EMPR P 1989-5
GSC MAP 273A; 1090A
GSC MEM 173, p. 13; *184, p. 49; 308, p. 130

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW031**

NATIONAL MINERAL INVENTORY:

NAME(S): **ORO (L.2434)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 58 45 N
LONGITUDE: 117 10 40 W
ELEVATION: 1448 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adit.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5536330
EASTING: 487254

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Quartz Porphyritic Dike
Quartz Porphyry

HOSTROCK COMMENTS: Quartz porphyritic dike is probably related to the Nelson intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Oro occurrence is located on Crown grant Lot 2434 at 1448 metres elevation above sea level, in the Slocan Mining Division. The claim is on the north side of Carpenter Creek, just east of Cody Creek.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Oro property is underlain by argillite of the Slocan Group and a large quartz porphyritic dike probably related to the Nelson intrusions. An adit has been driven on a northwest-trending shear that dips 55 degrees southwest. The shear varies from a few centimetres up to 0.6 metre in width. It is filled with crushed rock, gouge and quartz which is sparingly mineralized with sulphide minerals (probably galena and sphalerite).

In 1927, seven tonnes of ore were mined from the adit to produce 7278 grams of silver, 527 kilograms of lead and 113 kilograms of zinc.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 296
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1900-987; 1927-275
EMPR BC METAL MM01349
EMPR BULL 29
EMPR INDEX 3-208
EMPR P 1989-5
GSC MAP 273A; 1091A
GSC MEM 173, p. 14; *184, p. 98; 308, p. 147

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW032**

NATIONAL MINERAL INVENTORY: 082F14 Ag28

NAME(S): **CHAMBERS (L.1752)**, WELLINGTON (L.1755), EUREKA (L.1753),
JAY GOULD (L.1754), RECO, LADY JANE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 58 51 N
LONGITUDE: 117 11 10 W
ELEVATION: 1555 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of underground workings. See also Shady Fr. (082FNW200).

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5536516
EASTING: 486657

COMMODITIES: Silver Zinc Lead Gold Cadmium

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Slaty Argillite
Quartz Porphyritic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Chambers occurrence is located on Crown grant Lot 1752 at 1555 metres elevation above sea level, in the Slocan Mining Division. The claim is on the north side of Carpenter Creek, just east of Cody Creek. The property consisted of the Chambers (Lot 1752), Wellington (Lot 1755), Eureka and Jay Gould Crown (Lot 1754) grants located in 1891.

The workings include 5 adits at elevations that range from 1280 to 1560 metres. In 1951, a small crew of men reopened the workings; the property was owned at that time by J.M. Harris.

Reco Silver Mines Limited, incorporated June 1964, optioned the Chambers (Lot 1752) and adjacent claims from Mrs. Harris. Geochemical surveys were carried out in 1965 and 1968. The Chambers 4785 level adit, which had been driven about 37 metres in the 1890's, was advanced 46 metres in 1969; diamond drilling totalling 150 metres was done at that time. Rayrock Mines Limited obtained a working agreement with Reco Silver in March 1973. Silvex Resources Corporation held the property in 1980 and, in 1981, constructed a raise into a massive zinc horizon. Knie Resources Inc. optioned the property from Silvex Resources in 1983 and produced in 1984.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar

CAPSULE GEOLOGY

porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Chambers property is underlain by massive to slaty argillite of the Slocan Group and several small quartz porphyritic dikes probably related to the Nelson intrusions. At least four adits have been driven on a fissure vein that generally strikes northeast and dips 50 to 80 degrees south. The vein is within a 1.5 to 3 metres wide shear zone which is partly filled with quartz and crushed wallrock. Small ore shoots carrying argentiferous galena with minor sphalerite and pyrite are developed along the vein structure which has been followed for about 340 metres of strike length.

Production from the Chambers vein between 1896 and 1984 yielded 490,392 grams of silver, 236,055 kilograms of zinc, 96,425 kilograms of lead, 1611 kilograms of cadmium and 155 grams of gold from 2321 tonnes mined.

BIBLIOGRAPHY

- EMPR AR 1892-531; 1893-1047,1058; 1895-677,679; 1896-51,59; 1902-297;
*1904-191; 1921-136; *1922-200; 1925-224; 1951-170; 1955-A49,62;
1963-A50; 1964-A56,125; 1965-192; 1968-255
EMPR BC METAL MM00742
EMPR BULL 29
EMPR GEM 1969-329; 1970-453; 1971-408; 1973-81; 1974-75
EMPR INDEX 3-191
EMPR IR 1986-1, p. 111
EMPR P 1989-5
EMPR PF (See *Reco, 082FNW035 - Jefferson, L.M. (1971): The Potential
of Reco Silver Mines Ltd.)
EMR MP CORPFILE (Reco Silver Mines Limited; Rayrock Mines Limited)
GSC MAP 273A; 1091A
GSC MEM 173, p. 12; *184, pp. 30,48,49; 308, p. 130
GCNL #78(Apr.24), #103(June 1), 1981; #120(June 22), 1983; #40
(Feb.27), #103(May 29), #196(Oct.11), #201, 1984
IPDM Nov/Dec 1984
N MINER Mar.21, 1985

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/28

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW033**

NATIONAL MINERAL INVENTORY: 082F14 Ag73

NAME(S): **GREY COPPER (L.580)**, IDAHO NO. 2 (L.1013), PURCELL (L.849),
GOODENOUGH (L.581), EAST, RAWDON (L.855)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 59 15 N
LONGITUDE: 117 11 18 W
ELEVATION: 1830 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of No. 3 portal. See also Blue Bird, (082FNW034) and Reco, (082FNW035).

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5537258
EASTING: 486499

COMMODITIES: Silver Lead Gold Zinc Cadmium

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartz Porphyritic Dike
Argillite
Slate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: NO. 5 REPORT ON: Y
CATEGORY: Possible YEAR: 1991
QUANTITY: 19700 Tonnes
COMMODITY GRADE
Silver 226.3400 Grams per tonne
Lead 0.0600 Per cent
Zinc 41.2100 Per cent
COMMENTS: Reserves between the No. 5 and No. 3 drifts (blocks C to F).
REFERENCE: Tully, D.W. (1991): Geological Evaluation Report on Purcell Property.

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Channel
COMMODITY GRADE
Silver 990.0000 Grams per tonne
Lead 13.3500 Per cent
Zinc 29.2400 Per cent
COMMENTS: Average value for 11 channel samples taken in the No. 3 drift.
REFERENCE: Tully, D.W. (1991): Geological Evaluation Report on Purcell Property.

INVENTORY

ORE ZONE: NO. 3

REPORT ON: Y

CATEGORY:	Possible	YEAR:	1991
QUANTITY:	8145 Tonnes		
COMMODITY		GRADE	
Silver		1131.4300	Grams per tonne
Lead		18.8000	Per cent
Zinc		42.6000	Per cent

COMMENTS: Reserves above and below the No. 3 drift (blocks A and B).
REFERENCE: Tully, D.W. (1991): Geological Evaluation Report on Purcell Property.

CAPSULE GEOLOGY

The Grey Copper property is situated at 1830 metres elevation above sea level on the north slope of Carpenter Creek, on Reverted Crown grant Lot 580, in the Slocan Mining Division.

Development commenced in 1891 on the Grey Copper (Lot 580), Goodenough - Reucau (Lot 581, Lot 624) and Idaho No. 2 (Lot 1013) veins. The Grey Copper claim, staked in 1891, was owned in 1893 by Jack Thompson, Ed. Becker, and C. Rent; the claim was Crown-granted in 1896 to J.A. Whittier. Ore was reported shipped by Mr. Whittier in 1917, and by lessee Joe Miciewicz in 1931-33. The claim was owned in the 1930's by W.V. Papworth, R.S. Lennie, and S.J. Towgood, of Kaslo. The workings to that period comprised 5 adits; the upper four are closely spaced within a vertical range of only 30.4 metres.

Although the Purcell (Lot 849) and the Idaho No. 2 were staked in 1892, there is little record of development on the Idaho No. 2 prior to 1928. Following 1928 some drifting was done on the zinc-rich Idaho No. 2 Vein system but low metal prices resulted in a suspension of operations in 1931. Work began again on the Idaho No. 2 in 1951 but was redirected to the Grey Copper No. 3 Level in 1953.

Bluebird Slocan Mines Limited held the claim in 1953. No. 3 adit, which had been driven for 198 metres in a northeasterly direction, was extended an additional 45.7 metres before work ceased in April 1953.

Silver Mountain Mines Ltd. held the Grey Copper and adjacent claims from about 1958. Reco Silver Mines Limited in November 1966 acquired from Silver Mountain Mines a 50 per cent interest in a mineral lease covering nine Crown-grants including the Grey Copper and Goodenough (082FNW035). The lease was subsequently abandoned and the Silver Mountain Mines charter was surrendered in 1977.

In 1975, George Sipos acquired control of the Goodenough, Grey Copper, Purcell, Idaho No. 2, Rawdon, Bluebird (082FNW034) and Stranger reverted Crown-granted claims as the Bluebird Group. The Grey Copper No. 5A Level was worked in 1978. Some ore was shipped from the Grey Copper claim in 1978-79. In 1979 Sipos incorporated Sipald Resources Ltd. and acquired control of the present Purcell property. Sipald Resources did considerable rehabilitation work and reported modest production in 1980 from the Grey Copper No. 3 Level. In 1981, work included surface mapping, trenching, examination of mine dumps at the Goodenough No. 6 and No. 8 Levels, and the Idaho No. 2 dump; the Purcell adit was reopened and a diamond drill hole was directed northward towards the vein below the Big Stope on the Grey Copper No. 3 Level. In 1983, work was done on the road to the Purcell adit and the Idaho No. 2 was rehabilitated. Sipald Resources leased the Goodenough mine dumps to Modern Metal Recovery Systems Ltd., in 1983. Wavecrest Resources Ltd., optioned the property later in 1983 and Knie Resources Inc., optioned the property in 1984. Sipald Resources Ltd. was reorganized and renamed Rawson Resources Ltd. in 1986; they carried out a program of geochemical soil sampling during 1987. In 1988, Advanced Ecology Group (later the Consolidated Advanced Ecology Corp.) acquired the property and optioned it to General Tunnel Co. Ltd. in 1989. The property was sold to Avril Explorations Inc. in 1990; they conducted geochemical sampling, trenching, drilling and mapping.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse

CAPSULE GEOLOGY

grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Grey Copper Reverted Crown grant is mostly underlain by a large northwest trending quartz porphyritic dike related to the Nelson intrusions. Argillite and slate of the Slocan Group are exposed on the northern part of the Grey Copper claim and in the northeast part of the Purcell Reverted Crown grant (Lot 849).

Two veins are exposed on the Grey copper claim, the Grey Copper vein and the East vein. The Grey Copper vein occupies a shear plane with an average strike of 059 degrees and dip of 80 degrees southeast. The vein has been followed with underground workings the entire length of the Grey Copper claim and onto the Purcell claim. It has an average width of 20 centimetres but can locally be as wide as 40 centimetres. It comprises quartz, siderite, iron oxides and pyrite with residual galena and sphalerite. During 1990, 11 channel samples were taken from the Grey Copper vein in the No. 3 drift; these averaged 990 grams per tonne silver, 13.35 per cent lead and 29.24 per cent zinc (Tulley, D.W. (1991): Geological Evaluation Report on the Purcell Property).

The Grey Copper vein is estimated to contain 8145 tonnes grading 1131.43 grams per tonne silver, 18.8 per cent lead and 42.6 per cent zinc above and below the No. 3 drift, and 19,700 tonnes grading 226.34 grams per tonne silver, 0.06 per cent lead and 41.21 per cent zinc between the No. 5 and No. 3 drifts (Tulley, D.W. (1991): Geological Evaluation Report on the Purcell Property).

The East vein is a narrow, high-grade vein exposed 75 metres south of the Grey Copper No. 3 portal. The vein has been followed from the northeast corner of the Grey Copper claim onto the Idaho No. 2 Reverted Crown grant (Lot 1013). It is 1 to 6 centimetres thick and consists of argentiferous galena carrying as much as 5000 grams per tonne silver (Tulley, D.W. (1991): Geological Evaluation Report on the Purcell Property). The vein has been exposed in several adits and surface trenches.

Production from the Grey Copper veins between 1917 and 1983 yielded 143,144 grams of silver, 7854 kilograms of lead, 25,230 kilograms of zinc, 114 kilograms of cadmium and 31 grams of gold from a total of 772 tonnes mined.

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- Falconbridge File

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CAPSULE GEOLOGY

branch drift, at 122 metres from the portal, was driven northwest for about 24 metres, 15 metres of which followed a lode 0.6 to 0.9 metres wide mineralized with sphalerite. At 183 metres from the portal a crosscut was driven 6 metres northwest to intersect a lode also containing sphalerite.

The Blue Bird and adjacent claims, owned by Mrs. J.M. Harris, of Sandon, were optioned to Reco Silver Mines Limited in about 1965. Geochemical surveys were carried out in 1965, 1968, and 1969. Rayrock Mines Limited obtained a working agreement with Reco Silver in 1973.

In 1975, George Sipos acquired control of the Goodenough (082FNW035), Grey Copper (082FNW033), Purcell, Idaho No. 2, Rawdon, Bluebird and Stranger claims as the Bluebird Group.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

Rocks on the Blue Bird property include a band of slate and thinly banded argillite of the Slocan Group which are surrounded on either side by quartzite and more massive argillaceous beds. Several narrow limestone beds are also present throughout the section. The strata generally strike between 125 and 155 degrees and dip 40 to 45 degrees southwest.

Three northeast striking fissure veins have been exploited on the Blue Bird claim. These are from north to south, the West vein, the Big or Idaho vein and the Little vein. All veins strike between 055 and 070 degrees and dip 60 to 65 degrees southeast.

The West vein is 45 to 60 centimetres wide and has been traced for about 60 metres along strike by a series of short adits and trenches. It consists of sphalerite with some galena and pyrite in a gangue of quartz and siderite. The Big or Idaho vein is 30 metres southeast of the West vein. It is a brecciated zone cemented by quartz in which little mineralization is present. The Little vein strikes 070 degrees and dips 60 to 65 degrees southeast and appears to join the Big vein near the portal of the No. 2 adit. Most of the production from the Blue Bird property probably came from this vein. It varies from 0.3 to 1.5 metres in width and contains bands of massive argentiferous galena with sphalerite up to 30 centimetres wide. Siderite, quartz and calcite cement blocks of crushed wallrock. The vein is intersected by two faults, one striking 147 degrees and the other due north; both faults dip 60 degrees east. The more westerly fault has offset the vein 6 metres to the north. Displacement of the other fault is unknown.

The Blue Bird veins may correlate with the veins on the Grey Copper (Lot 580) occurrence (082FNW033), 600 metres southeast.

Production from the Blue Bird vein system between 1892 and 1982 yielded 3,728,341 grams of silver, 574,181 kilograms of lead and 898 kilograms of zinc from 898 tonnes mined. This included 54 tonnes mined in 1898 but recoveries are unknown (Geological Survey of Canada Memoir 173).

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1953-139; 1968-255
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EMPR BC METAL MM00967; MM01134
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DATE CODED: 1985/07/24
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FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW035**

NATIONAL MINERAL INVENTORY: 082F14 Pb10, Ag42

NAME(S): **RECO**, CODY-RECO, SILVER MOUNTAIN,
RECO NO. 2, RECO NO. 3-GOODENOUGH, RUECAU,
REUCAN (L.624), TEXAS (L.589), GOODENOUGH (L.581),
DEADMAN (L.613), EPHRAIM FR. (L.600), NEW DENVER (L.612),
OMEGA (L.618), PURCELL FR. (L.849), DUNEDIN,
EGALITE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 59 28 N
LONGITUDE: 117 11 09 W
ELEVATION: 2043 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adit on No. 3 or southern vein on Reucan Crown grant
Lot 624. See also Noble Five (082FNW037), Slocan Sovereign
(082FNW036), Number One (082FNW203) and Chambers (082FNW032).

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5537659
EASTING: 486679

COMMODITIES: Silver Lead Zinc Gold Cadmium
Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Silver Pyrargyrite
Tetrahedrite Argentite
ASSOCIATED: Quartz Siderite Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Calcareous Sandstone
Quartzite
Argillite
Quartz Porphyritic Dike
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Reco occurrence is situated at 2043 metres elevation above sea level on the north slope of Carpenter Creek, on Crown grant Lot 624, in the Slocan Mining Division. The occurrence consists of two main vein systems. The southern vein extends from the Reucan Crown grant (Lot 624) through the Goodenough (Lot 581), and the northern vein extends from the Reucan Crown grant on to the Texas Crown grant (Lot 589).

The Reco No. 2 lode strikes northeasterly through the Texas, Ephraim Fraction, Ruecau, and New Denver claims. The Ruecau, early in its history, became known as the Reco for convenience. The history of the property dates from the location of the Texas claim in June 1892. Development work on No. 2 lode began at that time and ore shipments began in 1894. The owners, J.M. Harris and F.T. Kelly, incorporated The Reco Mining and Milling Company, Limited Liability, in 1896. The Ruecau (Lot 624), New Denver (Lot 612), and Texas (Lot 589) claims were Crown-granted to the company in 1896; the Ephraim Fraction (Lot 600) was Crown-granted to the company in 1897. The Omega claim (Lot 618), on the southerly extension of the lode, was Crown-granted to the company in 1900. Production from No. 2 lode covered the periods 1894-1896, 1904-1913, and 1915-1918. The lode was developed from 4 adits over a vertical range of more than 106 metres. The main workings are Nos. 1, 3, and 5 adits, along which an aggregate of almost 1524 metres of work has been done. No. 5, the longest adit, is about 366 metres long. These levels are connected

CAPSULE GEOLOGY

by raises and stopes. Three adits, Nos. 9, 11, and 15 on the Texas claim, and No. 19 adit, started on the Omega claim but passing into Texas ground, were driven to explore the downward continuation of No. 2 lode. These adits are 69.4, 96.9, 163, and 245.6 metres respectively below No. 5 adit.

Production began from No. 1 lode in 1900. The lode was explored on both sides of the Texas-Deadman boundary; most of the workings, however, lie within the Texas claim. The workings include Nos. 1, 2, and 3 adits, and an intermediate level above No. 3, over a vertical range of 30.4 metres. Only about a metre of work has been done on this lode.

Silver Mountain Mines Ltd. held an option on 26 Crown-granted claims during 1958-1960. Work was apparently confined to claims adjacent to those mentioned above.

Reco Silver Mines Limited, incorporated in June 1964, acquired an option to purchase the property from Mrs. A.L. Parris and Reco Mining and Milling. A geochemical survey in the fall of 1964 was conducted over the general area of the No. 2 and 3 lodes, and the area to the northwest. Detailed geological mapping of surface and accessible underground workings was done in 1965.

The Reco No. 3 lode (Reco-Goodenough lode) strikes northeasterly through the Goodenough, and Reco claims; its southwesterly extension, Reco No. 4 zone, occurs on the Slocan Sovereign (082FNW036) and Number One (082FNW203) claims. The No. 3 lode was developed initially under a joint venture between The Goodenough Mines, Limited Liability, and The Reco Mining and Milling Company, Limited Liability. A series of crosscut adits were run in on Goodenough ground to intersect the lode at the Reco-Goodenough boundary. From these crosscuts the respective companies run drifts on their own portions of the lode.

No. 3 lode was in production from 1895 to 1903, inclusive; further production was reported in 1909, 1913, and 1915-1919. Further development work was done in the 1920's, and a few tons of ore were shipped in 1935. The Goodenough claim (Lot 581) was owned and under development by J.A. Whittier, J. Thompson, and J. Martin from 1895. The claim was Crown-granted in 1896. The owners incorporated The Goodenough Mines, Limited Liability, in March 1897. Operations continued into 1907. The company charter was surrendered in 1923.

The Purcell Fraction claim (Lot 849), adjoining the Goodenough on the east, was Crown-granted in 1897 to Purcell Mining Corporation, Limited, of Spokane, Washington; no work was reported.

The Reco-Goodenough lode was explored by Nos. A, 2, 4, 6, and 8 adits and by No. 7 intermediate level over a vertical range of 161.2 metres. Altogether about 1524 metres of drifts and crosscuts were run. All levels were connected by raises and stopes. Most of the development work was done on the Ruecau claim, across which the longest or No. 4 adit extends for almost its entire length of 304.8 metres.

Silver Mountain Mines Ltd. held the property from about 1958; work was confined to a narrow quartz vein at the 1615.4 metre level.

Reco Silver Mines Limited acquired a number of adjacent claims in 1964 and carried out a geochemical survey in the vicinity of the Goodenough claim. By an agreement of November 1966 the company acquired from Silver Mountain Mines a 50 per cent interest in a mineral lease covering nine Crown-grants, the Goodenough, Grey Copper (082FNW033), Idaho No. 2, Bluebird (082FNW034), Rawdon, Stranger, Purcell, Dunedin, and Egalite. Some work was reported on the Purcell vein in 1971. The lease was subsequently abandoned and the Silver Mountain Mines charter was surrendered in 1977.

G. Sipos and associates incorporated Sipald Resources Ltd. in June 1979 to acquire five reverted Crown-grants, the Goodenough, Purcell, Rawdon, Grey Copper, and Idaho No. 2. An adit on the Idaho No. 2 was re-opened in 1980 and crosscutting and drifting carried out on several parallel veins. In 1981 work on the Idaho No. 2 and Purcell claims included an electromagnetic survey, trenching, sampling of vein and dump material.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by

CAPSULE GEOLOGY

the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The claims are underlain by calcareous sandstone, quartzite, argillite and a few narrow limestone beds of the Slocan Group. The major structure is a northwest-trending anticline with limbs dipping about 45 degrees northeast and southwest. Two large northwest trending quartz porphyritic dikes cut the sedimentary sequence in the southeast portions of the Reucan and Texas Crown grants.

At least four subparallel veins are known but most of the past production came from the No. 2 and No. 3 veins. The Reco No. 2 or northern vein cuts across the northwest end of the Reucan Crown grant, extends on to the Texas Crown grant and may correlate with the Slocan Sovereign vein on Lot 1927 (082FNW036), one kilometre southwest. The vein strikes 050 degrees and dips 65 to 70 degrees southeast. It has been exploited in at least four separate adits for a vertical distance of 100 metres. The vein, in the underground workings, had an average width of 75 centimetres but narrowed considerably where it crossed the porphyritic dikes. Galena, sphalerite and pyrite with siderite and quartz occurred in bands rarely exceeding 45 centimetres in width, but in one place was 2.4 metres thick. Crushed rock and gouge filled the remainder of the fissure vein.

The Reco No. 3-Goodenough or southern vein extends from the southern part of the Reucan Crown grant, through the northwestern part of the Goodenough Crown grant and may correlate with the vein on the Number One Crown grant Lot 4560 (082FNW203), one kilometre southwest. The Reco No. 3-Goodenough vein is 225 metres south of the No. 2 vein. It is a 15 to 20 centimetre wide fissure vein that includes a 6 centimetre wide band of massive sulphide. Ore minerals include galena, sphalerite, tetrahedrite, pyrargyrite, argentite and native silver. Pyrite with quartz and calcite are also present. The vein has been exposed in at least 5 adits.

Production from the two main veins between 1893 and 1966 yielded about 36 tonnes of silver, 2858 tonnes of lead, 168 tonnes of zinc, 604 kilograms of cadmium and 62 grams of gold from 7089 tonnes mined. Production records for the Reco No. 3-Goodenough vein were separated from the No. 2 vein in the late 1800s but exact production figures are not available for each year of production during that period. From the 4206 tonnes mined between 1895 and 1905, 393 tonnes are believed to have been mined from the Reco No. 3-Goodenough vein (Minister of Mines Annual Report Index 3, page 198). Although most of the production from the Deadman claim is included with the Noble Five property (082FNW037), some 81 tonnes of lead concentrate recovered from the Deadman Crown grant (Lot 618) in 1965 was included with the Reco production records.

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EMPR BC METAL MM01212; MM01367
EMPR GEM 1969-329; 1970-453; 1971-408; 1973-81; 1974-75
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CAPSULE GEOLOGY

was done in the Slocan Sovereign adits in 1951; ore from the dumps was milled at the company's 175 ton per day mill which was built at Cody in 1952. In 1954 some exploratory drifting and crosscutting was done. The company name was changed in 1960 to Vespar Mines Limited. Lessees worked the property in 1965 and 1966.

The Slocan Sovereign claim, owned in 1968 by Wayne Turley, of Kaslo, was sold late in the year to Liberty Mines Ltd. Diamond drilling was done in 2 short holes to test the continuity of the lode. Some stoping was done. A small test mill was installed, but not operated, on the Mollie claim by Cody Milling & Smelting Ltd.; through a lawsuit in 1970 the company was forbidden further use of the Mollie claim. Liberty Mines Ltd. was dissolved in 1972.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Crown grant is underlain by argillite of the Slocan Group and felsic to mafic dikes related to the Nelson intrusions. The felsic dikes are conformable to bedding and sill-like in nature while the mafic dikes appear to be parallel to the mineralized veins. The mafic dikes are 0.3 to 15 metres wide and in places cut the felsic dikes. The southwestern portion of the claim is mostly underlain by black slate.

Two veins are exposed on the Slocan Sovereign Crown grant. Both veins strike 040 degrees and dip 50 to 55 degrees southeast. The northern vein may correlate with the Reco No. 2 vein on the Reco property and the southern vein may correlate with the Reco No.3-Goodenough vein, also on the Reco property (082FNW035), one kilometre northeast.

The northern vein is within a fissure zone that varies from a few centimetres up to one metre in width. Galena, sphalerite and pyrite are usually concentrated in narrow bands, less than 10 centimetres wide, along the vein walls. The bands of massive sulphides are separated by crushed wallrock cemented by quartz, siderite and calcite. Crossfractures cutting the vein at high angles seem to have played a role in localizing the ore and a number of postmineral faults have caused small displacement of the vein.

The southern vein is exposed near the southern claim boundary with the Number One Crown grant (Lot 4560) (082FNW203). The vein extends to the south on the Number One Crown grant and was mostly worked from that claim. For description and production figures see Number One occurrence.

Production from the Slocan Sovereign property between 1898 and 1968 yielded about 3 tonnes of silver, 708 tonnes of lead, 140 tonnes of zinc, 47 kilograms of copper and 124 grams of gold from 4539 tonnes mined.

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- EMPR BC METAL MM01411
- EMPR BULL 29
- EMPR GEM 1969-329; 1970-453
- EMPR INDEX 3-214
- EMPR LMP Fiche No. 61560,61561
- EMPR P 1989-5
- EMR MP CORPFILE (Cunningham Mines Limited; American Boy Mining Company; Vespar Mines Limited)
- GSC MAP 273A; 273A; 1091A; 1667
- GSC MEM 173, p. 15; *184, p. 131; 308, p. 129
- GSC SUM RPT 1925 Part A, p. 205

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
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BIBLIOGRAPHY

GCNL #196, (Oct.11), 1984
N MINER Mar.21, 1985

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/01

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW037**

NATIONAL MINERAL INVENTORY: 082F14 Pb9

NAME(S): **NOBLE FIVE (L.467)**, DEADMAN (L.613), WILD GOOSE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 59 20 N
LONGITUDE: 117 12 03 W
ELEVATION: 1630 Metres

NORTHING: 5537415
EASTING: 485604

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits 1-8 and dumps. The underground workings are connected to Last Chance (082FNW020) and American Boy (082FNW181).

COMMODITIES: Silver Lead Zinc Cadmium Gold

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Upper Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Quartzite
Limestone
Quartz Porphyry Dike
Mafic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Noble Five occurrence is situated on Crown grant Lot 467 at 1630 metres elevation above sea level, in the Slocan Mining Division. The property is on the north side of Carpenter Creek southeast of Mount Payne.

The original claims covering part of the property were located in 1891, covering 1500 metres along the strike of the Noble Five lode. Later 2 adjoining claims were staked along the Deadman lode. Operations in the early years were conducted by the Noble Five Consolidated Mining and Milling Company. In 1905 the property was acquired by the Hon. James Dunsuir who formed the Noble Five Mining and Milling Company. The mine remained inactive until 1927 when a lease was obtained by Paul Lincoln. In 1928 Noble Five Mines Limited was incorporated and work resumed until 1930. From that time until 1940, except for a brief period, the property remained dormant. In 1942 Reco Mountain Base Metals Mines, a consolidation of the Noble Five and Surprise Mining companies acquired the claims; the mill, power plant, office, and warehouse were destroyed by fire. Between 1944 and 1950 the property was worked by leasees. In 1950 C.F. Johnston obtained control of both the Noble Five and Deadman groups. Buildings were rehabilitated and underground exploration carried out. The following year the property was purchased by Cody-Reco Mines Limited who carried on an extensive development program until 1957.

In 1960, Cody-Reco Mines Limited was reorganized and its name changed to Vespar Mines Limited. Reco Silver Mines Limited acquired the Noble Five (Lot 467) and adjacent claims (Last Chance (082FNW020) and American Boy (082FNW181)) from Vespar Mines Limited by a lease agreement of October 1968; the lease expired in 1976. Rayrock Mines Limited obtained a working agreement on the Reco Silver properties in March 1973. Silvex Resources Corporation held the property in 1980 and opened the main 4000-foot access on No. 18 level. In 1981 they rehabilitated the mine and diamond drilled about 1500 metres. Knie Resources Inc. optioned the property from Silvex Resources in 1983.

CAPSULE GEOLOGY

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slovan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slovan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east-plunging, southeast-inclined axial planes and younger folds are open, southwest-plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slovan Group has been intruded by the Middle Jurassic Nelson Intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium-feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson Intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Noble Five occurrence is hosted by argillite, quartzite and limestone of the Slovan Group intruded by various dikes of quartz porphyry and small, dark green, mafic dikes probably related to the Nelson intrusions. The sedimentary sequence generally strikes 040 degrees and dips 57 degrees southwest.

Two veins have been exploited on the Noble Five claim; the Noble Five and the Deadman. The Noble Five vein has been developed by eleven adits, Nos. 1 to 8, A and C and 18. Adit No. 18 is about 300 metres below adit No. 8. A raise with sublevels developed every 60 metres connects adits 8 and 18. The underground workings are connected to the American Boy (082FNW181) and the Last Chance (082FNW020) workings.

Within the underground workings, the Noble Five vein strikes 055 degrees and dips 55 to 70 degrees southeast down to the No. 8 adit. It is regular and varies in thickness from a few centimetres up to 3 metres. Below the No. 8 adit, the vein is complicated by fracturing and faulting and in the No. 18 adit three separate veins are recognized. The vein also appears to pinch out at its northeast extremity.

The vein contains mainly galena, sphalerite and pyrite in a gangue of quartz and siderite commonly with some brecciated hostrocks. The vein is vertically zoned, with galena being more abundant towards the upper levels and sphalerite being more abundant in the lower levels of the mine.

The Deadman vein is exposed on the Deadman Crown grant Lot 613, about 100 metres southeast of the Noble Five workings. The vein has been exposed in at least four short adits. The vein is subparallel to the Noble Five and ranges from a mere crack up to 1.5 metres. It consists of crushed rock cemented with quartz and siderite and bands of galena and sphalerite up to 30 centimetres wide. Some 81 tonnes of ore were mined from the Deadman vein in 1965 and credited to the Reco property (082FNW035).

Production from the Noble Five between 1893 and 1982 yielded about 15 tonnes of silver, 2173 tonnes of lead, 1588 tonnes of zinc, 1961 kilograms of cadmium and 279 grams of gold from a minimum of 40,134 tonnes mined. The production figures are incomplete and include some ore mined from the Deadman vein. Production data for 1982 is from the Wild Goose, which for lack of evidence has been attached to this occurrence.

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1896-37,47,49,57,61; 1897-534,573; 1898-1074,1159; 1899-598,687;
1901-1026; 1902-149; 1907-100; 1909-115; 1910-99; 1911-134,285;
1912-149,322; *1913-123,420; 1914-287; 1915-121; 1916-197;
1917-161; 1918-167; 1919-124,154; 1920-124; 1922-200; *1925-242;
1926-251; 1927-275; 1928-284; 1929-285; 1930-230,248; 1935-A26,G51;
1936-E53; 1937-A41,E54; 1938-A37; 1940-27; 1942-72; 1943-72;
1944-71; 1945-43,105; 1946-153; 1948-145; 1950-144; 1951-170;
1952-44,174; 1953-139; 1954-51,140; 1955-A49,61; 1956-A51,94;
1957-53; 1965-191; 1966-221; 1968-255
EMPR BC METAL MM01332; MM01462
EMPR BULL 1, 1929, pp. 45,46; 29, p. 57
EMPR EXPL 1969-329; 1970-453; 1971-408; 1973-81; 1974-75
EMPR INDEX 3-207;4-124
EMPR IR 1984-4, p. 122
EMPR LMP Fiche No. 61108-61110
EMPR P 1989-5
EMPR PF (Reco Mountain Base Metal Mines limited (1943), Geological
plan maps for levels 7, 8, 10, 16, 18, 1000 and "A"; see Reco,
(082FNW035) - Jefferson, L.M. (1971): The Potential of Reco Silver

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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EMR MP RESFILE (MC 167-Z1-2-6, includes reports and mine plans)
GSC ANN RPT 1895, Part A, p. 29
GSC MAP 272A; 1091A; 1667
GSC MEM 173, p. 4; *184, pp. 91-97; 308, pp. 118,119,129
CANMET IR 12 (1906), pp. 256-258
GCNL #243(Dec.17), 1980; #78(Apr.24),#103(June 1), 1981;
#196(Oct.11), 1984
N MINER March 21, 1985
Nelson Daily News July 12, 1953

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/01

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 082FNW037

MINFILE NUMBER: **082FNW038**

NATIONAL MINERAL INVENTORY: 082F14 Ag72

NAME(S): **MADISON-ARGENTA**, MADISON, ARGENTA (L.1412),
MADISON (L.1411), SOUTHERN, GREAT EASTERN (L.2289),
LEGAL TENDER (L.1749), MADISON EXTENSION (L.5192), ML 204

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 59 01 N
LONGITUDE: 117 12 45 W
ELEVATION: 1525 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of underground workings.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5536830
EASTING: 484766

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Shale
Argillite
Graphitic Phyllite
Quartz Feldspar Porphyritic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN
REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
YEAR: 1990

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	287.0000	Grams per tonne
Gold	12.0000	Grams per tonne
Zinc	1.3100	Per cent

COMMENTS: A grab sample from a one metre wide mineralized quartz vein near the adit portal.

REFERENCE: Property File - Prospectus, Module Resources Inc., 1990.

CAPSULE GEOLOGY

The Madison-Argenta occurrence consists of two fissure veins some 120 metres apart located on Reverted Crown grant Lots 1411 and 1412 at 1525 metres elevation, on the south slope of Mount Payne, about 0.8 kilometre northeast of Sandon and some 11 kilometres east-southeast of New Denver.

The Madison claim (Lot 1411) was Crown-granted to W.C. Price in 1897. The Argenta claim (Lot 1412) was Crown-granted that same year to P.A. Hanneberg and W.C. Price. The Great Eastern claim (Lot 2289) was Crown-granted to Joseph Eaton in 1898. The Legal Tender claim (Lot 1749) was Crown-granted in 1900 to Messrs. Freeman, Toms, and Wilson. The Madison Extension claim (Lot 5192) was Crown-granted to A. Simons in 1916; this claim was subsequently restaked in part as the Argenta Nos. 1 and 2 claims.

During the initial period of activity each of the veins was opened up by three adits. Development work to the end of 1899 was reported to total 233 metres of tunnel, 29 metres of raising, and 15.8 metres of winze.

The claims were reported to have been held by Slocan Sovereign

CAPSULE GEOLOGY

lines Company, Limited, in the 1920's but no work was reported at that time.

Black Cricket Mines Limited in July 1968 optioned 8 claims from Lorenzo Blondeau, of New Denver, including the four original Crown-grants which comprise Mineral Lease 204.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The claims are predominantly underlain by shale, argillite and graphitic phyllite of the Slocan Group. Several small quartz and feldspar porphyritic dikes cut the sedimentary sequence. Two distinct fault systems are evident on the property. These strike approximately north-northeast and dip nearly vertical.

Mineralization on the property consists of two quartz veins carrying galena and sphalerite. The veins follow fracture zones striking 035 degrees and dipping nearly vertical. Each vein has been explored with three small adits. The Southern or Madison vein is one metre wide at the surface near one of the adits' portal. A grab sample collected from the vein assayed 1.31 per cent zinc, 387 grams per tonne silver and 12 grams per tonne gold (Property File - Report on Madison Claims, Prospectus, Module Resources Inc.). Both veins are exposed near the northwest corner of the Argenta Reverted Crown grant (Lot 1412) and have been traced northeast on to the southwestern part of the Madison Reverted Crown grant (Lot 1411).

Production records are incomplete for the property but 41 tonnes were mined from the Northern or Argenta vein in 1900 to produce 124,941 grams of silver and 3616 kilograms of lead. An additional 18 tonnes were mined in 1898 and 2.7 tonnes were shipped to the Trail smelter in 1911 but recoveries are not known.

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1916-523; *1968-252
EMPR ASS RPT 5219, 12942, *23080
EMPR BC METAL MM01113; MM01286
EMPR BULL 29
EMPR GEM 1969-329; 1974-76
EMPR INDEX 3-188
EMPR P 1989-5
EMPR PF (Report on Madison claims, Prospectus, Module Resources Inc.,
October 31, 1990)
EMR MP CORPFILE (Black Cricket Mines Limited)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 13; *184, p. 74; 308, p. 146

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW039**

NATIONAL MINERAL INVENTORY:

NAME(S): **ARGO**, BELT (L.2139), ST. CHARLES (L.3264)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 58 40 N
LONGITUDE: 117 13 24 W
ELEVATION: 1310 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5536184
EASTING: 483987

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Reverted Crown grant Lot 2139.

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Middle Jurassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Argillaceous Quartzite
Quartz Porphyritic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Argo showing is located on the Belt Reverted Crown grant (Lot 2139) just north of Sandon, at 1310 metres elevation above sea level in the Slocan Mining Division.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The occurrence is hosted within argillaceous quartzite of the Slocan Group which are cut by three small quartz porphyritic dikes probably related to the Nelson intrusions. The sedimentary rocks strike 125 degrees and dip southwest. The occurrence consists of a quartz vein within a fissure zone that strikes 065 degrees and dips 45 degrees southeast. The vein is 30 to 60 centimetres wide at surface and mostly composed of crushed rock and quartz with minor galena and sphalerite. It has been explored with three short adits but all failed to identify significant mineralization.

BIBLIOGRAPHY

EMPR AR 1896-53; 1897-534; 1899-842
EMPR BULL 29
EMPR P 1989-5

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 318
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BIBLIOGRAPHY

GSC MAP 273A; 1090A
GSC MEM 173; *184, p. 15; 309

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW040**

NATIONAL MINERAL INVENTORY: 082F14 Ag18

NAME(S): **VICTORIA**, VICTORIA NO. 6 (L.3154), GALT (L.5194)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 58 51 N
LONGITUDE: 117 13 43 W
ELEVATION: 1265 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adits.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5536525
EASTING: 483610

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Sheared
DIMENSION: 3 x 2 Metres STRIKE/DIP: 035/75S TREND/PLUNGE:
COMMENTS: Largest stope in upper adit was 3 metres long, 2.5 metres high. The vein varied between 2 and 90 centimetres. The vein dips between 70 and 80 degrees southeast.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
Argillite
Quartz Porphyritic Sill
Granite Dike
Granite Sill

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Victoria occurrence is situated on the Victoria No. 6 Reverted Crown grant (Lot 3154) at 1265 metres elevation, about 800 metres north of Sandon. The property also includes the Galt Reverted Crown grant (Lot 5194).

The claims were granted in 1903 and 1902 respectively but nothing is known of early work on the claims. Between 1917 and 1925 John Worgan, then owner of the property, carried out intermittent development and mined a small amount of ore. In 1925 the Sandon Silver-Lead Mining Company, Limited, acquired the claims but did only a small amount of development work.

Workings include 3 adits over a vertical range of 47.2 metres. The uppermost is about 64 metres long and is driven in blocky granite porphyry and black argillites along a mineralized fault fissure striking about north 35 degrees east and dipping from 70 degrees southeast to vertical. No. 2 adit, 29 metres below No. 1, has been driven for 12 metres along a mineralized fault separating argillites and quartz porphyry. The fissure strikes N 30 degrees E, and dips 60 degrees to the southeast. No. 3 adit, 18 metres below No. 2, is 97 metres long. For the first 48.7 metres it follows a mineralized fault fissure striking about north 45 degrees east and dipping 45 degrees to 75 degrees southeast. At 49 metres from the portal the adit meets a cross fault striking north 50 degrees west. From this point the adit was continued as a crosscut for 12.8 metres to where it meets the hanging wall of a quartz porphyry dyke; it follows this for a about a metre to where another fault striking north 25 degrees west was encountered. The adit follows this fault to the face, but no significant mineralization was encountered.

CAPSULE GEOLOGY

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slokan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slokan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slokan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The property is underlain by banded, grey quartzite and black argillite of the Slokan Group. The sedimentary rocks strike northwest and form part of an anticline with limbs dipping 40 to 45 degrees southwest. The rocks are cut by quartz porphyritic and medium grained granite dikes and sills.

Three adits were driven over a vertical range of 50 metres. The adits explore a fissure vein developed at the contact between the Slokan sedimentary rocks and a quartz porphyritic sill. The vein strikes 035 degrees and dips 70 to 80 degrees southeast. The fissure vein varies from a few centimetres up to 90 centimetres in width. It is mostly filled with crushed rock and gouge. Galena, sphalerite and pyrite occur with quartz in small pockets and narrow shoots along the vein. The largest ore shoot, in the upper adit, was 3 metres long and 2.5 metres high.

Production between 1917 and 1918 yielded 4448 grams of silver and 1207 kilograms of lead from 3 tonnes mined.

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EMPR AR 1896-73; 1902-302; 1917-452; 1920-125; 1923-222; 1925-244;
1929-308
EMPR ASS RPT 9694, *11751, 23197
EMPR BC METAL MM01446
EMPR BULL 29
EMPR EXPL 1983-94
EMPR INDEX 3-217
EMPR P 1989-5
EMR MP CORPFILE (Sandon Silver Lead Mining Company Limited)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 15; *184, p. 155; 308, p. 128

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/19

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW041**

NATIONAL MINERAL INVENTORY:

NAME(S): **DANIEL**, DONNELLY (L.5195), ARGENTITE 1 (L.1299),
ARGENTITE 2 (L.1300), ELVIRA

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 08 N
LONGITUDE: 117 14 18 W
ELEVATION: 1158 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5537052
EASTING: 482914

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits (Assessment Report 5219).

COMMODITIES: Silver Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear

CLASSIFICATION: Epigenetic Hydrothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
Argillite
Quartz Porphyritic Dike
Porphyritic Granite Dike
Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Daniel occurrence is situated on the north side of Carpenter Creek, approximately 1.5 kilometres northwest of Sandon, in the Slocan Mining Division. The underground workings are at 1158 metres elevation above sea level.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The property is underlain by banded, grey quartzite and black argillite of the Slocan Group. The sedimentary rocks strike northwest and form part of an anticline with limbs dipping 40 to 45 degrees southwest. The rocks are cut by quartz porphyritic dikes and sills.

The occurrence includes three adits totalling about 300 metres of tunnelling. The adits follow a fissure vein lying at the contact between argillite and a large porphyritic granite dike. The dike strikes northwest and dips steeply southwest. Within the underground workings the fissure vein consisted mainly of quartz which locally

CAPSULE GEOLOGY

contains appreciable amounts of galena, sphalerite and pyrite. The vein, which was in part hosted by the porphyritic dike, pinched out against a fault zone and was not located beyond the fault.

A total of 16 tonnes were mined from the adits in 1917 to produce 4914 grams of silver and 6290 kilograms of zinc.

Yukon Minerals Corporation investigated the property in 1986.

BIBLIOGRAPHY

EMPR AR 1902-298; 1917-448,452; *1922-199
EMPR ASS RPT 5219, *15698
EMPR BC METAL MM01162
EMPR BULL 29
EMPR INDEX 3-193
EMPR P 1989-5
GSC MAP 273A; 1091A
GSC MEM 173, p. 12; *184, p. 35; 308, pp. 184,191

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/19

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW042**

NATIONAL MINERAL INVENTORY: 082F14 Ag13

NAME(S): **ELKHORN (L.859)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 09 N
LONGITUDE: 117 15 00 W
ELEVATION: 1143 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5537086
EASTING: 482078

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adit and dumps. See also New Springfield (082FNW199).

COMMODITIES: Silver Lead Zinc Copper Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite Pyrite

ASSOCIATED: Siderite

MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Bladed

MODIFIER: Sheared

DIMENSION: 60

Metres

STRIKE/DIP: 125/75S

TREND/PLUNGE:

COMMENTS: Orientation of the vein structure. The vein averaged 0.6 metre and was continuous for about 60 metres in the mine.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Middle Jurassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Argillite

Quartz Porphyry Sill

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Elkhorn occurrence is situated west of Miller Creek on Crown Grant Lot 859 at 1143 metres elevation above sea level, in the Slocan Mining Division.

The Elkhorn claim in 1952 was held under lease from the Crown, by Neil Tattrie, New Denver. The workings are all caved, and the early history is incomplete. First recorded work was in 1895, when a shaft was sunk to a depth of 14 metres, and a tunnel driven 88 metres. In 1907 the property was worked by George Gormley and associates who owned the claim for many years.

Workings, according to Cairnes (1935), consist of 5 adits in addition to a shallow shaft. These adits are referred to by Cairnes, from uppermost to lowest, as Nos. A, B, 1, 2, and 3 respectively. The adits are spaced over a vertical distance of over 61 metres and altogether include about 610 metres of lineal work. Most of the work was done on adits Nos. 2 and 3. In No. 2 adit a strong shear zone was followed for over 61 metres and raises and stopes connect with surface workings 21.3 metres above. The lowest, or No. 3 adit, is a crosscut for about 140 metres to where it is reported to have intersected a fissure, perhaps corresponding to one of the mineralized cross-fissures encountered in the upper workings. The fissure at this depth carries abundant pyrite and considerable sphalerite. In the upper levels the principal ore mineral was galena. The workings in the other 3 adits are not described by either Cairnes (1935) or Hedley (1952).

In 1950 the Elkhorn claim was held under option by Kootenay Belle Gold Mines Limited. During this time the portal of No. 3 adit was reopened and the adit retimbered for about 15 metres before work was abandoned. Some 2750 tonnes from No. 2 dump were trucked to the Whitewater mill at Retallack in 1951, but all work ceased in September, when it was found that excessive soluble silica made the zinc concentrate unacceptable at the Trail smelter.

MINFILE NUMBER: **082FNW042**

CAPSULE GEOLOGY

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Elkhorn occurrence consists of a fissure vein hosted by argillite cut by a large sill of quartz porphyry. The strata generally strike north and dip 40 to 60 degrees east. The vein strikes 125 degrees, dips 75 degrees southwest and has been explored with at least five adits and a vertical shaft. Within the workings the vein averaged about 60 centimetres and was continuous for about 60 metres. The productive parts of the shear are at points where it is intersected by mineralized crossfissures striking 065 degrees and dipping 40 to 70 degrees southeast. The vein is vertically zoned. In the upper levels it consists mainly of galena with minor sphalerite, pyrite and chalcopyrite while in the lower level it contains abundant sphalerite and pyrite with lesser chalcopyrite in a gangue of siderite. Galena is argentiferous and gold appears associated with pyrite.

Production from the Elkhorn between 1907 and 1951 yielded 209,883 grams of silver, 55,441 kilograms of lead, 45,032 kilograms of zinc and 93 grams of gold from 2900 tonnes mined. See also New Springfield (082FNW199).

BIBLIOGRAPHY

- EMPR AR 1895-678; 1905-161; 1907-99,214; 1908-99,217,247; 1916-516;
1926-251; *1927-274; 1930-230; 1931-142; 1936-E53; 1950-146;
1951-A42,166,172
EMPR BC METAL MM01177 (also includes New Springfield data
(082FNW199))
EMPR BULL *29, p. 78
EMPR INDEX 3-195
EMPR P 1989-5
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 12; *184, p. 39; 308, p. 128

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/16

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

avoid bad ground.

Where first encountered the lode contained some sphalerite and galena. In 1951 a nearly vertical fissure was encountered 10.6 metres in the footwall at a point 79.2 metres west of the crosscut. In the first 30.4 metres of drift this fissure is mineralized erratically and contains as much as 0.9 metre of sphalerite, as well as local masses of galena.

The Lookout adit was started in 1946 at an elevation of 1300 metres, on the Lookout No. 2 claim. This adit was begun as a general exploratory tunnel, and was driven as a crosscut 686.4 metres at south 78 degrees west. At a point 365.7 metres from the portal a branch extends for 696.4 metres bearing about N 24 degrees W; the inner 91.4 metres of this branch is deflected nearly 200 degrees westerly. A zone consisting of 2 sub-parallel fissures 6 metres apart containing calcite and siderite was encountered about 495 metres northwest of the main crosscut.

An old adit on the Early Bird claim (082FNW229) at an elevation of about 1128 metres is entirely in quartz diorite. Workings here total about 122 metres.

A mineralized lode discovered in No. 2 ("A" adit?) was explored in 1952 by a new, No. 3 adit and a raise driven to connect the 2 levels. In the same year No. 4 adit was started and continued in 1953. About 305 metres from the portal a lode was intersected in the approximate projected position of the lode intersected in No. 3 adit. In the period from 1953 to 1956 the property was idle except for exploratory work on a small scale. In 1956 a narrow vein was exposed by stripping close to 100 metres from the Pearson adit, and a new adit started on the showing. In 1958 this adit had reached a total length of 7.6 metres. In December of that year an agreement was entered into with Violamac Mines Limited for the development of the Silver Ridge properties. The only work recorded on this property since was the extending of the adit started in 1956, for an additional 17 metres. In 1979, G. Sipos shipped 120 tonnes from the property.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slokan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slokan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slokan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Wonderful occurrence is hosted by argillite and slate of the Slokan Group. The rocks strike 165 degrees and dip 35 to 50 degrees northeast. The strata are believed to lie on the west limb of a syncline because the dip changes to southwest just east of the underground workings (Geological Survey of Canada Memoir 184). The sedimentary rocks are cut by joints that strike 060 degrees and dip steeply to the southeast. This orientation is similar to some mineralized veins exposed on the property. Several granodiorite and quartz monzonite dikes up to 15 metres wide cut the sedimentary sequence. The hostrocks are heavily pyritized close to the mineralized veins.

The Wonderful deposit occurs in a reverse sinistral (40 degrees east) fault zone that is cut and displaced by faults, subparallel to bedding, with generally sinistral but also dextral movements of up to 50 metres. The main orebody is developed by five main and three intermediate levels. The workings have a vertical range of about 180 metres below the surface. The main orebody strikes east and dips 50 to 90 degrees south. The ore occurs in a sheared and mineralized fracture that shows evidence of pre and postmineral displacement. The fissure vein is about 2 metres wide and consists of crushed wallrock cemented by quartz, calcite and siderite. The ore is brecciated and consists of fragments of galena, sphalerite and country rock with siderite. Pyrite and pyrhotite are common and oxidation is pervasive. Minor tetrahedrite may also be present.

Past production between 1896 and 1979 yielded about 13 tonnes of silver, 1619 tonnes of lead, 1214 tonnes of zinc and 6 kilograms of gold from 28,806 tonnes mined.

BIBLIOGRAPHY

EMPR AR 1892-531; 1894-740; 1896-37,47,49,52,561; 1901-1026; 1902-302; 1905-761; 1906-249; 1907-100; 1913-420; 1914-288,510; 1915-121,445; 1916-197; 1917-161,189,448; 1918-166; 1919-124; *1922-198; 1923-221; 1924-195; 1925-244,246; 1926-251; 1927-275; 1929-308; 1930-248; 1935-A26,E35; 1936-E53; 1948-144; 1949-188; 1950-145; 1951-172; 1952-176; 1953-140; 1955-63; 1956-95; 1957-54; 1958-47; 1959-69; 1960-A55; 1963-77; 1964-124; 1979-130
EMPR ASS RPT 23082
EMPR BC METAL MM01425 (1951 data included with Sunshine); MM01465
EMPR BULL *29, pp. 122-126
EMPR EXPL 1977-E52
EMPR INDEX 3-213,218; 4-126
EMPR LMP Fiche No. 61794
EMPR PF (Underground geological plans of Wonderful mine, Cunningham Mines Ltd., 1920; See Oregon, 082FNW044 - Geological plan of the Pearson adit, 1946)
EMPR P 1989-5
EMR MP CORPFILE (Violamac Mines Limited.; Silver Ridge Mining Company Limited)
GSC MAP 273A; 1091A; 1667; 1956-3
GSC MEM 173, p. 15; *184, pp. 163-165; 309, pp. 119,128
GSC SUM RPT 1925 Part A, p. 212
CANMET IR 670, pp. 68-71 (1925, No. 237)
GCNL #134, 1983

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/21

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW044**

NATIONAL MINERAL INVENTORY: 082F14 Pb31

NAME(S): **OREGON (L.3098)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 59 06 N
LONGITUDE: 117 15 58 W
ELEVATION: 1677 Metres

NORTHING: 5536997
EASTING: 480923

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adit and dumps. See also Cuba (082FNW195), Corinth (082FNW045), and Sunshine (082FNW046).

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite

ASSOCIATED: Siderite Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
Argillite
Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Oregon property is situated on the north side of the ridge that separates Miller and Shea creeks, in the Slocan Mining Division. The underground workings are on Crown grant Lot 3098 at 1677 metres elevation above sea level.

In 1896 the Oregon claim was owned by the Sunshine Mining Co. Ltd. but there is no report of any work done on the property at this time.

In December 1935 the Sunshine Silver Lead Co. Ltd. was organized to develop a number of claims in the area. In 1936 the name was changed to the Silver Ridge Mining Co. Ltd. Extensive bulldozer stripping was done on this property in 1937 and several leads uncovered.

The Silver Ridge Mining Co. Ltd. started an adit on the Oregon claim in 1938 and then operations ceased and work was not resumed until 1945. The project was abandoned in 1946 due to excessively wet ground and bad air. The adit, an exploratory crosscut, was driven 3703.3 metres in a general south 22-degree west direction. Total linear work in the adit is about 838 metres. Two faults cut the Oregon tunnel, one 282 metres and the other 536 metres from the portal. The one farthest from the portal is full of gouge and a little quartz; the strike is north 70 degrees east and dips 55 degrees northwest. It was followed for 33.5 metres westward where it was intersected by a second major southwestward dipping fault. The hanging wall side was followed for 85.3 metres to the northwest and a diamond drill hole driven ahead an unknown distance but no mineralization was found. This exploratory work was based on the assumption that the faults of this locality are all right hand, however, this has not been proven.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are

CAPSULE GEOLOGY

intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly interbedded black argillite and quartzite of the Slocan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

The occurrence consists of three separate veins intersected in a 655 metre long adit. The adit is driven in a southerly direction through mostly flat-lying argillite for the first 90 metres. It then passes through the core of an anticlinal structure occupied by massive quartzite for about 180 metres. The next 190 metres are through a zone of fractured and sheared quartzite and argillite. Beyond the fractured and sheared zone the beds dip mostly 30 degrees northeast. The last 195 metres of the adit are through thinly bedded argillite cut by four lamprophyric dikes.

The first vein structure is 67 metres from the portal. The vein has been mined for about 25 metres and had a general 080 degree strike. The vein contained massive galena concentrated in narrow lenses along the vein. A few tonnes of lead may have been recovered from this vein but no definitive records could be located (Bulletin 29). The second vein is 274 metres from the portal. This vein was drifted on for about 10 metres to the west. It consists of a breccia zone containing quartz, siderite and sphalerite. The vein is next to a major southwest dipping fault zone.

The third vein is 503 metres from the portal. This vein is within a shear zone that strikes 070 degrees and dips 55 degrees southeast. The vein contains quartz but no apparent sulphides. It has been drifted on for about 33 metres in a westerly direction where it intersected a major southwest dipping fault zone.

There are no production records for this property.

BIBLIOGRAPHY

- EMPR AR 1896-55; 1899-846; 1938-E27; *1946-163
- EMPR BULL *29, p. 93
- EMPR EXPL 1978-E63
- EMPR P 1989-5
- EMPR PF (Geological plan and section of Lookout crosscut and Pearson adit, 1946)
- GSC MAP 273A; 1090A
- GSC MEM 173, p. 144; 184, p. 145; 309

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/08

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

raise west of the crosscut on this fissure extends at about 50 degrees to sublevels at 24 and 40 metres.

On the surface near No. 3 adit a trench has been dug on broken, mineral-bearing ground. This and old open cuts to the west indicate an east-west fissure or lode zone almost at right angles to the prevailing local strike of the strata. Just below the main road, about 137 metres east of the creek, there are 2 old shallow workings, on one of which there has been some underhand stoping.

The claim was owned in 1958 by S.J. Chin and prospecting was carried out under the name Kachin Explorations Ltd. In 1983 the property was held by Wavecrest Resources Ltd. and Springpoint Resources Ltd. under a joint venture agreement. Canada Development Corporation, approximately 85 per cent owned by the Government of Canada, optioned the property through a subsidiary, Ventures in Applied Science and Engineering ("Vase").

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slokan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slokan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slokan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly interbedded black argillite, quartzite and limestone of the Slokan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slokan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

On the Corinth property, the sedimentary rocks strike 145 degrees and dip 50 degrees northeast. The mineralized structure strikes east, dips 50 degrees south and has been explored with three or more adits and vertical raises that break through to the surface. The mineralized vein is within a 60 centimetre wide brecciated shear zone. The fissure vein is mostly filled with crushed wallrock and lesser amounts of galena, sphalerite and pyrite in a gangue of coarse calcite with minor rhodonite. The ore is concentrated in narrow pockets along the vein.

Intermittent past production from the property between 1900 and 1978 yielded 263,568 grams of silver, 69,210 kilograms of lead, 5556 kilograms of zinc and 78 grams of gold from 154 tonnes mined.

BIBLIOGRAPHY

- EMPR AR 1896-55; 1897-570; 1899-688; 1901-1026; 1906-249; 1907-100;
1924-294; 1925-244; 1926-252; 1927-275; *1938-E25; *1948-144;
1949-188; *1950-145,146; 1978-128
EMPR ASS RPT 7082, *9609
EMPR BC METAL MM01152; MM01425 (1948, 1950 data included with
Sunshine)
EMPR BULL *29, p. 75
EMPR EXPL 1978-E64
EMPR INDEX 3-193,213
EMPR P 1989-5
EMPR PF (Underground geological plans of Crosscut adit and upper
levels, 1946)
GSC MAP 273A; 1090A; 1091A
GSC MEM 173, p. 93; *184, p. 34; 309, p. 127
GCNL Dec.2, 1983

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/05

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW046**

NATIONAL MINERAL INVENTORY: 082F14 Ag6

NAME(S): **SUNSHINE**, SUNSHINE NO. 2 (L.3096), YAKIMA (L.3097),
SILVER RIDGE, GRANVILLE, MONDAY,
MONDAY FR.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 58 45 N
LONGITUDE: 117 16 11 W
ELEVATION: 1875 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adits and dumps on Crown grant Lot 3097. See also
Oregon (082FNW044), Corinth (082FNW045), and Cuba (082FNW195).

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5536349

EASTING: 480661

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite Pyrite
ASSOCIATED: Calcite Siderite Quartz
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Limestone
Quartzite
Mafic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1939
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 3085.0000 Grams per tonne
Lead 70.0000 Per cent

COMMENTS: A grab sample from the Granville vein on the Yakima Crown grant.
REFERENCE: Property File - Prospectus, Silver Ridge Mining Company, 1939.

CAPSULE GEOLOGY

The Sunshine property is situated near the headwaters of Howson Creek at 1875 metres elevation above sea level, in the Slocan Mining Division. The property includes underground workings on the Sunshine No. 2 and Yakima Crown grants (Lots 3096 and 3097).

This group, comprising the Sunshine, Monday Fraction, Monday, Kass Fraction, Yakima, Cuba (082FNW195) and Oregon (082FNW044) Crown-granted claims, is situated on both sides of and adjoining the Corinth group (082FNW045).

The Sunshine lode was explored by a series of adits crossing the ridge between Miller and Howson creeks, 2 of which on the west slope were still accessible in 1952. The lower adit was followed in 1946 for a length of 161.5 metres. A drift from this adit follows the lode for 94.4 metres. The upper adit is a drift on the lode 62.4 metres long, and a connection exists with the lower adit nearly 30.4 metres below. Small caved adits near the ridge crest and down the eastern slope may or may not be on the same lode.

Three adits driven on the Yakima claim at an elevation of nearly 1829 metres are all caved. Another adit completely caved, but with a

CAPSULE GEOLOGY

large dump, is at the fork of the road on the east side of the claim.

In 1935 Silver Ridge Mining Company Limited was incorporated and acquired the property, which up to this time had been developed by the Sunshine Mining Company Limited. An adit was started in 1936, on the western side of the Miller Creek basin to intersect the lode at a lower level. This adit encountered broken ground and in 1946 was caved 45.7 metres from the portal.

In 1937 a large amount of stripping was done on the Oregon, Yakima and Cuba claims and some underground exploration carried out. Following this it was decided to drive a long cross-cut to explore old and now showings at depth. The crosscut was begun near the north side of the Oregon claim at an elevation of 1592.5 metres, in 1938. Work was suspended in March 1940, but recommenced in the fall of 1945 and continued until July 1946 when the crosscut was abandoned because of unsatisfactory results and a heavy inflow of water. This adit when abandoned had a length of 655.3 metres and had reached a point directly beneath the old Yakima workings.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly interbedded black argillite, quartzite and limestone of the Slocan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present. The sedimentary sequence is cut by a few felsic and mafic dikes.

On the Sunshine property the sedimentary rocks strike north and dip 50 degrees east. The underground workings include several adits on the Sunshine No. 2 and Yakima claims. On the Sunshine No. 2 claim, a series of adits explore a fissure vein striking 114 degrees and dipping 55 to 70 degrees southwest. The central part of the fissure vein is partly occupied by a mafic dike. Galena, sphalerite and pyrite with minor tetrahedrite are mainly concentrated on both sides of the dike and associated with a matrix of coarse calcite, siderite and quartz. The surface exposures of the vein are strongly oxidized.

On the Yakima claim, three short adits explore a vein striking 110 degrees and dipping 50 degrees south. The vein is within a narrow shear mostly filled with carbonate minerals. Another adit on the east side of the claim explore a third vein locally known as the Granville. Samples collected from this vein in 1939 assayed 3085 grams per tonne silver and 70 per cent lead (Property File - Prospectus, Silver Ridge Mining Company, 1939).

Production from the Sunshine property between 1895 and 1928 yielded 290,502 grams of silver, 53,470 kilograms of lead and 31 grams of gold from 105 tonnes mined.

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1907-100; 1908-247; 1916-516; 1928-294; *1938-E25; 1939-95;
1940-80; 1945-105; 1946-163
EMPR BC METAL MM01425
EMPR BULL *29, p. 116
EMPR INDEX 3-215
EMPR P 1989-5
EMPR PF (Underground geological level plans of Sunshine levels, 1946;
Annual Report, Silver Ridge Mining Company, 1938; *Prospectus,
Silver Ridge Mining Company, January 25, 1939; Prospectus, Silver
Ridge Mining Company, May 20, 1940)
EMR MP RESFILE MC-167-Z1-2-139
GSC MAP 273A; 1091A; 1667

RUN DATE: 25-Jun-2003
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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

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BIBLIOGRAPHY

GSC MEM 173, p. 15; *184, p. 145; 308, p. 127

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CAPSULE GEOLOGY

the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly interbedded black argillite and limestone of the Slocan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

Mineralization is hosted in a breccia zone at the contact between argillite and limestone strata. Most of the mineralization appears to be as replacement of limestone and consists of quartz and coarse calcite with minor galena and sphalerite. Azurite and limonite are also present in minor amounts. The breccia vein is exposed near the top of the ridge on the Dixie Hummer Crown grant where it is about 1.5 metres wide.

Four short adits were driven in a northerly direction from the Minnesota Fractional Reverted Crown grant but all failed to intersect the mineralized zone. Several large mineralized boulders were found on the Minnesota claim below the workings. A grab sample collected from one of these boulders in 1926 assayed 5232 grams per tonne silver, 72.9 per cent lead and 1.4 per cent zinc (Minister of Mines Annual Report 1926). No production is reported for this property.

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- EMPR ASS RPT 7076, 9477
- EMPR BULL *29, p. 77
- EMPR EXPL 1978-E63
- EMPR P 1989-5
- EMPR PF (See 082FNW General: Geological plans of the Silverton area, B.C. Department of Mines, 1966)
- GSC MAP 273A; 1090A
- GSC MEM 173; 184, p. 84; 309

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MINFILE NUMBER: **082FNW048**

NATIONAL MINERAL INVENTORY: 082F14 Pb13

NAME(S): **CARNATION (L.575)**, MINNIE HA HA, MAIN,
FOOTWALL, MINNIEHAHA, VIOLET (L.3168),
VIOLET FR. (L.3170)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 57 59 N
LONGITUDE: 117 16 12 W
ELEVATION: 1980 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of portal and dumps. See Jennie Lind (082FNW183), Silvana (082FNW050), and Hinkley (082FNW013).

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5534929

EASTING: 480636

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Calcite
ALTERATION: Silica Graphite
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Argillite
Quartzite
Argillaceous Quartzite
Limestone
Argillaceous Limestone
Slate
Porphyritic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

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The Carnation property is situated on the south side of Carpenter Creek, near the headwaters of Tributary Creek at 1980 metres elevation above sea level in the Slocan Mining Division. The underground workings are on the Carnation Crown grant (Lot 575).

The initial discoveries and development work were at the higher elevations, on the Read, Robertson and Jennie Lind claims (082FNW183) on the west side of the ridge, and on the Carnation and Tenderfoot claims on the east side. Later work was at lower elevations on the east side of the ridge on the Violet & Violet Fr. claims, and in a crosscut adit driven from the adjoining Minniehaha property.

The Read, Robertson & Tenderfoot claims, owned by W.M. Robertson and associates, were under bond in 1892 to the London Mercantile Association, and in 1893 to J.A. Finch and associates. The Jenny Lind claim was owned by Paul & Chas. Anderson of Silverton. They reported a small shipment of ore in 1895. The Carnation claim, owned by D.D. Mann was under development from 1895 or earlier. Crown-grants were issued in 1897 as follows: the Carnation (Lot 575) to D.D. Mann, the Read (Lot 1247) and Tenderfoot (Lot 1248) to E.E. Evans, the Jennie Lind (Lot 1806) and Robertson (Lot 1808) to The West Kootenay (B.C.) Exploring and Mining Company, Limited. In 1904 the Robertson and Jennie Lind claims were held as part of the adjacent Wakefield property (82FNW059) which was under lease to The Anglo-Slocan Syndicate Limited. The Read and Tenderfoot claims were worked in 1906 by M.S. Davys who shipped a small amount of ore.

During the period 1917 to the mid 1920's claims on the east side of the ridge, including the Carnation, Violet (Lot 3168) and Violet

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Fr. (Lot 3170) were held by G.W. Clark & associates under bond from A.R. Mann and others. During that period considerable development work was done in Nos. 2 and 3 adits. The Victoria Syndicate, Limited, of London, acquired an option on the property in 1925. Development work was carried out on both sides of the ridge, mainly in No. 2 drift adit which was driven southwesterly for 853.4 metres through the mountain to the Jennie Lind claim. A raise was driven to the old Read workings. A 3048-metre tramline was installed at the west portal of No. 2 adit at an elevation of 1967 metres. The syndicate dropped the option in 1928 and work was resumed by G.W. Clark. In January 1929 A.R. Mann & associates incorporated Carnation Silver Lead Mines, Limited to acquire the 17 claims and fractions. The claims were electrically prospected for one month by The Radiore Company of Canada, Limited. Underground work began in August in No. 3 adit on the east side of the ridge. Operations ceased in 1930.

Early exploration on the Jennie Lind and Read claims on the west side of the ridge was carried out in a series of 8 or more short adits and open cuts. On the east side of the ridge, to 1930, the main lode (Carnation lode) had been partly explored on and close to the northeast corner of the Carnation claim by 3 adits and a 6-metre shaft. A 36.5-metre drift adit was driven on the "D" vein at the 1996-metre elevation about 183 metres northwest of No. 2 adit; the latter as mentioned earlier, had been driven through the mountain at the 1966 metre elevation. A third adit, begun in 1929 at the 1920 metre elevation, was driven as a crosscut for 45.7 metres northwesterly to the lode, which was drifted on southwesterly for about 122 metres.

Kelowna Exploration Company, Limited in 1939 optioned the Carnation and adjacent claims and began an extensive geological survey. The option on the Carnation was given up in 1940 but control of the adjacent claims was retained. In August 1945 the company purchased the Carnation group of 14 Crown-granted claims and fractions. In 1948 the old No. 3 adit at 1920 metres elevation was reopened. In 1949 a new low level adit at elevation 1670 metres was begun at the south edge of the Western Fr. claim of the Minniehaha property, and a second, 1670-metre east adit, was driven the following year. Two crosscuts were driven across the lode in the old 1920-metre adit and a new adit (1859 metres) was driven westerly for 166 metres after the lode had been uncovered at that level by stripping. The new low-level 1670-metre adit was driven in search of the downward extension of the Carnation lode exposed in the 1920 adit, 243.8 metres above. The new adit was driven 70 metres southwesterly into the hill, then 420.6 metres in a south 7-degree west direction through the adjacent Evening claim (082FNW049). Two mineralized lodes, about 122 metres apart, were encountered. The first, probably related to the Minniehaha lode, was drifted on for 103.6 metres in the 1670 main adit and for 97.5 metres in the 1670 east adit. The second lode (Carnation lode) was drifted on westerly for about 548.6 metres to a point down dip from the upper levels and a crosscut was driven 100.5 metres into the hangingwall. The company name was changed in 1951 to Kelowna Mines Hedley Limited. The results of the exploration work were disappointing and operations ceased in June 1951.

Silver Standard Mines Limited, in 1961, acquired an option on 59 claims from Oil Participations Incorporated who had acquired the claims from Kelowna Mines when that company was dissolved in 1958. Drilling was done to test the Carnation lode 122 metres below the 1670 level. Subsequent exploration was on claims down dip to the east (see Silvana (82FNW050)). Silmonac Mines Limited was incorporated in 1963 to acquire the property. The company name was changed in 1977 to Silvana Mines Inc.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The Carnation deposit is hosted by predominantly interbedded black argillite and medium to dark grey quartzite and argillaceous quartzite of the Slocan Group. Argillaceous limestone, limestone and

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slate are also found in varying proportions in the sequence. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Horizontal displacement can be several metres to over 90 metres. Drag features are also present. A post-deformational shear zone is subparallel to the Carnation vein structure for two-thirds of its strike length. Silicification is present in the sedimentary rocks and the vein structures. Graphitization from late stage shearing is also present throughout these structures.

Two veins exist on the Carnation ground. The Main or Carnation vein is part of a vein system that extends for about 8 kilometres to the east and includes the Silvana (082FNW050), and possibly the Ruth-Hope (082FNW052) deposits. The second or Footwall vein is a branch of the Main vein that extends southwest and may correlate with the vein on the Wakefield property (082FNW059).

The Main vein is not a single vein but a system of branching fissures that is about 30 metres wide. The vein is exposed near the northeast corner of the Carnation Crown grant where it has been explored with at least three adits and a shaft. On the Carnation property the Main vein strikes between 045 and 050 degrees and dips 55 to 70 degrees southeast. The vein is 1 to 1.5 metres wide and follows a porphyritic dike on its hangingwall. It is mostly filled with crushed wallrock cemented by coarse calcite. The ore consists of brecciated fragments of galena and sphalerite cemented by coarse calcite. Clean bands of lead-zinc mineralization also occur along the hangingwall of the vein.

The Footwall vein is about 120 metres north of the Main vein at the northeast corner of the property. The two veins appear to converge to the west. The Footwall vein strikes 010 degrees and dips 40 degrees southeast. It is about a metre wide and consists mainly of crushed wallrock. Pods and bands of galena and sphalerite some 40 centimetres wide and up to a metre long are distributed along the fissure vein. The gangue mineral is mostly coarse calcite.

Production from the Carnation between 1922 and 1951 yielded 376,097 grams of silver, 22,991 kilograms of lead, 19,598 kilograms of zinc and 186 grams of gold from 502 tonnes mined. See Jennie Lind (082FNW183) for shared production.

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EMPR ASS RPT *16767
EMPR BC METAL MM00510
EMPR BULL *29, pp. 27,70-74
EMPR INDEX 3-191
EMPR LMP Fiche No. 60260,60261
EMPR P 1989-5
EMPR PF (See 082FNW, General - Geological plans of the Silverton area, B.C. Department of Mines, 1966; Geological compilation and structural map of the Sandon area, Kelowna Exploration; see Silverite, 082FNW011 - Billingsley, P. Picture model of Silver Ridge and Howson Creek area, 1956)
EMR MP CORPFILE (Silmonac Mines Limited; Silver Standard Mines Limited; Kelowna Mines-Hedley Limited)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 12; *184, pp. 28-30,40,84; 308, p. 120

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limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly interbedded black argillite and medium to dark grey quartzite and argillaceous quartzite of the Slocan Group. Argillaceous limestone, limestone and slate are also found in varying proportions in the sequence. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Horizontal displacement can be several metres to over 90 metres. Drag features are also present.

The occurrence consists of a fissure vein that strikes 065 degrees and dips 45 degrees southeast. The vein is 20 to 30 centimetres wide and has been mined for about 100 metres along strike. The fissure is mostly filled with crushed wallrock. Bands of galena and sphalerite 2 to 5 centimetres wide occur in a gangue of quartz, calcite and oxidized sulphide material (probably pyrite).

Production from the occurrence before 1911 to 1914 yielded 253,961 grams of silver and 11,092 kilograms of lead from 57 tonnes mined.

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- EMPR BULL 29, pp. 74,84
- EMPR INDEX 3-196,205
- EMPR P 1989-5
- EMPR PF (See 082FNW General: Geological plans of the Silverton area, B.C. Department of Mines, 1966; Geological compilation and structural map of the Sandon area, Kelowna Exploration)
- EMR MP CORPFILE (Kelowna Exploration Co. Ltd.)
- GSC MAP 273A; 1091A; 1667
- GSC MEM 173; *184, p. 40; 308, pp. 121, 133
- GSC SUM RPT 1916

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FIELD CHECK: N
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ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY:	Unclassified	YEAR:	1994
QUANTITY:	54400 Tonnes		
COMMODITY		GRADE	
Silver		290.0000	Grams per tonne
Lead		3.4000	Per cent
Zinc		4.7000	Per cent

COMMENTS: Reserves at the Silvana and Hinckley (082FNW013) mines as of April 1993.

REFERENCE: Information Circular 1995-1, pages 8,11.

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The Silvana mine is situated on the south side of Carpenter Creek, between White and Tributary creeks at 1430 metres elevation above sea level in the Slocan Mining Division. The Ruth-Hope property (082FNW052) adjoins to the east and the Carnation (082FNW048) and Jenny-Evening (082FNW049) to the west. See also Hinckley (082FNW013).

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The Silvana mine is hosted by predominantly interbedded black argillite and medium to dark grey quartzite and argillaceous quartzite of the Slocan Group. Argillaceous limestone, limestone and slate are also found in varying proportions in the sequence. The argillite-quartzite sequence commonly has thin graphite, pyrite and pyrrhotite layers. An altered fine grained siliceous layer has also been observed. Coarse grained porphyritic biotite-rich diorite occurs as irregular bodies throughout the sedimentary sequence. To the east of the mine area, an altered fine grained diorite dike has been traced for about 610 metres underground. It is subparallel to the Silvana vein structure which often contains fragments of the dike. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Horizontal displacement can be several metres to over 90 metres. Drag features are also present. A post-deformational shear zone is subparallel to the Silvana vein structure for two-thirds of its strike length. Silicification is present in the sedimentary rocks and the vein structures. Graphitization from late stage shearing is also present throughout these structures.

The Main vein is the most productive in the area and strikes east or northeast and crosscuts the synclinal axis. It is an 8 kilometre long structure that has hosted various producing mines. The strike is mainly east with a variable dip of 13 to 68 degrees south. The Main vein has a separate hangingwall and footwall structure for the majority of its strike length. In places these structures can be separated by up to 45 metres. To the west-southwest of the Silvana mine are the Carnation workings (082FNW048) which are part of the Main vein. The Wakefield (082FNW059) is to the southwest and the Ruth-Hope (082FNW052) is to the east. The Minnie Ha Ha (Lot 3171) is included with the Silvana mine but it is a separate vein structure that occurs 457 metres (true) in the hangingwall of the Main vein structure. The Minnie Ha Ha does not connect with the Carnation workings to the west. The Main vein apparently pinches to the south and east against Nelson intrusive rocks.

Two types of breccias are found in the Silvana mine. The first type is the "fragmental" or "vein" breccia. This breccia contains very angular fragments of country rock with a calcite, siderite and minor quartz matrix. The fragments have a varying degree of coarseness. The second type is the "sheared" or "flow" breccia. This breccia is characterized by elongated, mylonitic-style

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argillaceous quartzite fragments in a graphite matrix with or without calcite and siderite. This type of breccia is derived from late-stage shearing deformation. This post-deformational shearing has deformed "fragmental" breccia and previously non-brecciated material into "flow" breccia. These breccias have shredded and boudinaged the ore minerals. The vein structures are less than 15 metres wide and most are approximately 0.6 to 3 metres wide. Within the lode structure there can be up to 4 mineralized veins present which pinch and swell along strike and downdip.

The main ore mineralization, dated at 169 Ma +/- 3 Ma (Middle Jurassic), consists of argentiferous galena and sphalerite (D.K. Makepeace, personal communication). There are minor amounts of chalcopryrite, tetrahedrite, native silver, pyrargyrite and very minor amounts of stephanite, argentopyrite and acanthite. Other metallic minerals present in varying amounts are pyrite, pyrrhotite and arsenopyrite. The gangue minerals are calcite, quartz, orthoclase, siderite, tourmaline, chlorite, clay minerals and laumontite. Other minerals that have been identified in the area include smithsonite, anglesite, chrysocolla, malachite, manganese wad, limonite and hematite.

To the east of the mine area the Ruth-Hope-Line Star fault system strikes 160 degrees with steep west dips. In places the fault is over 60 metres wide. Horizontal displacement is up to 430 metres with an unknown vertical displacement and a probable rotational component. The West Hope fault is 460 metres west of the mine area and strikes 010 degrees with steep dips. This fault is 15 metres wide and has a 110 metre horizontal displacement with an unknown vertical displacement. The Carnation Basin fault strikes north and dips 30 to 35 degrees to the east. It comes to surface in the Carnation workings (1670-2133 metre elevation) and cuts off the west end of the Silvana orebody (1371-1429 metre elevation). The Wakefield vein structure (thrust fault) in the southwest would also cut the west end of the Silvana orebody further to the west.

The claims in this grouping include, in addition to the Boss Fr. (Mascot) (Lot 15272), Orient Fr. (Lot 5831), Diamond Fr. (Lot 5832), Oom Paul (Lot 5973), C & K (Lot 5974), Tornado (Lot 5537), Blimp Fr. (Lot 15275), and Best Fr. (Lot 15273).

The oldest workings in the vicinity are apparently on the Mascot claim which was staked in 1895. There is no record of work done on the adjoining Tornado claim which was Crown-granted in 1903 to The Selkirk Mining & Milling Company, Limited Liability, and re-Crown-granted to J.P. Wilson in 1919. On the Mascot claim two adits 11 and 18 metres long were driven during early activity. A small shipment of ore was reported in 1913. A third and lower adit was driven by Joe Johnson of Silverton during 1925-27 under a lease agreement with owner A. Waddell. The adit was driven southerly for about 143 metres to the lode, which was drifted on for 15 metres to the east and 79 metres to the west, with a crosscut 18 metres to the south from the west drift.

Underground work on the Minniehaha claim (Lot 3171) during, and possibly prior to 1898 totalled 91 metres of adit. The claim was Crown-granted in 1902 to Patrick Burns. By 1926 the claim had been acquired by the Alex Mann interests of Vancouver, owners of the adjacent Carnation property. Exploration and development work during 1923-24, under the direction of George Clark, included trenching, crosscutting and drifting. The adjacent Minniehaha Fr. (Lot 13006), Western Fr. (Lot 13033) and Western Fr. No. 2 (Lot 13027) were Crown-granted in 1926 to W.G. Clark.

In 1925 the claims were optioned by The Victoria Syndicate, Limited, of London, in conjunction with the Carnation (082FNW048) and other claims in a large group. Work continued in 1927 when 90 tonnes of ore were shipped from the Minniehaha. The option was dropped in 1928. The claim reverted to A.R. Mann & associates who had incorporated Carnation Silver Lead Mines, Limited, however, no further work was reported. The workings comprised 4 or 5 adits and considerable surface work over a vertical range of about 152 metres. The main adit has an aggregate length of about 244 metres and is very irregular. A second adit, 111 metres to the northeast, is 34 metres in length.

Kelowna Exploration Company, Limited held this ground and adjacent claims during the period 1939-1951. Extensive geological investigations were carried out over the company's holdings, and underground exploration was done on the Carnation property about 1.6 kilometres to the west. The company name was changed in 1951 to Kelowna Mines Hedley Limited.

Silver Standard Mines Limited in 1961 acquired an option on 59 claims from Oil Participations Incorporated, who had acquired the claims from Kelowna Mines when it was dissolved in 1958. Drilling by Silver Standard in 5 surface holes in search of the Carnation-Hope

CAPSULE GEOLOGY

lode suggested a target area just west of the Ruth-Hope property. An agreement was negotiated with Carnegie Mining Corporation Limited to use the Ruth-Hope No. 5 level (1219.2 metres elevation) which terminated near the east boundary of the Orient Fr. claim. The Silmonac Syndicate was formed in October 1962 with Silver Standard Mines Limited, Moneta Porcupine Mines, Limited and ViolaMac Mines Limited each having a 28.8 per cent interest, and the original owners a 13.6 per cent interest; the latter two companies held a share interest in Carnegie Mining. Rehabilitation of the 1219-metre level was carried out late in 1962 and exploration work began in January 1963. The level was extended westerly for about 1305 metres to a lode intersection which was subsequently explored for about 244 metres. The initial program, which was completed in November 1963, included 921 metres of crosscuts and drifts, 39 metres of raise, and 1130 metres of diamond drilling.

Silmonac Mines Limited was incorporated in November 1963 to succeed the Syndicate as operator. Work during the first half of 1964 included 316 metres of drifting, 98 metres of raising, and 1528.5 metres of diamond drilling. Work was suspended in June 1964 and not resumed until 1966. A further 152 metres of drifting and crosscutting was completed. Drilling in several up holes located a small orebody about 91 metres above the 1219-metre level workings. Work was discontinued in the latter part of 1967 due to lack of funds.

In September 1968 Silmonac entered an agreement whereby KamKotia Mines Limited (formerly ViolaMac Mines) and Burkham Mines Limited, a wholly owned subsidiary of Burden Investors Services Inc. of New York, would provide further exploration funds in equal proportion. Development work was resumed in October 1968 in a new adit which was collared at the 1318 metre elevation at the north edge of the Minniehaha claim. During 1968-69 the crosscut adit was driven southerly some 853 metres to the lode which was explored along 305 metres of strike and 61 metres down dip by 1503 metres of drifts and raises and 865 metres of diamond drilling in 23 holes. By April 1970 sufficient reserves had been outlined to justify production. The 150 ton per-day mill owned by Carnegie Mining Corporation was rented and production began August 26, 1970. A decline below the 1410-metre level was begun in 1973 and a ventilation raise was driven to the old Mascot workings at the 1524 metre elevation. During the following years exploration down dip at the east end of the mine located additional mineralized zones.

Silmonac Mines was reorganized and the name changed in September 1977 to Silvana Mines Inc. Kam-Kotia held a 39 per cent interest and Carnegie Mining a 20 per cent interest. The Carnegie Mill was purchased. The 1219-metre Ruth-Hope level was rehabilitated in 1978 and the No. 2 west lateral was advanced about 442 metres. Drilling in 1979 cut ore-grade intersections at elevations from 1292 to about 1341 metres. Subsequent work indicated in excess of 136,000 tonnes at 548.5 grams per tonne silver, 5.9 per cent lead, and 5.7 per cent zinc (CMH 1977-78, p 257).

Production through the 1219-metre level began in 1979. A raise was driven to connect the 1219 and 1410 level workings. During 1980, lateral work on the 1219 level totalled 621 metres. In the east decline area, lateral work and raising totalled 1865 metres. There were done 5058 metres of underground exploration drilling. Silvana amalgamated with Dickenson Mines Limited under the name of Dickenson Mines Limited.

The Silvana mine closed indefinitely in April, 1993. In October, 1994, Amcorp Industries Ltd. signed an agreement to buy the Silvana mine and mill at Sandon from Treminco Resources Ltd. A review of the Silvana and Hinckley (082FNW013) mines' ore reserves by Amcorp indicated that about 54,400 tonnes of ore grading 290 grams per tonne silver, 3.4 per cent lead and 4.7 per cent zinc, remain in the developed areas of the mines with potential to develop additional reserves. Amcorp expected to resume production in early 1995 (Information Circular 1995-1, page 8). Amcorp changed their name in May 1996 to Molycor Gold Corporation, part of the Verdstone Group of companies.

Production from the Silvana between 1913 and 1993 yielded about 242 tonnes of silver, 28,691 tonnes of lead, 26,299 tonnes of zinc and 72 tonnes of cadmium from 510,964 tonnes mined.

During the end of 1997, underground access to the Hinckley and Silvana lodes was re-established. Mining started on the Hinckley lode and the Silvana mill was re-commissioned.

In 1998, Treminco signed a Letter of Intent with Regeena Resources Inc. to purchase the Silvana and Hinckley operations. Treminco changed their name to Elkhorn Gold Mining Corporation in February 1999.

Klondike Gold Corp acquired the Silvana and Hinckley (082FNW013)

CAPSULE GEOLOGY

mines in May 1999 and commenced selective mining on the 4625 level of the Silvana mine in the fall. Test milling commenced in September 2000, and was completed by December 2000. A total of 3,577 tonnes of ore was mined yielding 138 tonnes of lead, 114 tonnes of zinc and 1,443 kilograms of silver. The project cost \$883,545 and returned total revenues of \$614,927. Excess costs were attributed to slower than projected production due to winter conditions. Revenues were lower than projected due to lower than expected grade mined, lower silver prices and recovery problems during mill startup. The project is in care and maintenance status as of February 2003.

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EMPR BC METAL MM00014
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N MINER Jul.31, 1975; Mar.4, 1976; Feb.16, 1978; Feb.22, 1979; May 28, 1981; Apr.12, 1984; Mar.7, May 2,16, Sep.30, 1985; Apr.14, 1986; Sep.11, 1989
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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 347
REPORT: RGEN0100

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DATE CODED: 1985/07/24
DATE REVISED: 1996/01/02

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW051**

NATIONAL MINERAL INVENTORY: 082F14 Ag56

NAME(S): **DOROTHY (L.2034)**, IRENE FR. (L.4530)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 58 18 N
LONGITUDE: 117 14 45 W
ELEVATION: 1463 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adit portal.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5535509
EASTING: 482372

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Anglesite Pyrite Pyrrhotite
ASSOCIATED: Calcite Siderite Graphite Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Argillite
Quartzite
Graphitic Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1984
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	209.0000 Grams per tonne
Lead	5.1000 Per cent
Zinc	6.3000 Per cent

COMMENTS: Weighted average of four 1.1 metre wide chip samples taken over a 9 metre length of the mineralized vein.

REFERENCE: Assessment Report 15774.

CAPSULE GEOLOGY

The Dorothy occurrence is located southwest of Sandon at 1463 metres elevation above sea level in the Slocan Mining Division. The property includes the Dorothy Crown grant (Lot 2034) and the Irene Fraction Reverted Crown grant (Lot 4530). It lies along the west side of the Ruth-Hope property (082FNW052).

Very little of the history of the development of this property has been recorded. It was Crown-granted to the Ruth No. Two Mining Co. Ltd. in 1899.

The owner of the claim in 1926 was J.P. Wilson of Sandon and apparently some of the development work was done by him at about this time. In 1935 the claim was reported owned by C.B. White of New Denver. About 1952 the claim was owned by Kelowna Exploration Co. Ltd. The upper workings were reported to be caved at this time.

The property is developed by two adits, the one 38 metres lower than the other. The lower adit, was driven 67 metres at south 60 degrees east to a raise driven upwards at 30 degrees. A 30-metre branch to the northeast ends in another short raise.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity

CAPSULE GEOLOGY

of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Dorothy occurrence is hosted by thinly bedded argillite and quartzite of the Slocan Group. The sedimentary rocks typically contains up to 3 per cent graphite. Limonite is present in the exposed outcrops and is derived from the oxidation of pyrite. Many small fractures striking 130 to 150 degrees and dipping 35 to 75 degrees northeast cut the sedimentary sequence. Many small veins of calcite and quartz with minor pyrite are present throughout the sequence and disseminated pyrrhotite is common.

Two fissure vein structures are present on the Dorothy property, the Minnie Ha Ha and the Dorothy vein. The Silvana (082FNW050) Main vein passes just south of the Irene Fraction Reverted Crown grant. The Minnie Ha Ha vein strikes east and dips 30 to 40 degrees south. The vein is exposed on the northern part of the Dorothy Crown grant. On the Dorothy property, the Minnie Ha Ha consists mostly of graphitic gouge with calcite and minor galena and sphalerite. The Dorothy vein strikes north and dips 60 degrees east. It is about 396 metres long and runs between the Minnie Ha Ha and the Silvana Main vein to the south. It has been explored with a short adit on the Dorothy Crown grant and surface trenches on both claims. The vein is brecciated and includes large blocks of argillite and quartzite in a matrix of massive calcite with minor siderite and pyrite. The vein contains thin but consistent bands of mineralization which include galena, sphalerite, anglesite and pyrite. A weighted average of four chip samples yielded 209 grams per tonne silver, 5.1 per cent lead and 6.3 per cent zinc. The samples were taken across a 1.1 metre width and over a 9 metre vein length (Assessment Report 15774).

On the Irene Fraction Reverted Crown grant, the vein is more sheared and brecciated than on the Dorothy Crown grant. It consists of 50 to 75 per cent calcite with minor siderite and pyrite with lesser amounts of galena and sphalerite.

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DATE CODED: 1985/07/24
DATE REVISED: 1995/12/20

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Aurora Fraction, and Zuma Fraction claims (Lots 754, 2029-2031, 2036, 2037 respectively) were Crown-granted to the company in 1898. A mill with a capacity of 4 tons per hour was built in 1899, and modified to recover zinc in 1904. The mine operated steadily until about 1916. The Ruth and Hope veins were largely worked out during this period. Lessees worked part time during the following years.

In the fall of 1922 the 14 Crown-granted claims were acquired by Messrs. Stewart, Lennie, and associates, of Vancouver, who incorporated the Ruth-Hope Mining Company, Limited, in April 1923. The Ruth No. 2 or Stewart vein was discovered and worked at this time. The company rehabilitated the old mill and added a 50 ton per day flotation unit in 1928. Work by the company ceased in 1930. The underground workings to this date extended over a vertical range of 427 metres and comprised nearly 8 kilometres of drifts and crosscuts. The Ruth vein had been explored by 5 adits. At higher elevations, southwest of the Ruth, 5 adits explored the Hope vein. In 1923 the Ruth No. 2 or Stewart vein was discovered, to the west of a fault zone that marked the end of the Ruth lode, and developed from the surface down to the Ruth No. 5 level by the Ruth-Hope Mining Company. This company also drove an 823-metre long crosscut south from the Ruth No. 5 level into the Blue Grouse claim (Lot 1846). The crosscut was driven about parallel to and some 79 metres west of the Silversmith property boundary in search of the possible westerly extension of the Silversmith lode; the lode was found to occur in two branches about 90 feet apart. Ore was mined up to No. 4 level and down to No. 6 level, a vertical distance of 67 metres.

Lessees carried on small scale intermittent work from 1930 to 1944. Kelowna Exploration Company, Limited, optioned 7 of the Ruth-Hope claims and adjacent ground in 1946. Crosscutting and diamond drilling was done from the Ruth No. 5 level to explore for extensions of the Silversmith vein. The option was given up in 1948. Kootenay Belle Gold Mines, Limited, optioned the property in 1951 and shipped ore from the mine dumps.

Carnegie Mines Limited, which was controlled by Viola Mac Mines Limited, purchased the Ruth-Hope group and adjacent ground, totalling 46 Crown-granted claims, in 1952. Intermittent exploration work was done in various levels of the mine and lessees continued to work part time. The company name was changed in 1958 to Carnegie Mining Corporation Limited. The Silmonac Syndicate, jointly financed by Viola Mac Mines Limited, Moneta Porcupine Mines Limited, and Silver Standard Mines Limited, was organized in 1963 to further explore the ground west of the Silversmith property, where the extension of the Silversmith lode was thought to be offset to the north by one or more northwest trending faults. The lode was found to the west of the Ruth-Silversmith fault zone and drifted on westward for about 182.8 metres; the mineralization encountered was below ore grade. Silmonac Mines Limited was incorporated in November 1963 to continue the exploration work. During 1964 the Ruth No. 5 level was extended 317 metres and 98 metres of raising and 1528.5 metres of diamond drilling was done. Subsequent to the cessations of operations by Silmonac Mines, Carnegie Mining explored below the old Ruth workings by crosscutting from No. 5 level and diamond drilling; this work failed to disclose the downward extension of the Ruth lode. Surface stripping was done on the Ruth Fraction claim in 1965.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Ruth-Hope occurrence is hosted by massive, locally calcareous argillite and quartzite of the Slocan Group and by quartz feldspar porphyry and lamprophyre dikes related to the Nelson intrusions. The sedimentary rocks are folded into an anticlinal structure that generally strikes northwest. The rocks dip moderately to the southwest on the eastern part of the Ruth Crown grant and northeast on the eastern part of the Hope Crown grant. The quartz

CAPSULE GEOLOGY

feldspar porphyry dikes strike northwest, subparallel to the sedimentary rocks, but dip at different angles from the sedimentary sequence. The felsic dikes are restricted to a 100 metre northwest-striking belt in the southern part of the Ruth claim. The dikes are pre-mineral and appear to have played some structural control on the vein emplacement. The lamprophyric dikes are irregular, appear later than the quartz feldspar porphyry dikes and are probably closely related in time to the mineralizing event.

The Ruth-Hope property contains three veins, the Ruth, the Stewart or Ruth No. 2, and the Hope. The mine workings on the Ruth-Hope vein system extend over a vertical range of 425 metres and include over 8 kilometres of underground development.

The Ruth vein is exposed on the Ruth and Ruth Fraction claims. The vein is within a well-defined fissure striking 070 degrees and dipping about 70 degrees southeast. It has been explored with at least five adits covering about 210 metres of strike length and 180 metres down dip. The vein is about 1.2 metres wide and composed largely of sphalerite and galena mixed with siderite. It is in the axial region of a recumbent fold, convex to the west. There is evidence of crumpling of beds in the general crest zone of the fold and the western end of the vein appears to split and terminate within the crest zone. The fissure vein was apparently not persistent enough to penetrate the apical zone of crumpling (Geological Survey of Canada Memoir 184).

The Stewart or Ruth No. 2 vein is exposed west and a few metres north of the termination of the Ruth vein. The vein was accessed from the Ruth workings and a small vertical shaft on the Ruth Fraction claim. The vein has been explored for about 150 metres of strike length and ranged in width from a few centimetres up to 9 metres. The fissure vein was essentially composed of crushed wallrock with thin seams of galena, sphalerite and siderite concentrated on the fissure walls. Elevated silver values were associated with sphalerite. Ore shoots varied from a few metres to 30 metres in length and from a few centimetres to a few metres in width. Crystalline cerussite was abundant in the upper levels of the mine.

The Hope vein is exposed on the Hope Crown grant. The vein is believed to be the faulted-off extension of the Silversmith (082FNW053) and Richmond-Eureka (082FNW054) vein which has been continuously mined from the Hope Crown grant through the Lone Star (Lot 1844), the Silversmith (Lot 1010) and the Slocan Star (Lot 545) (082FNW053), the Slocan King (Lot 547) (082FNW196), the Eureka No. 2 (Lot 2284) and the Richmond (Lot 1472) (082FNW054) for a total strike length of about 1.5 kilometres.

The vein has been developed in five adits on the Hope and Lone Star claims which include over 1800 metres of drifting. The Hope vein represents a system of subparallel fissure veins striking east and dipping between 25 to 40 degrees south. Collectively, the zone is 0.3 to 12 metres wide and includes a combination of anastomosing mineralized fractures and shears. In general, the steeper dipping part of the shears are more regular and better defined and are coincident with the intersection of the more competent rock units. Where the shears dip at shallower angles and tend to follow bedding, the wallrock is crushed and the fissure veins are irregular and discontinuous. On the Hope claim, the vein was mined for about 150 metres of strike length. The vein pinched out to the east against the northwest trending Silversmith-Hope fault. The Hope vein is mostly filled with crushed rock, calcite, siderite, quartz and ore. The ore shoots were irregular, pinching, swelling and in places abruptly terminating at their greatest thickness against a crossfault. They varied in thickness from a few centimetres to 60 centimetres and averaged about 30 metres in length. The ore consisted of galena, sphalerite and pyrite with minor tetrahedrite and chalcopyrite. Limonite and anglesite occurred in the oxidized part of the orebody.

Production from the Ruth, Stewart and Hope veins between 1895 and 1962 yielded about 76 tonnes of silver, 10,122 tonnes of lead, 1605 tonnes of zinc, 1 tonne of cadmium and 7 kilograms of gold from 60,575 tonnes mined.

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DATE CODED: 1985/07/24
DATE REVISED: 1995/12/08

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW053**

NATIONAL MINERAL INVENTORY: 082F14 Ag19

NAME(S): **SILVERSMITH, SLOCAN STAR, SILVERSMITH (L.1010), SLOCAN STAR (L.545), JENNIE (L.546), WINDSOR (L.1016), RABBIT PAW (L.1252), BIG BOULDER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 57 51 N
LONGITUDE: 117 13 29 W
ELEVATION: 1463 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adits and dumps.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5534671
EASTING: 483883

COMMODITIES: Silver Lead Zinc Cadmium Gold
Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Discordant Massive Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Faulted Sheared
DIMENSION: 365 x 150 x 25 Metres STRIKE/DIP: 090/47S TREND/PLUNGE:
COMMENTS: Dimensions and orientation of the Slocan Star orebody. The deposit had a maximum width of 25 metres.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	Nelson Intrusions
Middle Jurassic			

LITHOLOGY: Argillite
Carbonaceous Argillite
Quartzite
Limestone
Biotite Feldspar Porphyry
Pyroxene Lamprophyre Dike
Olivine Lamprophyre Dike
Biotite Lamprophyre Dike
Quartz Feldspar Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Silversmith occurrence is located immediately south of Sandon at 1463 metres elevation above sea level, on the west side of Sandon Creek, in the Slocan Mining Division. The occurrence is developed on a vein that traverses the entire property which includes, from east to west, the Slocan Star (Lot 545), Jennie (Lot 546), Windsor (Lot 1016), Silversmith (Lot 1010) and Rabbit Paw (Lot 1252) Crown grants.

The Slocan Star oreshoot was located in October 1891, and first produced ore in 1893. The first operating company was Byron N. White Company, of Spokane, Washington. In 1904 litigation began which involved extralateral rights of the Rabbit Paw claim, owned by the Star Milling and Mining Company. The suit lasted about 7 years and was finally settled against the Byron N. White Company. Following this the two companies were amalgamated as the Slocan Star Mining Company, in 1911. In 1917, with the Slocan Star orebody exhausted and other development not very productive, the company got into financial difficulties and was reorganized the following year as Silversmith Mines Limited. The rich Silversmith orebody which was mined until 1926 was found shortly afterwards. Mining was sharply curtailed in 1927, and from then until 1936 production amounted to only about 13,600 tons. No further work was carried out by the

CAPSULE GEOLOGY

company.

In 1948 an agreement to purchase was entered into with Carnegie Mines Limited, later (1951) Carnegie Mines of British Columbia Limited. Mining and underground development has been carried on intermittently since both by the company and by lessees. In 1958 under terms of an agreement with Violamac Mines Limited, Carnegie Mines of British Columbia Limited was reorganized and renamed Carnegie Mining Corporation Limited.

The workings of the Silversmith and Slocan Star Mines include 6 adits, Nos. 1, 2, 3, 4, 5 and 10, connected by shifts and raises from which 6 principal blind levels, Nos. 6, 7, 8, 9, 11 and 12 have been run. These workings are described by both Cairnes (1935) and Hedley (1952).

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The rocks hosting the occurrence consist of massive, more or less carbonaceous argillite, quartzite and limestone of the Slocan Group. The structure is complicated by folding and faulting but in general, the beds strike south to southeast near the Slocan Star workings and swing west on the Silversmith Crown grant. Dips are generally between 30 and 75 degrees south.

The sedimentary rocks have been intruded by a plug of biotite feldspar porphyry and numerous light coloured, medium to fine grained quartz or feldspar porphyry dikes and sills less than 10 metres thick and dark coloured, irregular olivine, pyroxene or biotite lamprophyre dikes usually less than a metre thick. The more felsic dikes are altered and strongly sheared. Most are regular and conform to the general strike of the bedding. The mafic dikes are younger than the felsic dikes and appear associated with the fissure vein structures.

The Silversmith occurrence represents the continuation of the Slocan King (082FNW196) and Richmond-Eureka (082FNW054) deposits to the east and Ruth-Hope (082FNW052) deposit to the west. On the Silversmith property, the deposit has been exploited for a total strike length of 825 metres in six adits connected by raises and shafts. The main access was from the lowest or No. 10 adit.

The deposit consists of a vein within a fissure zone that has a curving strike swinging from due east on the Slocan Star claim to northwest on the eastern part of the Silversmith and Windsor Crown grants and southwest on the western part to the Silversmith and Rabbit Paw Crown grants. The average dip is about 47 degrees south. In the lower levels of the Silversmith mine, the vein steepens to about 75 degrees. The irregular trace of the deposit is due to the changing trend of the enclosing sedimentary rocks and also in part due to a large porphyry plug located in the central part of the property. The fissure vein is widest where its attitude conforms to bedding and is most sharply defined and narrow where it cuts bedding at high angles. The vein also widens at the marked bends in its course. Although the fissure zone is continuous across the entire property, it is mainly composed of a series of en echelon fractures and shears striking northeast and northwest. The northeast fractures are open and usually carry most of the mineralization while the northwest fractures resemble shears and are rarely mineralized. The fissure varies in width from a few centimetres to 25 metres. It is mostly filled with crushed wallrock. Large blocks of feldspar porphyry and massive sulphide have been incorporated within the fissure zone. Large nodules of massive sulphide and fragments of strongly folded ore have been transported a considerable distance from their site of deposition by extensive post-mineralization movement within the shear zone.

Two separate orebodies were mined, the Silversmith and the Slocan Star. The Slocan Star orebody has been stoped for approximately 365 metres down dip. The stopes varied in length from 10 metres up to a maximum of 150 metres between the second

CAPSULE GEOLOGY

and fourth levels of the mine. Galena, sphalerite, tetrahedrite, pyrite, chalcopyrite, quartz and siderite formed discontinuous lenses, some of massive ore but most were mixed with crushed wallrock. The lenses were up to several metres wide aligned diagonally across the fissure. Galena was the most abundant sulphide and usually associated with quartz.

The Silversmith orebody has been mined for about 150 metres along strike and 180 metres downdip. The deposit was widest above the No. 8 level where two mineralized fissures joined to form a 10 metre wide orebody. Ore minerals were similar to the Slocan Star.

Production from the Silversmith and Slocan Star orebodies between 1893 and 1965 yielded about 226 tonnes of silver, 32,524 tonnes of lead, 11,751 tonnes of zinc, 17 tonnes of cadmium and 37 kilograms of gold from 355,110 tonnes mined.

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- EMPR BC METAL MM01127; MM01404
- EMPR BULL *29, pp. 108-116, Figs. 13,14
- EMPR INDEX 3-189,213; 4-125
- EMPR LMP Fiche No. 61530-61533
- EMPR OF 1998-10
- EMPR P 1989-5
- EMPR PF (Underground plans and sections, Silversmith, Slocan Star and Richmond-Eureka mines; Jaeger, H.W. (1937): Report of Silversmith Mines Limited)
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- EMR MP RESFILE MC-167-Z1-2-73
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- GSC MAP 273A; 1091A; 1667
- GSC MEM 173, p. 15; *184, pp. 124-129; 308, p. 128
- CANMET IR 12 (1906), pp. 184-189; 421 (1915), pp. 110-114 (No. 37); 670 (1925), pp. 45-47 (No. 228)
- Nelson Daily News Dec.7, 1953

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW054**

NATIONAL MINERAL INVENTORY: 082F14 Ag63

NAME(S): **RICHMOND-EUREKA**, RICHMOND (L.1472), EUREKA NO. 2 (L.2284)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 57 58 N
LONGITUDE: 117 13 06 W
ELEVATION: 1480 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5534886
EASTING: 484342

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits and dumps.

COMMODITIES: Silver Lead Zinc Cadmium Gold
Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite Tetrahedrite

ASSOCIATED: Siderite Calcite Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Discordant Massive
CLASSIFICATION: Epigenetic Hydrothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Bladed
MODIFIER: Fractured

DIMENSION: 80 x 45 x 3 Metres STRIKE/DIP: 080/45S TREND/PLUNGE:

COMMENTS: General attitude and dimensions of the largest of two deposits.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Slocan Undefined Formation Nelson Intrusions
Middle Jurassic

LITHOLOGY: Quartzite
Calcareous Quartzite
Argillite
Quartz Diorite Dike
Lamprophyre Dike
Minette Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Richmond-Eureka occurrence is situated at 1480 metres elevation above sea level on the east side of Sandon Creek, about 3.2 kilometres by road south of Sandon.

The Richmond-Eureka vein was staked by Bruce White in 1891 and development work on a small scale was begun in about 1895. In 1899 the Richmond claim was Crown-granted to G. Gooderham and the Eureka No. 2 to the War Eagle Consolidated Mining & Development Co. Ltd.

The period of greatest development and production was from 1908 to 1916 when it was owned and operated by the Consolidated Mining & Smelting Co. Ltd. Closed in 1916, the mine was reopened in 1925 and operated intermittently by leasers until 1928.

The Richmond claim had a small amount of development and assessment work done on it in 1940-41 by C. Lindstrom.

The property was optioned by R. Crowe-Sword of Vancouver from Cominco. In 1950 the property was optioned from him by Kootenay Belle Gold Mines. They built a sink-float plant at the base of the lowest, or No. 6 dump and reopened No. 5 & 6 levels. In 1952 they recovered ore from between No. 5 and 6 levels.

In December the property, which included the Silversmith, Slocan Star (082FNW053), Ruth Hope (082FNW052), and Slocan King (082FNW196) claims, was transferred to Carnegie Mines of B.C. Ltd. They produced about 63 tonnes per day all year except during March & April. The Slocan King adit, which is on the same lode but 79 metres below No. 6 adit, was connected to No. 6 adit by a raise.

In 1958 the company was merged with Violamac Mines Ltd. and the name changed to Carnegie Mining Corp. Ltd. In 1959 and 1961 leasers

CAPSULE GEOLOGY

did some small scale mining.

The workings comprise a shaft, a series of open-cuts and short adits, and four main adits connected by raises and stopes. The underground work comprises about 1829 metres of drifts and crosscuts and over 304 metres of raises. The workings have explored the main lode over a horizontal distance of about 610 metres and a vertical distance of nearly 305 metres.

Leasers worked the Ruth Hope claim part time during 1962.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Richmond-Eureka occurrence is hosted by massive, commonly calcareous quartzite and argillite of the Slocan Group intruded by various dikes of quartz diorite, lamprophyres and minettes. The rocks are dislocated by strong reverse faults subparallel to north to northwest bedding.

The Richmond-Eureka deposit is the extension of the Silversmith (082FNW053) and Ruth-Hope (082FNW052) deposits to the west. On the Richmond and Eureka No. 2 Crown grants, the deposit consists of a vein hosted by an oblique normal-sinistral fault of unknown displacement. The vein strikes 080 degrees and generally dips 45 degrees southeast. The fault consists of a strongly brecciated and sheared zone up to 14 metres wide that curves locally to follow bedding especially near the basic dikes. The fault appears to widen in soft rocks and tightens in the more siliceous strata and dike rocks. The ore consists of up to 2.5 metres of massive sheared galena located at the hangingwall of the fault and bands and veinlets, up to 5 centimetres thick, of sheared galena at the footwall. A vertical zoning of sulphides with sphalerite becoming more abundant with depth and gangue with siderite-calcite passing downwards to siderite-quartz are reported. Pyrite, tetrahedrite and chalcocopyrite are present in minor amounts and leaf silver has been noted.

The deposit has been exploited with a shaft and a series of short adits. The underground workings comprise 1830 metres of drifts and 300 metres of raises and stopes. The workings which extend for 600 metres along strike and about 300 metres vertically explore two separate deposits along the same fissure zone. The largest deposit was 3 metres thick, 45 metres long and extended 80 metres down-dip.

Production from the Richmond-Eureka deposit between 1896 and 1961 yielded about 24 tonnes of silver, 2322 tonnes of lead, 761 tonnes of zinc, 1499 kilograms of cadmium and 590 grams of gold from 36,650 tonnes mined.

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1912-149,322; 1913-420; 1914-287,510; 1916-516; 1924-196; 1925-245;
1926-251; 1950-144; 1951-43,169,314; 1952-174,335; 1953-46,138;
1954-51,139; 1955-61; 1956-94; 1957-52; 1958-46; 1959-A49,68;
1960-76; 1961-A50,76; 1962-80; 1963-77; *1964-124; 1965-191
EMPR BC METAL MM01374
EMPR BULL 29, p. 102
EMPR INDEX 3-210; 4-124
EMPR LMP Fiche No. 61443
EMPR P 1989-5
EMPR PF (Richmond-Eureka composite cross-section, 1953; Starr, C.C.
(1949): Brief Report on Richmond Eureka Mine, 3 p.)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 14; *184, p. 113; 308, p. 147
GSC SUM RPT 1925 Part A, p. 201

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 359
REPORT: RGEN0100

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DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW055**

NATIONAL MINERAL INVENTORY: 082F14 Ag22

NAME(S): **FREDDIE LEE (L.475)**, RICHMOND-EUREKA EXTENSION

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 57 55 N
LONGITUDE: 117 12 24 W
ELEVATION: 1860 Metres

NORTHING: 5534791
EASTING: 485178

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adit. See also Colonial (082FNW069), Chicago No. 2 (082FNW194) and Jazmine (082FNW254).

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Quartz Siderite

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
Limestone
Argillite
Slate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Freddie Lee property is situated on Crown grant Lot 475 at 1860 metres elevation above sea level in the Slocan Mining Division. The property is on the east side of the ridge that separates Cody and Sandon creeks.

The claims extend from the creek, at the 1310-metre elevation, to the summit of the north trending ridge at an elevation of about 1981 metres. The Airdrie Fraction, Freddie Lee, Colonial (082FNW069), and Cristein (082FNW254) claims are located from north to south near the crest of the ridge. The Chicago No. 2, Chicago Fraction, and Pullman Fraction claims (082FNW194) cover the ground down slope from the Colonial and Freddie Lee.

The Freddie Lee claim (Lot 475), staked in 1891 by J. Wardner under the law providing for extralateral rights, was the first property in the Slocan district to ship ore. The Freddie Lee Mining Co. was incorporated in March 1893 and by the end of the 610 metres of development work had been done. The claim was Crown-granted to the company in 1894. Intermittent exploration and development work was carried on for a number of years; in 1902 a total of 152.4 metres of tunneling and 61 metres of raising and sinking was reported. The company charter was surrendered in 1912. The claim was acquired by U. McCune, of Salt Lake City, in about 1917 and further exploration and development work was done at that time. Some work was reported on the Freddy Lee claim by lessees in 1940.

The Colonial claim (Lot 5313) was owned and intermittently explored by A.D. Coplen, of Spokane, from about 1906. In 1928 the Colonial, Freddie Lee, Cristein, Airdrie Fraction, and Nellie claims were acquired under option by W.G. Wasmandorff of Vancouver. The Cristein claim (Lot 5369) had been Crown-granted to Messrs. McDonald and Taylor in 1904; the Airdrie Fraction (Lot 9832) had been Crown-granted to Messrs. McAllistar and Bigney in 1910. Colonial-Slocan Mines, Limited, was incorporated in May 1929 to acquire the claims and carry on exploration work. Work by the company ended in January 1930 and the company charter was surrendered

CAPSULE GEOLOGY

in 1932.

The workings on these claims include 9 or more short adits and several raises and intermediate levels. The upper 4 adits explore the Freddie Lee vein down dip. The lower adits comprise the principal workings on the Colonial and Chicago No. 2 claims.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Crown grant is underlain by sedimentary rocks of the Slocan Group which form a broken syncline composed chiefly of massive quartzite and limestone. To the east the syncline is faulted against another broader syncline in which the strata dip generally to the east. The core of this syncline is occupied by slate and argillite. The occurrence is hosted within quartzite beds of the western synclinal structure.

The occurrence consists of a fissure vein striking 065 degrees and dipping 65 degrees southeast. The vein has been stoped for at least 30 metres along strike. Mineralization included galena, sphalerite and pyrite in a gangue of quartz and siderite.

The first ore shipment from the Sandon area was from the Freddie Lee property in 1892. Total production from the property between 1892 and 1940 yielded about 2834 kilograms of silver, 443,396 kilograms of lead, 100 kilograms of zinc and 93 grams of gold from 741 tonnes mined.

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1898-1143,1145; 1902-149; 1914-288; 1917-189,448; 1921-138;
1925-245; 1928-294; *1929-307; 1940-26,80
EMPR BC METAL MM01198
EMPR BULL 29, p. 11
EMPR EXPL 1977-E52; 1979-71
EMPR INDEX 3-196
EMPR LMP Fiche No. 60601
EMPR P 1989-5
EMPR PF (Plans of underground workings on Airdrie Fraction, Freddie Lee and Colonial Crown grants, October 1918; Starr, C.C. (1929): Report of Preliminary Examination of the Colonial-Slocan Group, 6 p., map of workings 1"=40', in 082FNW069)
EMR MP CORPFILE (Colonial-Slocan Mines Limited)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 13; *184, p. 31; 308, p. 129

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW056**

NATIONAL MINERAL INVENTORY: 082F14 Ag23

NAME(S): **NOONDAY (L.2136)**, LEADSMITH, BOLANDER (L.2143),
BABY FR. (L.5542), GREY EAGLE (L.2137), FOURTH OF JULY (L.2138)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 57 14 N
LONGITUDE: 117 11 32 W
ELEVATION: 1677 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of underground workings.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5533522
EASTING: 486211

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ASSOCIATED: Calcite Siderite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Calcareous Argillite
Tuffaceous Argillite
Cherty Argillite
Slate
Quartz Feldspar Porphyritic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Noonday occurrence is situated on the north side of the ridge that separates Cody Creek into two forks, in the Slocan Mining Division. The property includes the Noonday, Grey Eagle, Fourth of July, Bolander and Baby Fraction Crown grants (Lots 2136, 2137, 2138, 2143 and 5542 respectively). Most of the underground workings are on the Noonday Crown grant at 1677 metres elevation above sea level.

The property was operated in 1893 by G.J. Atkins and Company, but was acquired by the White interests of Spokane, Washington, prior to 1898. Bruce White, along with his brother, Oscar, carried out development work as funds were available during the next several years until 1915 when Noonday Mines Company was formed to bring the property into production. However, shortly after this time, and before any amount of work had been done, Bruce White died and the property remained more or less idle until 1925. In that year Leadsmith Mines, Limited, was incorporated and during the next few years, until 1930, carried out extensive development work. Nothing further was done on the property until 1951 when Noonday Mines Limited, a wholly owned subsidiary, incorporated in 1947 of Alpine Mining Company of Spokane, Washington, reopened and examined No. 4 adit. In 1954 the property was under lease, and a small amount of ore was taken out.

Mine workings include 4 adits over a vertical range of between 152 and 183 metres. Production has been entirely from the upper 3 levels, most of it coming from above No. 2 level, which contains about 244 metres of drifts. The drift on No. 3 level is 213 metres in length. Some stoping was done above this level. The No. 4 level, examined in 1951, contains over 914 metres of workings, but work on this level was disappointing. According to Cairnes, (1935, p. 65), room exists between No. 3 and No. 4 levels for important mineral deposition.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity

CAPSULE GEOLOGY

of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The rocks on the Noonday property include banded, calcareous, tuffaceous and cherty argillite and minor slate of the Slocan Group. The strata strike 025 degrees, dip 60 degrees southeast and are intruded by quartz feldspar porphyritic dikes and sills.

The occurrence consists of a mineralized shear developed subparallel to the strike of the sedimentary rocks. The shear has been exploited in four adits over a vertical range of about 180 metres. It is about 60 to 90 centimetres wide in the upper levels of the mine and averages 1.5 metres on the No. 4 level. The shear is composed essentially of crushed wallrock containing bands and disseminations of sulphides within a matrix of coarse calcite or siderite in the lower levels of the mine. Coarse, cubic argentiferous galena is the dominant sulphide mineral. It occurs with sphalerite and a trace of pyrite in bands and lenses up to a metre thick in the upper levels of the mine.

Production from the property between 1894 and 1954 yielded 548,378 grams of silver, 147,499 kilograms of lead, 4946 kilograms of zinc and 31 grams of gold from 357 tonnes mined.

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1910-244; 1912-149; 1914-510; *1915-121; 1916-197,516; 1917-448;
*1918-167; 1921-136; 1922-200; 1923-384; 1925-244, *1926-250;
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1954-51,141
EMPR BC METAL MM01334
EMPR BULL 29
EMPR INDEX 3-207
EMPR LMP Fiche No. 61117
EMPR P 1989-5
EMR MP CORPFILE (Noonday Mines Limited; Alpine Mining Company)
GSC MAP 273A; 1090A; 1091A
GSC MEM 173, p. 13; *184, p. 64; 308, p. 129

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW057**

NATIONAL MINERAL INVENTORY: 082F14 Ag1

NAME(S): **IVANHOE (L.743)**, ELGIN (L.742)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 57 14 N
LONGITUDE: 117 14 39 W
ELEVATION: 2058 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of No. 4 portal and dumps.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5533532
EASTING: 482485

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz Siderite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Discordant
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Fractured Sheared
DIMENSION: 180 x 180 x 7 Metres STRIKE/DIP: 090/52S TREND/PLUNGE:
COMMENTS: Towards the west, the vein curves and swings to a northwest orientation.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Quartzite
Limestone
Argillite
Quartz Feldspar Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Ivanhoe occurrence is situated on Crown grant Lot 743 at 2058 metres elevation above sea level, between Sandon and Selkirk peaks, in the Slocan Mining Division. The underground workings cover most of the eastern portion of Lot 743 and extend east on to the Elgin Crown grant (Lot 742).

This property was owned in 1952 by the Minnesota Silver Company, Limited, who have owned the claim since 1894.

The property was located about 1893 and was worked fairly steadily up to 1905, after which it lay idle until 1913 when operations were resumed and continued until 1921. Since that time little if any work has been done within the property limits. In 1900 a 100-ton mill was erected at Sandon. This was connected to the mine workings by an aerial tramway 2590 metres long. The mill was burned in 1915, and subsequently rebuilt by the Rosebery-Surprise Mining Company who acquired an option on the Ivanhoe property in 1919. This option was allowed to lapse the following year and in 1921 Silversmith Mines, Limited, took over the mill and remodelled it.

The mine was developed by 8 levels over a vertical range of about 183 metres. Nos. 1, 2, 4 and 8 levels are adits. Ore was stoped from No. 6 to 12.1 metres above No. 1 level, a vertical distance of 99 metres, but most of the stoping was done between levels Nos. 2 and 4. No. 2 level, driven on parts of a large and complex lode was partly accessible in 1948. No. 8 adit reaches the Ivanhoe lode at 399 metres and No. 4 adit reaches it at about 152 metres from the portal. The longest levels are Nos. 4 and 8. The former extends 224 metres east and 780 metres west and southwest of the crosscut, including in the latter direction an extension of 335 metres into the adjoining property of the Canadian group (082FNW197). No. 8 level drifts about 152 metres west of the crosscut and 286

CAPSULE GEOLOGY

metres east and also passes into Canadian ground for 247 metres. These levels are only partially accessible and the other levels are short and for the most part inaccessible.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slokan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slokan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slokan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Ivanhoe occurrence is hosted by limestone, argillite and quartzite of the Slokan Group that are intruded by quartz feldspar porphyries. The rocks are folded in a synclinal structure with the limbs striking north-northwest and dipping moderately southwest and northeast. The occurrence consists of a broad and irregular zone of faulting and shearing over 7 metres in width containing brecciated wallrock cemented by quartz and siderite with local lenses and veins of sulphides up to 1.5 metres thick. The walls of the fissure vein are marked by consistent gouge. The shear zone strikes east-west for most of the property but swings sharply southwest as it approaches the Canadian property (082FNW197). Veins within the shear zone dip 52 degrees south. On the Ivanhoe and Elgin Crown grants the vein system has been developed on at least eight underground levels and over a vertical range of about 180 metres. Above the No. 3 level of the mine the stopes were continuous for about 180 metres. Within the productive section of the veins the ore consisted of argentiferous galena and sphalerite in a matrix of siderite and quartz. Much of the ore was concentrated in semimassive lenses up to 1.5 metres wide between the second and fourth levels.

Production from the Ivanhoe between 1895 and 1935 yielded about 14 tonnes of silver, 2366 tonnes of lead, 330 tonnes of zinc and 31 grams of gold from 40,293 tonnes mined.

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EMPR BC METAL MM01245
EMPR BULL *29, pp. 82-84
EMPR INDEX 3-201
EMPR P 1989-5
EMPR PF (Black, J.M. (1946): Underground geology plan and survey;
*Fairbanks, B.D. (1988): Report on the Ivanhoe Mine, Sandon Area in Prospectus, Whirlwind Resources Ltd., August 11, 1988: see 082FNW General: Geological plan of Silverton Area, B.C. Department of Mines, 1966)
GSC ANN RPT 1895 Part A, p. 29
GSC MAP 273A; 1090A; 1091A; 1667
GSC MEM 173, p. 13; *184, pp. 63,64; 308, p. 126
GSC SUM RPT 1925A

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/21

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

The Oakland claim was Crown-granted to F.F. Liebsher in 1904. Only one report has been written on this property, possibly due to the fact that the work done on it has been largely of a prospecting nature.

In 1946 the Oakland group, consisting of 9 located claims, was owned by F. Mills of Silverton. Development work at this time consisted of 5 short adits over a vertical range of about 91 metres. The lower adit is 15 metres long; No. 2 adit is 56.3 metres long, No. 3 adit is 30 metres long; the upper two are very short.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

On the Oakland property the Slocan Group comprises massive argillite and quartzite. The strata are tightly folded, faulted and cut by granitic dikes. The occurrence is hosted within a shear zone that strikes northeast and may correlate with the Canadian occurrence (082FNW197). The mineralized vein is strongly silicified and follows an altered granitic dike on its northwest wall. The vein dips 30 to 40 degrees southeast, varies from 30 to 180 centimetres in width and is hosted within a 7 metre wide shear zone. It carries pockets of galena and sphalerite in a gangue of siderite and quartz. The vein has been explored with at least five short adits over a vertical range of 90 metres.

A sample of high grade galena ore assayed 2948 grams per tonne silver, 47.5 per cent lead and 5.6 per cent zinc while a sample of sphalerite ore assayed 55 grams per tonne silver, 0.28 per cent lead and 26.7 per cent zinc (Minister of Mines Annual Report 1946).

BIBLIOGRAPHY

- EMPR AR 1904-297; *1946-167
EMPR BULL 29, pp. 52,65,120
EMPR P 1989-5
EMPR PF (See 082FNW - General: Geological plan of the Silverton area, B.C. Department of Mines, 1966; *Starr, C.C. (1947): Report on the Oakland Group of Mining Claims, 7 pages and sketches)
GSC MAP 273A; 1090A
GSC MEM 173; 184; 309

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/09

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW059**

NATIONAL MINERAL INVENTORY: 082F14 Ag3

NAME(S): **WAKEFIELD (L.1527)**, OTTAWA NO. 3, THE BEN,
CASABAZNA, KELSO, CHAMBLET,
BRANDON

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 57 12 N
LONGITUDE: 117 16 51 W
ELEVATION: 1783 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adits and dumps.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5533480
EASTING: 479854

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite
ASSOCIATED: Calcite Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Breccia Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Sheared
DIMENSION: 35 x 12 x 1 Metres STRIKE/DIP: 040/15S TREND/PLUNGE:
COMMENTS: The largest mineralized lens extended for about 35 metres along
strike and 12 metres updip. The vein was 1.8 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Carbonaceous Argillite
Limestone
Quartzite
Granitic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Wakefield property is situated on Wakefield Creek, southwest of Selkirk Peak at 1783 metres elevation above sea level in the Slocan Mining Division. The underground workings are on the Wakefield Crown grant (Lot 1527).

The Wakefield group was developed originally by Wakefield Mines Limited who began mining operations on the property in 1897, and in 1900 completed a 100-ton mill on Silverton Creek. An aerial train line connected mine and mill. This company suspended operations in 1902 and for five years thereafter the property was worked under lease by various interests. Further work was done in 1915 and in 1918 an option on the claims was taken by Clarence Cunningham, and later by the Victoria Syndicate. In 1912 the mill burned down and was rebuilt by the owners of the Hewitt mine. In 1929 the Wakefield property was leased to A. Jarvis, who is reported to have shipped several tonnes of ore.

Workings at Wakefield mine comprise 7 adits over a vertical range of about 61 metres. The longest adit, No. 2, is 259 metres long, and most of the ore mined came from this adit and the No. 1 adit, both of which are now inaccessible. This group was owned in 1952 by Kelowna Exploration Company Limited.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin.

CAPSULE GEOLOGY

Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

On the Wakefield property the Slocan Group comprises carbonaceous argillite, quartzite and limestone. The strata are folded, faulted and cut by granitic dikes. On the property the sedimentary rocks generally strike 040 degrees and dip 15 degrees southeast. The occurrence consists of a fissure vein that is subparallel to bedding. The vein has been developed in at least seven adits covering a vertical range of about 60 metres and 300 metres along the dip slope. In the mine the vein averaged 1.8 metres but did swell up to 6 metres in places. It consisted of bands and lenses of coarse calcite and quartz mixed with gouge and wallrock. Galena, sphalerite and tetrahedrite formed bands, lenses and disseminations within the calcite. The largest lens extended for about 35 metres along strike and 12 metres updip.

The vein is crudely zoned with galena being more concentrated on the margins and sphalerite occupying the central portion of the vein. The proportion of sphalerite to galena also increases with depth. The vein is brecciated and banded and may have resulted from multiple injections of ore and gangue minerals (Geological Survey of Canada Memoir 184).

Production from the Wakefield between 1899 and 1929 yielded about 6 tonnes of silver, 1111 tonnes of lead and 5 tonnes of zinc from 8943 tonnes mined.

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1902-149; 1903-137,242; *1904-175; 1905-25,160; 1906-249;
1907-99,214; 1911-151; 1912-149; 1915-122,129,445; 1918-166,169;
1919-126; 1923-228; 1927-270; 1929-285,315; 1946-161; 1947-170;
1961-77
EMPR BC METAL MM01455
EMPR BULL *29, pp. 48,53,71,72,89,120
EMPR INDEX 3-218
EMPR P 1989-5
EMPR PF (See 082FNW - General: Geological plans of the Silverton area,
B.C. Department of Mines, 1966; Geological compilation and
structural map of the Sandon area, Kelowna Exploration); Starr,
C.C. (1937): Report on Geology, in 082FNW180)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, pp. 15,95; *184, pp. 157-159; 308, pp. 119,127
CANMET IR 12 (1906), pp. 215-219

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/10

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

mill operated from July 1935 until March 1936, and again from the spring of 1937 until December 1937.

Following a period of inactivity when company attention was directed to reopening the Standard and reclaiming tailings from Slocan Lake, the mine again came into production in 1942. By 1944 the orebody between Nos. 7 and 5 levels was mined out, and a considerable amount of exploratory drilling was done, much of it below No. 7. In the same year a new adit, the Monarch, was started to investigate intersections obtained by surface drilling. All work ceased in May 1945. The company began driving No. 9 level in September 1948. The aerial tramway was rehabilitated in 1950 and the mill operated from November of that year until November 1952. During 1954-55 the No. 7 level was extended westerly through the Monarch claim into the Hecla zone (082FNW062) of the Standard property. Production from the Mammoth resumed in 1956. During 1958-59 the No. 12 crosscut adit was driven 792 metres to the downward extension of the Mammoth zone. The adit for the most part parallels, and in two places cuts the vein on the adjacent Buffalo property (082FNW182). Work ceased in June 1959.

Loma Minerals Ltd. acquired a lease on the property and carried out development work from February 1961 until October 1962. Johnsby Mines Limited was incorporated in November 1962 to operate the property under the terms of an agreement between the owner, Western Exploration, and Rayrock Mines Limited and Faraday Uranium Mines Limited. Development work began in a new exploration adit on the Standard property. Mining began on the Mammoth between 9 and 12 levels in 1965 and continued until the ore was exhausted late in 1966. Total development work to that date is estimated at approximately 2560 metres of drifts and crosscuts in 6 adits, Nos. 1, 2, 4, 7, 9, and 12, and 6 intermediate levels. No. 3 1/2 and two other short adits lie to the west of the main orebody, and an exploratory cross-cut, the 152-metre long Monarch adit, lies farther to the west.

Arjan Pacific Ltd. by an agreement dated September 26, 1973 purchased the Mammoth and adjacent properties from Western Exploration Company, Limited. In 1976 the Mammoth and Buffalo properties were owned by D.W. Pengelly, of Silverton.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The Mammoth occurrence is hosted by various, more or less calcareous, mostly massive argillites and quartzites of the Slocan Group intruded by various sills and dikes of feldspar porphyry and bodies of hornblende or quartz diorite related to Nelson intrusions. Although deformation is intense, the rocks are generally flat lying in the immediate area of the mine.

The deposit occurs within an oblique, normal and sinistral shear zone up to 15 metres wide with displacement probably in the order of 100 metres. The mineralized vein has been developed from five main adits over a vertical range of 300 metres on the Mammoth claim and at least one crosscut adit on the Monarch claim. The orebody is pipe-shaped and appears to have a 20 degree plunge to the southeast. Above the No. 5 level it divides into two tabular masses in a comparatively straight fissure that strikes 075 degrees and dips 40 to 65 degrees southeast. On the No. 8 level the Buffalo (082FNW182) vein intersects and merges with the Mammoth vein. The Mammoth vein is believed to continue to the west and correlate with the "I vein" on the Standard property (082FNW180).

Within the mine mineralization was fairly continuous over a length of 130 metres and consisted of streaks, bands, lenses and disseminations of ore and gangue associated with abundant brecciated wallrocks. The ore occurred in massive lenses 1 to 1.5 metres wide and consisted of coarse to fine grained cubic and sheared galena with coarsely cleavable masses of sphalerite and minor tetrahedrite. Mineralization was more common at the footwall of the shear zone but was also observed at the hangingwall as well as in irregularly dispersed masses within the shear zone. The ore minerals occurred

CAPSULE GEOLOGY

with coarse calcite, siderite and minor quartz. Deformation subsequent to mineralization resulted in the fracturing of sphalerite and to the development of a well defined gneissic structure in which galena has flowed around and surrounded fragments of sphalerite.

Complete production figures are not available because the Mammoth mine ore was jointly milled with that from the Standard (082FNW180) and Enterprise (082FNW148) properties prior to 1958, and Hecla (082FNW062) property after 1964. However, production from the Mammoth mine between 1925 and 1980 yielded about 25 tonnes of silver, 2622 tonnes of lead, 4158 tonnes of zinc, 20 tonnes of cadmium, 46 kilograms of copper and 3 kilograms of gold from 63,865 tonnes mined.

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- EMPR BULL *29, pp. 86-90, Fig. 10
- EMPR BC METAL *MM01290
- EMPR EXPL 1976-E42; 1980-88
- EMPR INDEX 3-204; 4-123
- EMPR LMP Fiche No. 60971-60977
- EMPR P 1989-5
- EMPR PF (Mayo, E.B. (1948): Surface geology and composite level maps of Mammoth mine, Kelona Exploration Company; Starr, C.C. (1925) Abstract of Mammoth Mine, 2 p; Starr, C.C. (1937): Report on the Geology of the Mammoth Mine; Starr, C.C. (1952): Geology Between the Standard and Mammoth Mines, Scale 1" = 100'; Starr, C.C. (1954): Geology maps of Monarch tunnel, longitudinal projection No. 1 and 2 of Hecla mine geology and composite geology map of levels 4, 5, 6, 7 and 8, Western Exploration Company; Composite plan of Johnsby mines, 1962; see Standard, 082FNW180 - Composite level plan; *Hedley, M.S. (1944): Report on the Standard and Mammoth mines, Western Exploration Company; Starr, C.C. (1937): Report on Geology; See 082FNW General - Geological plans of the Silverton area, B.C. Department of Mines, 1966; Geological compilation and structural map of the Sandon area, Kelowna Exploration; see Silverite, 082FNW011 - Billingsley, P., Picture model of Silver Ridge and Howson Creek area, 1956; Western Exploration Company, Limited (1947-1959): 47 reports and correspondence on Mammoth Mine)
- EMR MP CORPFILE (Standard Silver-Lead Mining Co.; The Porcupine Goldfields Development and Finance Company, Limited; Western Exploration Company, Limited; Johnsby Mines Limited; Arjan Pacific Ltd.)
- GSC MAP 273A; 1091A; 1956-3
- GSC MEM 173, p. 13; *184, pp. 75-78; 309, pp. 111,184,191
- CANMET IR 763 (No.612), 1935, pp. 17-22
- GCNL #134,#140, 1980

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/10

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW061**

NATIONAL MINERAL INVENTORY: 082F14 Ag29

NAME(S): **ECHO (L.719)**, GRAPHIC (L.12114), LINK FR.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 57 46 N
LONGITUDE: 117 19 01 W
ELEVATION: 1524 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5534540
EASTING: 477268

LOCATION ACCURACY: Within 500M

COMMENTS: The Echo lode, an extension of the Standard-Alpha-Echo lode, on the Echo Reverted Crown grant (Lot 719) (Geological Survey of Canada Memoir 184, Figure 5). See Standard (082FNW180).

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite Pyrite Chalcopyrite

COMMENTS: Galena and sphalerite are the most abundant sulphide minerals.

ASSOCIATED: Calcite Quartz Siderite

MINERALIZATION AGE: Unknown

DEPOSIT

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

DIMENSION: 8 Metres STRIKE/DIP: 060/45S

TREND/PLUNGE:

COMMENTS: The fissure zone is 8 to 21 metres wide with has a general strike of 060 degrees and an average dip of 45 degrees southeast.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

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

LITHOLOGY: Argillite
Calcareous Argillite
Limestone
Quartzite
Felsic Dike
Basic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

CAPSULE GEOLOGY

The Echo occurrence is located at about 1524 metres elevation, on the southwest flank of Idaho Peak and between Bartlett and Emily creeks.

Work began on the Echo occurrence in about 1914 and continued intermittently until 1926. Most the workings are close to the Echo-Alpha (Lot 562) claim boundary. Development was carried out in four adits. The uppermost adit was driven on the Link Fr. claim. The other three adits were driven northeast into Echo ground from the Alpha claim (082FNW180), crossing the claim boundary at about 61, 129 and 229 metres from their respective portals. The No. 3 adit is 30 metres vertically below the No. 4 adit and 76 metres vertically above the No. 2 adit.

Hostrocks of the Echo occurrence include argillite, calcareous argillite, limestone and quartzite of the Triassic Slocan Group. The general strike varies from north to northwest and dips vary from east to northeast at about 50 degrees.

Mineralization consists primarily of galena and sphalerite hosted in a strong fissure zone with considerable fault movement. Other minerals included tetrahedrite, pyrite and locally abundant chalcopyrite. Gangue minerals include calcite, quartz and siderite. Calcite is commonly coarsely crystalline forming bands up to 90 centimetres thick carrying brecciated fragments of galena, sphalerite and wallrock. The fissure zone is 8 to 21 metres wide and is composed of brecciated and faulted country rock hosting vein mineralization.

The adits explored the main Standard-Alpha lode which on the Echo-Alpha properties has a general strike of 060 degrees and dips

CAPSULE GEOLOGY

about 45 degrees southeast. Several ore shoots were discovered and partially stoped from this fissure. One of these shoots was near the portal of the No. 3 adit and another on the Echo-Alpha claim boundary between the Nos. 2 and 3 levels.

Production records indicate 752 tonnes of ore was mined periodically between 1913 and 1928. This ore yielded 2,047,542 grams silver, 31 grams gold, 239,282 kilograms lead and 104,203 kilograms zinc.

BIBLIOGRAPHY

EMPR AR 1896-558; 1914-288; *1915-120,122,126; 1916-197; 1917-157, 448; 1918-169; 1919-125; 1921-138; 1926-256
EMPR BC METAL MM01175
EMPR INDEX 3-195
EMPR P 1989-5
EMPR PF (See Standard (082FNW180); Starr, C.C. (1937): Notes on the Geology of the Alpha Mine and Report on Geology, both in 082FNW180)
GSC MAP 1667
GSC MEM 173, p. 12, Map 273A; 184, p. 37; 308, p. 126

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/27

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW062**

NATIONAL MINERAL INVENTORY: 082F14 Ag65

NAME(S): **HECLA**, SURPRISE (L.563), STANDARD,
MAMMOTH, JOHNSBY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 57 26 N
LONGITUDE: 117 19 03 W
ELEVATION: 1219 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The centre of the Surprise Crown grant (Lot 563). See Mammoth (082FNW060) and Standard (082FNW180).

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5533923
EASTING: 477226

COMMODITIES: Zinc Lead Silver Gold Cadmium
Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Tetrahedrite Pyrrargyrite Pyrite
Chalcopyrite
COMMENTS: Inferred from the Standard (082FNW180).
ASSOCIATED: Quartz Siderite Calcite
COMMENTS: Inferred from the Standard (082FNW180).
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 46 Metres STRIKE/DIP: TREND/PLUNGE: /
COMMENTS: Three ore shoots were discovered, ranging from 30 to 46 metres length.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

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

LITHOLOGY: Calcareous Argillite
Siliceous Argillite
Carbonaceous Argillite
Quartz Porphyry Dike
Biotite Hornblende Porphyry Dike
Quartzite
Granodiorite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

CAPSULE GEOLOGY

The Hecla occurrence is located on the southwest flank of Idaho Peak at about 1219 metres elevation. Silverton, British Columbia is located 2.75 kilometres to the west.
The Surprise Crown grant (Lot 563) covers the ground hosting the Hecla occurrence. This should not be confused with the Hecla Reverted Crown grant (Lot 13576) or the Hecla ore zone on the Mammoth No. 7 level (082FNW060).
In 1961, Loma Minerals Ltd. held a lease that included the Hecla, Standard (082FNW180), Mammoth (082FNW060), Monarch and Enterprise (082FNW148) groups. Property title was transferred to Johnsby Mines Ltd. in the following year and an extensive development program was commenced on the hangingwall branch of the Standard-Mammoth lode system. This branch follows a general eastern course to the Mammoth mine which lies about two kilometres to the east. The Hecla ore zone lies along this lode between the Standard and Mammoth occurrences. Work on the Hecla occurrence was confined to the Hecla drift, with a total length of 1006 metres, following the trend of the lode. An additional 293 metres of crosscutting and 76 metres of raising was done. Three new ore shoots were discovered during a diamond drilling program, totalling 1452 metres, in the newly collared adit on the north-neighbouring Surprise claim. Stopes were started at about 231, 427 and 518 metres east of the portal

CAPSULE GEOLOGY

crosscut. Production continued until 1966 when the new ore was exhausted. Panoil Canadian Minerals Associates optioned the property in 1967 with further development work on the Mammoth occurrence. Arjan Pacific Ltd. acquired ownership of 32 Crown grants in 1973 which included claims covering the Standard, Hecla and Mammoth lodes. Mengler Leasing Co. operated the property in the early 1980s.

The Hecla occurrence is hosted by siliceous, carbonaceous and locally calcareous argillite, minor quartzite and limestone of the Triassic Slovan Group. These are intruded by a granodiorite stock and various quartz porphyry and biotite hornblende porphyry dikes. The dikes are highly altered to quartz, calcite and sericite, close to the Standard veins. The structure of these strata is extremely complex owing to intricate folding and faulting.

Ore shoots discovered at the Hecla occurrence in 1964 ranged from 30 to 46 metres length. The shoots are along the westward projection of the Mammoth and Hecla zones.

No information could be found regarding the nature of the Hecla lode. Its proximity to the Standard lode along the Standard-Mammoth lode system suggest the types and style of mineralization are similar. Therefore a description of the Standard occurrence is given. The Standard lode-fissure consists of a wide, up to 50 metres, shear zone. Underground, the lode has been followed for nearly 2.39 kilometres. While the lode is somewhat sinuous, it strikes about 065 degrees and dips 20 to 80 degrees, averaging 45 degrees. Near the main orebody the lode has a maximum width of 46 metres. The zone has many small offsets and split in north-northeast and east-northeast branches at its eastern extremity. This is where the main orebody was found. The main ore shoot, known as the Big or Million Dollar stope, extends 366 metres vertically downward from the No. 3 level to below the No. 6 level. Other orebodies, which include the I vein, 640 vein, 620 vein and Spur vein, are scattered along the structure. The ore shoots are generally at angle to the main footwall shear and a sigmoidal shape is reported for some of them, joining the footwall and hangingwall of the structure.

The orebodies occurred generally close to the footwall of the structure and consisted of up to 4 metres of massive, sheared and coarse-grained galena or up to 3 metres of massive galena and sphalerite in veins, stringers and lenses. Breccia composed of argillite, quartzite and porphyry are common in the footwall of the structure. Other reported minerals include varying minor amounts of pyrite, chalcopyrite, tetrahedrite and rare pyrargyrite. The Big ore shoot consisted primarily of relatively clean galena. Ore mined in later years contained mixed sphalerite and galena with the former predominating. Quartz, calcite and siderite comprise the gangue mineralogy.

The controlling factors on mineralization are thought to be the extent of shearing, brecciation and faulting of hostrocks with the presence of porphyry playing a minor role.

Production records for the Hecla occurrence indicate 20,108 tonnes of ore was mined between 1964 and 1983. This yielded 7,301,796 grams silver, 456 grams gold, 911,872 kilograms zinc, 647,478 kilograms lead, 5578 kilograms cadmium and 390 kilograms copper.

BIBLIOGRAPHY

- EMPR AR *1962-82; *1963-77; *1964-A55,125,126; *1966-220; 1975-A95
EMPR BC METAL *MM01290
EMPR IR 1984-2, p. 102; 1984-3, p. 108; 1984-4, p. 121; 1984-5, p. 115
EMPR P 1987-5
EMPR PF (See Standard, 082FNW180 and Mammoth, 082FNW060; Western Exploration Company, Limited (1947-1959): 29 reports and correspondence on Hecla Mine, in 082FNW060)
GSC MAP 1667
GSC SUM RPT 1916, pp. 56-57

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/27

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

known as the Lucky Thought.

The mine lay idle until 1956 when Messrs. Nesbitt, Cordon and Nixon did some exploratory work on the lowest level. The property is developed by 4 adits over a vertical range of about 152 metres. A sublevel was established off a raise between the No. 4 and No. 3 adits. No. 4 adit was driven as a crosscut 198 metres long and then follows the vein for 183 metres. No worth-while mineralization was found at this level. Most of the ore was found in a shoot above the sublevel and this had been stoped out prior to 1918.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slovan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slovan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slovan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The Lucky Thought occurrence is hosted by quartzite, calcareous quartzite and argillites of the Slovan Group that strike 140 degrees and dip 73 degrees northwest. The occurrence is just north of the contact with the Nelson intrusions and the sedimentary sequence has been affected by contact metamorphism from the emplacement of the nearby intrusions. Near the occurrence the Nelson intrusions are composed of medium-grained granodiorite and quartz diorite.

The occurrence consists of a zone of faulting and shearing that strikes 065 degrees and dips 60 degrees northwest. The shear has been explored in four adits over a maximum strike length of about 300 metres. Within this length vein material containing bodies of massive galena, sphalerite and tetrahedrite occurred as lenses up to a metre wide. The lenses were separated by crushed wallrock cemented by quartz and calcite. Tetrahedrite appeared to be associated with galena and sphalerite was generally more abundant than galena.

Production from the Lucky Thought between 1914 and 1979 yielded about 6 tonnes of silver, 532 tonnes of lead, 701 tonnes of zinc, 350 kilograms of cadmium, 287 kilograms of copper and 584 grams of gold from 9321 tonnes mined.

BIBLIOGRAPHY

- EMPR AR *1911-134; 1913-125; 1914-126,288,510; 1915-120,122-445; 1916-197,516; 1917-189,488; 1918-170; *1923-288; 1924-198; 1925-245; 1928-295; 1929-453; 1930-230; 1934-E34; 1935-A27,E35; 1937-A37,E56; 1950-149; 1956-A50,98; 1976-104; 1977-116; 1979-130
- EMPR BULL 29
- EMPR BC METAL MM01281; MM01284 (Lucky Spot)
- EMPR FIELDWORK 1987, pp. 31-48
- EMPR GEM 1970-451; 1971-409
- EMPR INDEX 3-204
- EMPR LMP Fiche No. 60951,60952
- EMPR MINING 1975-1980, Vol.1, pp. 32,34,64,71
- EMPR OF 1988-11
- EMPR P 1989-5
- EMPR PF (Accelerated mine development application, Syber Mines Ltd., 1978; *Report on Spruce claim group, 1978; Starr, C.C. (1947,1948): Lucky Thought Group, 8 p.; see 082FNW, General - Geological plans of the Silverton area, B.C. Department of Mines, 1966)
- GSC MAP 273A; 1091A; 1667
- GSC MEM 173, p. 13; *184, p. 73; 308, p. 184
- GSC SUM RPT 1925 Part A, p. 196

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/23

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW064**

NATIONAL MINERAL INVENTORY: 082F14 Ag41

NAME(S): **VAN ROI**, MOUNTAIN BOOMER (L.740), MACKINAW (L.6528),
VANCOUVER, LE ROI (L.5754), IOWA,
POONA, BALTIMORE (L.5755), SILVER WEDGE FR. (L.5756),
WEDGE, MAURIER CREEK, CDO,
EAST CDO, PBX, CONDO

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 55 46 N
LONGITUDE: 117 17 20 W
ELEVATION: 1220 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5530826
EASTING: 479266

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits, dumps and buildings on Mackinaw. Adits also occur
on Le Roi, about 800 metres to the east. Vein system is probably an
extension of the Hewitt mine (082FNW065).

COMMODITIES: Silver Lead Zinc Gold Cadmium
Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite Pyrargyrite Silver
Chalcopyrite Pyrite Argentite
ASSOCIATED: Quartz Siderite Calcite
ALTERATION: Epidote Silica
ALTERATION TYPE: Propylitic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Shear Massive
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Fractured Sheared
DIMENSION: 900 x 365 x 35 Metres STRIKE/DIP: 070/75N TREND/PLUNGE: 270/55
COMMENTS: Various veins of similar attitudes within a sheared and fractured
zone. The orebodies plunge 55 degrees to the west.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Slocan Undefined Formation Nelson Intrusions
Middle Jurassic

LITHOLOGY: Quartzite
Calcareous Quartzite
Argillite
Quartz Diorite
Granodiorite
Felsic Dike
Mafic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional Contact RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 203.0000 Grams per tonne
Copper 0.0303 Per cent
Lead 1.8800 Per cent
Zinc 7.8500 Per cent
COMMENTS: Sample MA-273.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Van Roi occurrence is situated southwest of the junction of
Maurier and Silverton creeks, in the Slocan Mining Division. The

CAPSULE GEOLOGY

underground workings are on the Mackinaw and Mountain Boomer Crown grants (Lots 6528 and 740).

The original claims were staked in 1892 and the initial production of ore was in 1893 from the Mountain Boomer claim. The Vancouver group, comprised of the Vancouver, Mountain Boomer, Le Roi, Iowa, and Poona claims, was operated from 1896 to 1907. In 1908 the Vancouver was acquired by the Van Roi Mining Co., an English syndicate, and operations continued until 1914.

The Van Roi and Hewitt (082FNW065) properties were acquired by C. Cunningham, of Sandon, in 1917 and intermittent mining operations were carried out under the name of Cunningham Mines Ltd. until 1927. Leasers worked the property the following two years and then it was reported to have been acquired by Amalgamated Mines Ltd. of Vancouver. That same year (1929) Van Roi Mines Ltd. took over the property and operated it intermittently until 1931. Helena Gold Vines Ltd. acquired the property in 1933 but did not open the mine.

In 1942 International Metals Inc. Ltd. began to rehabilitate the mine but abandoned the project before it was completed. The Granby Co. Ltd. did some rehabilitation work on the property in 1946.

Van Roi Mines (1947) Ltd. reopened the mine and operated it for two years. In 1950 the Van Roi Consolidated Mines Ltd. was formed to operate the Van Roi and Hewitt properties. Controlling interest in this company was held by Transcontinental Resources Ltd. Options on the Galena Farm (082FNW067) and Metallic (082FNW066) properties were held for one year. In 1954 the company was reorganized under the name of Slocan Van Roi Mines Ltd. and leasers operated the mine until it was closed in 1957. The name of this company was changed to Kopan Developments Ltd. in 1960.

The property is developed on 9 levels, the workings following the fault zone for nearly 914 metres and to a depth of about 366 metres. To the west the same zone has been explored by the Hewitt mine and possibly it continues to the shore of Slocan Lake in the vicinity of the Galena Farm mine.

In December 1970 Kopan Developments Limited entered into a joint venture agreement with Arjan Pacific Ltd. Geological mapping was carried out in 1971. Arjan Pacific in 1973 acquired title to 43 Crown-grants covering the Van Roi and Hewitt properties.

In 1987 and 1989, PBX Resources Ltd. surveyed the property. The CDO showing lies 450 metres southeast of the Van Roi veins. The Wedge showing lies on the Le Roi claim, 800 metres east of the Van Roi veins. Adits and trenches occur at both of these showings.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The Van Roi occurrence is hosted by quartzite, calcareous quartzite and argillites of the Slocan Group that strike 140 degrees and dip 73 degrees northwest. The occurrence is just north of the contact with the Nelson intrusions and the sedimentary sequence has been affected by contact metamorphism from the emplacement of the nearby intrusions. The quartzite generally contains epidote and the argillite beds are bleached and silicified. Near the occurrence the Nelson intrusions are composed of medium-grained granodiorite and quartz diorite. A few mafic and felsic dikes and sills, some up to 15 metres wide, cut the sedimentary rocks in the mine.

The Van Roi deposit is hosted by a zone of faulting and shearing with oblique normal-sinistral movement. The zone averages 35 metres in thickness, strikes 070 to 075 degrees and dips 75 degrees northwest. It has been explored in seven adits covering 900 metres of strike length and 365 metres vertically. The structure probably correlates with the North vein on the Hewitt property (082FNW065) and may extend as far west as the Galena Farm property (082FNW067).

The shear zone hosts two main veins and numerous, less important ones. The Main or North vein is parallel to the shear structure. It has been developed on all the underground levels. The South or Beryl vein is present in the western part of the mine and exposed on levels 3 to 5. The South vein strikes 050 to 060 degrees and dips 65 to 75

CAPSULE GEOLOGY

degrees northwest. A number of orebodies are scattered at irregular intervals along both vein systems. The ore shoots generally plunge about 55 degrees to the west. Most of the ore was mined from shoots that were 30 to 60 metres long and 1 to 3 metres thick. Most shoots occurred between levels 2 and 5 of the mine. All ore shoots were similar and consisted of lenses and veins of massive galena and sphalerite, commonly associated with brecciated zones with fragments of ore and hostrocks cemented by quartz, siderite and calcite. The high grade portions of the ore shoots locally carried tetrahedrite, pyrrargyrite and some native silver. Pyrite and chalcopyrite were common accessory minerals.

In general, the boundaries of the ore zones were determined by the limits of commercial values rather than a structural break. However, in the western part of the mine the Main vein was terminated against a southeast striking fault zone. West of the fault the North vein could not be located but lateral displacement was probably not great because the Hewitt North vein lies almost directly on strike with the termination of the Van Roi North vein.

Production from the Van Roi mine between 1893 and 1958 yielded about 86 tonnes of silver, 8091 tonnes of lead, 7600 tonnes of zinc, 16 tonnes of cadmium and 9 kilograms of gold from 284,706 tonnes mined.

Klondike Gold Corp. acquired the Van Roi and Hewitt mines in December 1999.

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- EMPR ASS RPT *17265, *19463
- EMPR BC METAL MM01453
- EMPR EXPL 1977-E51; 1988-C39
- EMPR FIELDWORK 1987, pp. 31-48
- EMPR GEM 1971-409
- EMPR INDEX 3-206,217; 4-126
- EMPR LMP Fiche No. 61711-61717
- EMPR OF 1988-11
- EMPR P 1989-5
- EMPR PF (See Arlington, 082FNW152 - Lab analyses for Van Roi mine; see 082FNW General - Geological plan of the Silverton area, B.C. Department of Mines, 1966; Starr, C.C. (1926): Notes on Brief Inspection of Van Roi Mine, 7 p.; Starr, C.C. (1929): Report of Examination of the Van Roi Mine, 17 p., plan and section of workings 1"=80'; Mason, R.P. (1950): Tonnage and Grade Report, 3 p.)
- EMR MP CORPFILE (Van Roi Mining Co. Ltd.; Kopan Developments Limited)
- GSC MAP 273A; 1091A; 1667; 1956-3
- GSC MEM 173, p. 15; *184, pp. 149-152; 308, p. 136
- GSC SUM RPT 1925 Part A, p. 209
- CMH 1962, pp. 134,233
- PR REL Klondike Gold Corp., Dec. 13, 1999
- WWW http://www.infomine.com/index/properties/VAN_ROI_MINE.html

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DATE REVISED: 1996/01/22

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW065**

NATIONAL MINERAL INVENTORY: 082F14 Ag51

NAME(S): **HEWITT (L.4440)**, LORNA DOONE (L.1401)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 55 38 N
LONGITUDE: 117 18 49 W
ELEVATION: 1495 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5530586
EASTING: 477491

LOCATION ACCURACY: Within 500M

COMMENTS: Location of west portal of the No. 10 or main level.

COMMODITIES: Silver Zinc Lead Gold Cadmium
 Antimony Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Tetrahedrite Pyrite Pyrrhotite
 Silver Pyrargyrite Stibnite Boulangerite

COMMENTS: A mineral resembling boulangerite was observed in ore samples.

ASSOCIATED: Quartz Siderite Calcite Agate

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Shear Disseminated

CLASSIFICATION: Epigenetic Hydrothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Bladed

MODIFIER: Fractured Sheared

DIMENSION: 210 x 135 x 3 Metres STRIKE/DIP: 090/70N TREND/PLUNGE: 270/70

COMMENTS: General attitude and dimensions of ore shoot near the summit of the divide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Quartzite
 Calcareous Quartzite
 Argillite
 Hornblende Granodiorite
 Quartz Diorite
 Felsic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Hewitt mine is situated on the north flank of Mount Twigg south of Silvertown Creek, in the Slokan Mining Division. The underground workings include at least fourteen separate levels and straddle the north face of the mountain. The adits are located on the Hewitt and Lorna Doone Crown grants (Lots 4440 and 1401). The portal of the No. 10 or main working level is at 1495 metres elevation above sea level.

Adits were driven on the Lorna Doone claims in 1893 by owners Rathbourne and Culver, and on the Hewitt claim in 1896 by owners Tatlow, Yates and associates of Vancouver. The Lorna Doone was Crown-granted to Frank Culver in 1898 and the Hewitt to Robert Insinger in 1902. Development work to that date totalled about 1524 metres in 4 adit levels and 2 intermediate levels on the west (Hewitt) side of the hill. Lessees M.S. Davys, R. Sutherland and associates worked both claims from about 1903.

A New York syndicate acquired an option in 1907 and Hewitt Mining Company was incorporated in Delaware later that same year to operate the Hewitt and Lorna Doone. A 1524-metre long aerial tram was built from No. 3 adit to connect with the Wakefield mill. Ore shipments in 1908 were under the name Silver Cord Mining Company, Limited, which had been incorporated in March 1908 with head office at Sandon.

Silvertown Mines, Limited was organized in about 1909 by M.S. Davys and G. Stillwell to lease and option the property. By 1911

CAPSULE GEOLOGY

three of the adits had been driven through the hill to the east (Lorna Doone) side. The camp was moved to the east side where No. 7 adit level was begun. An aerial tram was built from this adit to the Wakefield mill, which was leased. The mill, which was based on the water concentration principal, burned in 1912 and a new 150 ton per day flotation mill was installed, however due to metallurgical problems satisfactory operation was not achieved until 1915.

The property was acquired by C. Cunningham of Sandon in 1917 and intermittent mine and mill operations continued into 1920. Lessee M.S. Davys resumed work on the property in 1922. Hewitt Mines, Limited was incorporated in June 1925 with head office in Nelson. The property was acquired in 1925 or 1926 by The Victoria Syndicate, Limited and development work on Nos. 8 and 9 adit levels continued into 1928.

The Galena Farm Consolidated Mines Limited acquired the property in 1929. Plans were made to establish No. 10 level which was to be driven through the mountain for a total length of over 1828 metres. Development work began from both ends (No. 10 east and No. 10 west adits). An aerial tram was installed from No. 10 west portal to the Galena Farm mill, a distance of 2682 metres. Work ceased in January 1930 with some 228.6 metres remaining to make the connection between the two adit faces. Lessees worked intermittently during the period of 1935 to 1942. The Granby Consolidated Mining, Smelting and Power Company, Limited optioned the lease in 1946 and during 1947 drove a raise from No. 10 east adit to No. 9 level, the option was given up later that year.

Van Roi Mines (1947) Ltd. was re-organized in 1950 to consolidate the Hewitt and nearby Van Roi (082FNW064) properties under the name Van Roi Consolidated Mines Ltd.; control of the company was acquired by Transcontinental Resources Limited. A 100-ton per day mill was installed on Slocan Lake 1.6 kilometres south of Silverton in 1951 and stoping was carried out on No. 10 east level; operations ceased in July. The company name was changed in 1955 to Slocan Van Roi Mines Limited. The mine reopened in the latter half of the year and diamond drilling was done below No. 10 level. In 1956 a 198-metre winze was sunk in the hangingwall and a crosscut driven 30 metres south to the vein to establish No. 11 level. The ore shoot developed by this work was leased to J. Heichert and mined out by July 1957. The company name was changed in 1960 to Kopan Developments Limited. Lessees during 1962-64 deepened the internal winze to establish No. 12 level and stoping was carried out. In 1969 the property was leased to Frank Pho for a period of 10 years and the shaft was deepened to establish No. 13 level. Mr. Pho in 1970 assigned the lease to Surfside Explorations Ltd. No. 13 level was extended and stoping over a length of 18 metres was carried up to No. 12 level. Ground failure in stopes and the shaft area necessitated closing of operations in 1970 before all the known reserves were extracted. Indicated reserves were reported at 54,432 tonnes at 514.2 to 685.7 grams per tonne silver, 5.0 per cent lead and 7.0 per cent zinc (B.C. Published Reserves File). The company name (Kopan) was changed in 1972 to Jordesco Resources Limited.

Arjan Pacific Ltd. in April 1973 purchased the property and the 125-ton per day mill from Jordesco. Some rehabilitation work was done in No. 10 west adit.

Dungannon Explorations Ltd. and Sabina Industries Limited purchased the property early in 1977 under a joint venture agreement and subject to the prior lease by Pho. In May 1977 a new lease agreement for 3 years, with the option to renew for a further 5 years, was reached with Mr. Pho. During the year a new inclined shaft beneath No. 10 east level was sunk 27 metres, and 24 metres of drifting carried out.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The Hewitt mine is hosted by quartzite, calcareous quartzite and argillite of the Slocan Group intruded by an apophysis of hornblende granodiorite to quartz diorite of the Nelson intrusions and thin

CAPSULE GEOLOGY

felsic dikes. The felsic dikes are strongly altered in the vicinity of the mineralized veins and in places difficult to distinguish from the sedimentary rocks. The strata strike 077 degrees, dip 70 degrees northwest and have been affected by contact metamorphism from the emplacement of the nearby intrusion.

Mineralization is hosted within a brecciated shear zone striking east and dipping 70 degrees north. The shear consists of at least four separate fissures that have been explored for about 365 metres vertically. The maximum width of the shear zone, as developed in the upper workings, was 30 metres. The fissures are composed largely of crushed and brecciated wallrock and gouge cemented by quartz.

Locally, ore minerals and vein material form an important constituent of the fissures. The main fissure or North vein marks the northern extent of the shear zone. It has been traced west as far as the Galena Farm property (082FNW067) and east as far as the Van Roi property (082FNW064), for a total strike length of about 4 kilometres. The North vein was the most persistent of all veins mined and has provided the bulk of the ore from the mine. Above the No. 4 level the North vein followed the intrusive contact on its footwall. Below the No. 4 level the vein was entirely hosted within the Slocan Group.

Other veins in the mine include the South or Main South, the West and the Main veins. The Main South vein marks the southern extent of the shear zone. It has been mostly worked above the No. 3 level and for a strike length of 75 metres. The vein strikes northeast, dips northwest and lies mostly along the intrusive contact. The West vein occurs between the Main South and Main veins. It is about 15 to 30 metres in length and strikes 010 degrees. The Main vein has been developed for about 135 metres on the second and third levels. The vein merges with the North vein to the east and west on the third level. Both the West and Main veins lie partly in the intrusion and partly in the sedimentary rocks.

Most of the ore came from two main ore shoots lying directly beneath the summit of the divide. The stopes on the North and Main veins have an aggregate length of 210 metres on the second level and average about 3 metres in width. Where the North and Main veins intersect the third level, the ore was 4.8 metres wide. The North vein extended to the No. 7 level about 135 metres vertically below and contained the highest zinc ore, assaying up to 20 per cent zinc (Geological Survey of Canada Memoir 184). The ore shoot plunged about 70 degrees to the west.

The second ore shoot is in the eastern section of the mine. This ore zone was mined, between levels 6 and 10, for a vertical distance of 350 metres and 60 metres along strike. The ore had a maximum width of 7.5 metres. This ore zone also had a westerly plunge of about 70 degrees. The lateral boundaries of the ore zones were determined by fault planes or narrow zones of bedding plane shears. Most of the movement along these faults is pre-mineral but slight left-lateral displacement of the veins was observed in a number of places. The richest parts of the ore shoots were mainly above the No. 3 level of the mine.

The vein filling consists of brecciated rock cemented by dense white quartz or a grey, sugary friable quartz with numerous vugs with fine clusters of crystals. A banded, ribbon, or agate structure also occurs and alternates with bands and streaks of galena and sphalerite. The ore minerals fill cavities, occur in specks, streaks and patches and form crusts on fragments of wallrock. In part, quartz is later than the sulphides. Siderite is subordinate to quartz and calcite is in very small amounts. Ore minerals consists of galena, sphalerite and tetrahedrite. Pyrite and pyrrotite are abundant within the ore. Pyrrargyrite and native silver occur in the high grade portions of the ore shoots and minor stibnite and a mineral resembling boulangerite have been observed in ore samples.

Production from the Hewitt between 1900 and 1983 yielded about 59 tonnes of silver, 2708 tonnes of zinc, 1770 tonnes of lead, 2 tonnes of cadmium and 3 kilograms of gold from 112,573 tonnes mined.

Klondike Gold Corp. acquired the Van Roi and Hewitt mines in December 1999.

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EMPR INDEX 3-199,203; 4-122
EMPR IR 1984-5, p. 115
EMPR LMP Fiche No. 60748
EMPR MINING 1975-1980, Vol.1, pp. 33,34,60; 1981-1985, pp. 26,49
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EMPR P 1989-5
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EMR MP CORPFILE (Silverton Mines Limited; The Victoria Syndicate, Limited; The Galena Farm Consolidated Mines Limited; Jordesco Resource Limited; Surfside Explorations Ltd.; Arjan Pacific Ltd.; Dungannon Explorations Ltd.)
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GSC SUM RPT 1925 Part A, p. 194
CANMET IR 12 (1906), pp. 51-58
GCNL Oct. 16, Nov. 21, 1973; #160, 1977; #47, 1978
N MINER Nov. 21, 1973; Mar. 23, 1978
PR REL Klondike Gold Corp. Dec. 13, 1999
WWW http://www.infomine.com/index/properties/HEWITT_MINE.html

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/22

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

The occurrence consists of a vein-fissure zone composed of quartz and calcite cementing brecciated argillite wallrock. The fissure width varies from a few centimetres to about 3 metres. The fissure strikes from 280 to 060 degrees, the average strike 075 degrees. The dip varies from 35 to 50 degrees north. Persistent veins, 10 to 13 centimetres wide, occurring as streaks, bunches and elongate lenses are found beneath a heavy hangingwall gouge. The vein walls are sharply defined. To the east the vein is terminated against a wide fault zone that dips gently east.

Mineralization occurs as seams up to 15.24 centimetres wide composed of massive sphalerite with disseminated galena. Elsewhere disseminated sphalerite, galena with pyrargyrite and tetrahedrite comprised vein mineralogy. Some pyrite and chalcopyrite are also present.

Production records indicate 234 tonnes was mined periodically between 1909 and 1950. This yielded 491,737 grams of silver, 93 grams of gold, 25,825 kilograms of lead and 23,249 kilograms of zinc.

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GSC MAP 1667, 1090A, 1091A
GSC MEM *173, p. 13, Map 273A; *184, p. 82; *308, pp. 135,136
GSC SUM RPT 1916, pp. 56-57

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/29

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

in 1927 and the old mill was converted to flotation with a 36 to 45 tonne per day capacity. Additional underground work was carried out. In 1929, a total of 35 claims including those of the Galena Farm, were optioned to Galena Farm Consolidated Mines Limited. The mill capacity was increased from 91 to 136 tonnes per day. Operations ceased in 1929 due to low silver and zinc prices. Various lessees worked the property from 1936 to 1937. No further work was done until 1949 when F. Mills, under option, began mining small ore remnants in the old workings. The lease was worked until 1964 with further mining of stope remnants, pillar recovery and surface stripping. Other properties holding leases during this period included Transcontinental Resources Limited, Van Roi Consolidated Mines Ltd. and Hardex Mines Ltd. In 1964, Larch Mining Ltd. optioned the property and in 1966 carried out geochemical and geophysical surveys.

Mine workings included the 259 metre main crosscut on the 150 foot level, a 67-metre shaft and a 61-metre drift off the 200 foot level. The main lode was developed by three main levels at 15, 30 and 38 metres depth below the surface. Most of this ground has been mined out to surface and over a length of about 107 metres.

The Galena Farm occurrence is hosted by porphyritic granite of the Middle Jurassic Nelson intrusions containing pendants of metamorphosed quartzite and argillite of the Triassic Slocan Group. Xenoliths of quartzite and argillite were commonly found throughout the underground workings as lenses, belts and irregular inclusions near the Main lode.

The Galena Farm occurrence comprises two lode systems, the Main and Noonday lodes. The Main lode is about 24 metres thick, forming the hangingwall to the Noonday lode (082FNW068). The Main lode strikes 300 degrees and dips about 50 degrees to the northeast. The hangingwall is well defined but the footwall was poorly defined and was determined by the grade of mineralization. Lode width varies from about 60 centimetres to 61 metres but narrows with depth where it is faulted at the 150 foot level. The fault strikes 285 degrees and dips 28 to 30 degrees. To the east, the Main lode is truncated by a north-trending fault and offset by numerous other smaller north-trending faults. The Main lode ore zone consists of a series of subparallel quartz veins separated by varying widths of brecciated wallrock. The veins are also brecciated locally, particularly near the western end of the workings. Alteration of wallrock is reported but not described. The ore consists of massive lenses of sphalerite, galena and pyrite up to 1.5 metres thick in veins composed of quartz with lesser siderite, calcite and locally abundant fluorite. Some native silver has also been reported.

Most production was from the Main lode of the Galena Farm occurrence. The Galena Farm occurrence is renowned for significant ore recovered from shallow workings. Total production figures indicate 84,098 tonnes of ore was mined intermittently from 1900 to 1977. From this, 17,542,637 grams silver, 2068 grams gold, 2,856,577 kilograms lead, 4,638,348 kilograms zinc and 2250 kilograms cadmium were recovered.

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- EMPR BC METAL MM01200
EMPR GEM 1969-326
EMPR INDEX 3-196; 4-121
EMPR LMP Fiche No. 60604,60605
EMPR P 1989-5
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EMR MP CORPFILE (The Porcupine Goldfields Dev. and Finance Co. Ltd.; Galena Farm Consolidated Mines Ltd.; Galena Mining and Milling Co.; Larch Mining Ltd.)
GSC MAP 1667
GSC MEM 173, pp. 13,131,Map 273A; *184, pp. 43,47; *308, p. 187,Map 1091A

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 390
REPORT: RGEN0100

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DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

Wilson-Smith and the Bank of Montreal, were leased to A. Erickson who subleased the property to G.W. Lyon, A. Lyon, and H. Cleaver, of Silverton. During the year about 45 tons of backfill was drawn from an old stope near the portal of the upper adit. The property was idle again until 1954 when lessees did some underhand mining about 61 metres from the portal of the main adit. Further work was done by lessees in 1956 and a small amount of high grade ore was shipped. In 1958 an outcrop of ore was exposed by hydraulicking in the bed of Hasty Creek immediately below the lowest portal of the Noonday workings; lessees shipped 80 tons of ore during the year.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slokan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slokan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

The Slokan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted within a narrow belt of argillite, argillaceous quartzite, quartzitic siltstone, greywacke and pebble sandstone of the Slokan Group that has been rafted within the Nelson intrusions. In the vicinity of the occurrence the rocks of the Nelson intrusions comprise coarse grained potassium feldspar porphyritic granite.

The workings include four adits along Hasty Creek covering a vertical range of about 30 metres. The upper two adits are between 91 to 122 metres long each, and explore a lode striking 292 degrees and dipping at a low angle to the northeast. A shoot of considerable size was stoped out to surface in 1899. The shoot contained galena, sphalerite and tetrahedrite mineralization. Little other mineralization was discovered. The main gangue mineral is quartz. Towards the face of the upper two adits the lode has been faulted. The vein may correlate with the Noonday vein on the Galena Farm property to the west (082FNW067). To the east, the vein terminates against a fault zone.

The Noonday has produced 577 tonnes of ore intermittently from 1899 to 1980, with the bulk of production in the 1950s. From this ore, 1,531,885 grams silver, 93 grams gold, 240 kilograms cadmium, 105,159 kilograms lead and 13,861 kilograms zinc have been recovered. Most of the production came from a single stope developed above the upper adit in 1899. Most of the ore mined in the 1950's was sent directly to the Trail smelter.

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EMPR BC METAL MM01334 (see 082FNW056); MM01335
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EMPR P *1989-5
GSC MAP 273A; 1091A; 1667
GSC MEM 173, Map 272A; *184, p. 97; 308, p. 126

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/27

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW069**

NATIONAL MINERAL INVENTORY: 082F14 Ag22

NAME(S): **COLONIAL (L.5313)**, FREDDIE LEE (L.475), AIRDRIE FR. (L.9832),
COLONIAL-SLOCAN

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 57 49 N
LONGITUDE: 117 12 18 W
ELEVATION: 1768 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5534605
EASTING: 485297

LOCATION ACCURACY: Within 500M

COMMENTS: Location of underground workings on Colonial Reverted Crown grant.
See also Freddie Lee (082FNW055), Chicago No. 2 (082FNW194), and
Jazmine (082FNW254).

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Limestone
Argillite
Slate
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Colonial property is situated on Reverted Crown grant Lot 5313 at 1768 metres elevation above sea level in the Slocan Mining Division. The property is on the east side of the ridge that separates Cody and Sandon creeks.

The claims extend from the creek, at the 1310-metre elevation, to the summit of the north trending ridge at an elevation of about 1981 metres. The Airdrie Fraction, Freddie Lee (082FNW055), Colonial, and Cristein (082FNW254) claims are located from north to south near the crest of the ridge. The Chicago No. 2, Chicago Fraction, and Pullman Fraction claims (082FNW194) cover the ground down slope from the Colonial and Freddie Lee.

The Colonial claim (Lot 5313) was owned and intermittently explored by A.D. Coplen, of Spokane, from about 1906. In 1928 the Colonial, Freddie Lee, Cristein, Airdrie Fraction, and Nellie claims were acquired under option by W.G. Wasmandorff of Vancouver. The Cristein claim (Lot 5369) had been Crown-granted to Messrs. McDonald and Taylor in 1904; the Airdrie Fraction (Lot 9832) had been Crown-granted to Messrs. McAllistar and Bigney in 1910. Colonial-Slocan Mines, Limited, was incorporated in May 1929 to acquire the claims and carry on exploration work. Work by the company ended in January 1930 and the company charter was surrendered in 1932.

The workings on these claims include 9 or more short adits and several raises and intermediate levels. The upper 4 adits explore the Freddie Lee vein down dip. The lower adits comprise the principal workings on the Colonial and Chicago No. 2 claims.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of

CAPSULE GEOLOGY

the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The property is underlain by sedimentary rocks of the Slocan Group which form a broken syncline composed chiefly of massive quartzite and limestone just west of the occurrence. To the east, the syncline is faulted against another broader syncline in which the strata dip generally to the east. The core of this syncline is occupied by slate and argillite. The occurrence is hosted within limestone beds of the eastern synclinal structure.

The occurrence consists of a fissure vein striking 025 degrees and dipping 50 degrees southeast. The vein has been explored with at least four adits on the Colonial property and the underground workings extend northeast across the Freddie Lee Crown grant (Lot 475) all the way to the Airdrie Fraction Crown grant (Lot 9832). Galena and sphalerite are associated with narrow crossfissures striking due east and dipping vertically. The vein was only a few centimetres wide but carried nearly massive galena and sphalerite with a little quartz. This vein does not correlate with the vein found at higher elevations on the Freddie Lee property (082FNW055).

Production from the Colonial property between 1906 and 1981 yielded 558,578 grams of silver, 134,246 kilograms of lead, 15,092 kilograms of zinc and 62 grams of gold from 306 tonnes mined.

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EMR MP CORPFILE (Colonial-Slocan Mines Limited)
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GCNL #136, 1982
N MINER Oct.15, 1981; Aug.12, 1982

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

1972. In 1975, the Little Daisy claim group was acquired by P. Leontowicz and W.C. Wingert. Ownership was partially transferred to Rio Tinto Canadian Exploration Ltd. in 1979 with the remaining being optioned.

The Little Daisy occurrence is located within an outlier of Lower Jurassic Rosslund Group metavolcanics and Early Jurassic subvolcanic equivalents. Lithologies comprising the Rosslund Group at the Little Daisy occurrence include augite porphyry, greenstone and argillite. These rocks have been tentatively correlated with the Elise Formation. Subvolcanic equivalents include quartz latite porphyry and feldspar porphyry. These hostrocks are enclosed by medium grained biotite hornblende diorite and fine-grained granite of the Middle Jurassic Nelson intrusions.

At the Little Daisy, mineralization is hosted in a narrow, banded quartz fissure-vein consisting of a 10 to 15 centimetre width of pyrite and galena carrying gold values in small seams, and occasionally chalcopyrite and pyrrhotite. The vein-fissure is hosted in a fine grained phase of porphyritic granite of the Nelson batholith. Minor molybdenite has been reported associated with quartz veinlets and feldspar subvolcanics. The Little Daisy occurrence has been described as a gold-silver polymetallic vein deposit (GSC Memoir 308).

Production records for the Little Daisy occurrence indicate 45 tonnes of ore were produced intermittently from 1904 to 1936. A total of 2768 grams silver and 2768 grams gold were recovered.

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EMPR BULL 1932
EMPR EXPL *1979-70
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171-178
EMPR GEM *1970-450
EMPR INDEX 3-197,203
EMPR OF 1988-11; 1990-18
EMPR P *1989-5
GSC MEM *308, pp. 155,156,171

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/20

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW071**

NATIONAL MINERAL INVENTORY: 082F14 Cu1

NAME(S): **WILLA (L.1529)**, ROCKLAND GROUP, AYLWIN CREEK,
ROCKLAND (L.3884), RUSTLER, LITTLE DAISY GROUP,
LITTLE DAISY (L.7302), GOLDEN (L.7303), IDLER (L.7304),
GOLDEN FR. (L.7307)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 53 00 N
LONGITUDE: 117 22 04 W
ELEVATION: 1220 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5525724
EASTING: 473579

LOCATION ACCURACY: Within 500M

COMMENTS: Adit, on the south bank of Aylwin Creek just south of its confluence
with Wild Creek, 7.5 kilometres south of Silverton (Property
File - Heather, 1985).

COMMODITIES: Gold Molybdenum Copper Silver Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Gold Magnetite
Sphalerite Silver Molybdenite Hematite

COMMENTS: Lead-bismuth bearing sulphosalts are also associated with
mineralization in the Main zone. Molybdenite is associated with
quartz-sericite veinlets. The deposit has similarities to porphyry
copper-gold, copper and iron skarn and deposits of the Rossland Camp.

ASSOCIATED: Salite Actinolite Andradite Epidote Anhydrite
Scapolite Plagioclase K-Feldspar
ALTERATION: Pyroxene Amphibole Epidote Garnet Plagioclase
K-Feldspar Quartz Anhydrite

COMMENTS: Sphene, calcite, biotite, K-feldspar, albite and sericite are also
present as alteration minerals.

ALTERATION TYPE: Skarn Potassic Propylitic

MINERALIZATION AGE: Jurassic

ISOTOPIC AGE: 176-185 Ma DATING METHOD: Uranium/Lead MATERIAL DATED: Zircon

DEPOSIT

CHARACTER: Breccia Pipe Stockwork Vein
CLASSIFICATION: Diatreme Hydrothermal
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb) K04 Au skarn
L05 Porphyry Mo (Low F- type) I05 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Tabular
MODIFIER: Fractured
DIMENSION: 400 x 270 x 30 Metres STRIKE/DIP: 360/90N TREND/PLUNGE:

COMMENTS: Main zone. Age date analyses of 5 zircon fractions obtained from the
Aylwin Creek porphyry (stock related to mineralization).

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Rossland Undefined Formation
Middle Jurassic Nelson Intrusions

ISOTOPIC AGE: 169 +/- 3 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

Lower Jurassic

Unnamed/Unknown Informal

LITHOLOGY: Feldspar Porphyry Heterolithic Breccia
Crackle Breccia
Quartz Latite Porphyry
Quartz Latite Porphyry Dike
Feldspar Porphyry
Basalt Breccia
Basalt Tuff
Augite Porphyry Sill
Augite Porphyry Flow
Volcanic Siltstone

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

COMMENTS: Lower greenschist facies.

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Greenschist

CAPSULE GEOLOGY

largely pyroclastic in origin and steeply dipping. The volcanics range from coarse breccia to tuff and volcanic siltstone. Augite porphyry is a significant component in the mineralized area and may be in the form of sills and/or flows. The Rossland volcanics are predominantly of basaltic composition but does include some low silica andesite.

The fragmental rocks range from volcanic agglomerates and conglomerates, with porphyritic clasts up to 50 centimetres in diameter, to finely bedded crystal and lithic tuffs. The volcanic breccias predominate and are generally monolithologic.

Most of the augite porphyry occurs near or within the quartz latite porphyry ring dike complex. Augite porphyry occurs in two types of bodies: irregular intrusive bodies that crosscut the inferred bedding, and stratiform flows and tuff breccias.

Volcanic siltstones are usually thin bedded and intercalated with augite porphyry and less frequently with other types of volcanics.

Quartz latite porphyry forms a ring and radial dike complex centred about a feldspar porphyry heterolithic breccia pipe complex. It generally ranges in composition from quartz monzonite to monzogranite to granodiorite, but much of this variation is probably due to potassic alteration (Heather, 1985). The ring dike portion of the complex is elliptical in plan view, 1 by 5 kilometres, with the long axis trending 050 degrees. Numerous dikes radiate inward and outward from this ring dike complex.

Feldspar porphyry forms a hypabyssal stock centred within the quartz latite porphyry ring dike complex. The stock has an elliptical surface plan with the long axis trending north-south.

Centrally located within the quartz latite porphyry ring dike complex, a heterolithic breccia forms a crudely cylindrical pipe-like body whose surface expression is an ellipse, 350 by 200 metres, with the long axis trending roughly north-south. Horizontal sections through the breccia pipe reveal that with increasing depth the width remains relatively constant but the length, at least to 1050 metres (ASL) increases to 450 metres. Rock types found as fragments within this breccia body include: pyroclastics, augite porphyry, volcanic siltstones, biotitic schist, quartz latite porphyry and feldspar porphyry. The breccia pipe appears to plunge to the north-northeast at a steep angle and commonly grades outward into a marginal crackle breccia which ranges in width from a few metres to several tens of metres.

Within the mineralized area only dikes and/or sills related to the Nelson intrusions were intersected in drilling. Mafic dikes crosscut all other rocks and appear to be post-mineralization.

Distinctive fracture patterns can be related to igneous intrusive events and post-intrusive deformational events. Structures observed include faults, fractures, intrusive and tectonic breccias, and late stage shear zones.

The most prominent structure within the Aylwin Creek mineralized area is the Willa shear zone. The Willa shear is a near-vertical zone which strikes 045 degrees and is an intensely fractured or shattered zone. The zone is a few tens of metres wide and has been traced for approximately 350 metres. Offset on mafic dikes indicates minimal left-lateral (5 metres) movement. This major structure is clearly post-mineralization and crosscuts all rock types within the mineralized area.

Three superimposed fracture sets were found which could be related to major geologic features within the mineralized area. The first set strikes 045 degrees parallel to the Willa shear zone with fractures of this set being most abundant within and near this zone. These fractures crosscut all earlier fractures. The second fracture set tangentially rings the breccia pipe. This set is best developed on the eastern margin of the breccia pipe. The third fracture set is north-south oriented and can be correlated with the trace of the Main mineralized zone and is well developed in the southern portion of the pipe, but weak in the central portion. The pattern is obscured in the north by the fractures associated with the Willa shear zone. Somewhat weaker north-south fractures are evident on the eastern and western margins of the breccia pipe; the East and West mineralized zones may be related to these (Heather, 1985).

A series of superimposed alteration and mineralization types are spatially related to the Willa deposit. Early potassic alteration centred on the feldspar porphyry stock grades outward to a propylitic alteration of the country rock. Superimposed on this is a calcsilicate alteration related to the late stages of heterolithic breccia pipe development. Retrograde alteration is superimposed on the calcsilicate mineral assemblages. Postdating all other alterations is a group of late-stage veinlets.

Potassic alteration consists predominantly of biotite and

CAPSULE GEOLOGY

associated but less abundant potassium feldspar, occurring predominantly within and around the central feldspar porphyry stock. Limited surface data indicates that the potassium feldspar alteration is more abundant (relative to the biotite alteration) in the centre of the potassic alteration zone. Locally the potassium feldspar alteration appears to be overprinting the biotite alteration, but in general the two appear to be approximately coeval. The biotite alteration is of two types. The first and most prominent type consists of fine, disseminated secondary biotite within the feldspar porphyry stock and the immediately surrounding country rock. Rocks with this alteration have a pink hue. The second type consists of felted masses of biotite pseudomorphing original hornblende phenocrysts in quartz latite porphyry dikes which lie peripheral to the area of pervasive pink biotite alteration.

Calcsilicate alteration consists of various combinations, in order of generally decreasing abundance, of pyroxene, amphibole, epidote, garnet, plagioclase, potassium feldspar, quartz, anhydrite, sphene and calcite. These occur as matrix replacements within the heterolithic breccia pipe and as vein material within peripheral crackle zones. The calcsilicate alteration can be subdivided into four types which represent increasing degrees of calcium metamorphism: amphibole, pyroxene, epidote and garnet(-anhydrite) types.

There are two distinct types of mineralization within the Aylwin Creek mineralized area: molybdenite mainly associated with quartz veinlets in the quartz latite porphyry, and gold-copper-silver associated with the calcsilicate alteration. Only the gold-bearing mineralization is of economic significance.

Extensive molybdenite +/- quartz mineralization is locally developed in the quartz latite porphyry and ring dikes and the volcanics surrounding them. Plagioclase phenocrysts are commonly albitized within a narrow halo about the quartz veinlets. An extensive pyrite halo partly overlaps, and is peripheral to the mineralization. Locally associated with these molybdenite-bearing quartz veins are thin quartz-sericite-pyrite alteration envelopes.

The gold-copper-silver mineralization at Willa occurs in three major zones (Main, West and East) hosted within the heterolithic breccia pipe and its peripheral crackle breccia. The central Main zone contains the bulk of the mineralization and is comprised of two near-vertical, en echelon tabular bodies that strike north-south across the core of the breccia pipe. The West and East zones occur in marginal crackle breccia and may form one continuous arcuate zone around the southern portion of the breccia pipe (Heather, 1985).

The Main zone is near vertical, strikes north and extends at least to the 1000 metre level (ASL) or approximately 270 metres below the surface. The trace of this zone on surface is 200 metres in length. The width is variable, ranging from 10 to over 60 metres locally, with the average being 30 metres. It attains a length of 400 metres. The southern end of the Main zone is predominantly a crackled breccia made up of volcanic and feldspar porphyry fragments. The central portion occurs in heterolithic breccia, and the northern end terminates against the quartz latite porphyry ring dike (to the north of the breccia pipe). The maximum width of the mineralized zone is in the central portion of the breccia pipe, where it is intersected by the Willa shear zone.

The West zone is situated approximately 60 metres west of the Main zone at a depth of 240 metres below the surface. The West zone may wrap around the southern periphery of the heterolithic breccia pipe. The West zone does not crop out at surface and appears to be hosted within a crackle breccia on the west side of the heterolithic breccia pipe.

The East zone is in an area of intense crackle breccia in volcanics, with abundant sulphides and associated calcsilicate alteration. The zone can be traced for 100 metres in Aylwin Creek on the eastern edge of the heterolithic breccia pipe. The East zone appears to be localized in crackle breccia similar to the West zone, possibly with the two wrapping around the southern portion of the heterolithic breccia pipe and joining up (Heather, 1985).

Mineralization consists of pyrite, pyrrhotite, chalcocopyrite, native gold, magnetite, minor sphalerite, and traces of native silver, in virtually any combination. Locally these minerals may be accompanied by hematite and traces of lead-bismuth bearing antimony sulphosalts. The mineralization occurs as massive sulphide, breccia matrix replacements, stockworks in peripheral crackle breccia zones and as disseminations and veins. The mineralization is associated with a suite of calcium-rich minerals including salite-ferrosalite, actinolite, andradite, epidote, anhydrite, scapolite and calcic plagioclase. These calcsilicate alteration minerals occur as massive to vuggy replacements of rock-flour breccia matrix in the central

CAPSULE GEOLOGY

part of the breccia pipe and as veins and veinlets in the marginal crackle breccia. There is a strong spatial relationship between the mineralized zones (high gold grades) and the development of high calcium mineral assemblages, with andradite being particularly localized in the upper portions of the mineralized zones and anhydrite in the lower portions. The andradite-magnetite assemblage overprints the pyroxene-pyrite-pyrrhotite assemblage, with the gold mineralization being deposited during this transition (Heather, 1985).

U/Pb analyses of 5 zircon fractions obtained from the Aylwin Creek porphyry (stock related to mineralization) resulted in a range of ages from 176-185 Ma; a precise age cannot be assigned. The best-fit lower intercept, ca. 183 Ma, is considered to be a reasonable estimate of the minimum age (GSA Special Paper 299, pages 159-171, 1995).

The Willa deposit has features in common with the alkalic-type porphyry copper-gold deposits, the Rosslund gold-copper camp, and copper and iron skarns (Heather, 1985).

Development on the property began as early as 1899 when a 30-tonne shipment of copper-gold ore was reported from the Rockland claim. To 1904, underground work totalled approximately 91 metres of drifts in three adits, one on the north side of the creek and two on the south. Work in 1937 included 32 metres of drifting and 3 metres of raising.

Measured geological reserves at the West zone are 414,297 tonnes grading 6.03 grams per tonne gold and 0.92 per cent copper (George Cross News Letter October 24, 1988). Combined (probable and possible) reserves at the Main and East zones are 219,518 tonnes (George Cross News Letter October 24, 1988).

Production records for the Willa occurrence indicate 300 tonnes mined with no recorded recovery in 1899. In 1988, 7883 grams silver, 2873 grams gold, 4418 kilograms copper, 63 kilograms lead and 4154 kilograms zinc were recovered from 495 tonnes of custom ore.

Orphan Boy Resources Inc. entered into an option to purchase agreement, in June 2002, to acquire the property.

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EMPR P 1989-5
EMPR MINING 1988, p. 28
EMPR PF (Northair Mines Ltd. Annual Reports 1985, 1986, 1987; Treminco Resources Limited Annual Report 1990; Northair Mines Ltd. brochure; Cordillera Roundup - Snap Shot Review (Feb.4, 1988); *Heather, K.B. (1985): The Aylwin Creek Gold-Copper-Silver Deposit, Southeastern British Columbia, Unpub. M.Sc. Thesis, Queen's University; Memoranda for age dating, 1987, 1990; Surface plan and composite maps of underground workings, 1968; Drillhole cross-sections, 1968; 4680 Level geology plan maps, 1968; Location map of Alwin and O.K. mines, 1968; Property geology maps, 1970, 1981; Photographs; Thin section; Field visit notes, 1985; Notes from CIM District 6 Meeting, Oct. 1986; Unauthored and undated description of Willa prospect; Notes from phone conversation, 1972; Clippings from The Province, Aug.14, 21, 1967; Clipping from Mining Magazine, July 1971, Vol.125, No.1; Clipping from the Financial Examiner, Nov.27, 1968)
EMR MIN BULL MR 223 B.C. 40
EMR MP CORPFILE (Northlode Exploration Ltd.; Rockland Mining Ltd.; Riocanex Inc.; BP Canada Inc.; Rio Algom Limited; Northair Mines Ltd.)
CANMET IR 69-5
GSC ANN RPT 11
GSC BULL 129; 161
GSC MAP 3-1956
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GSC P 84-1A
GSC SUM RPT 1916, pp. 56-57
GCNL #184(Sept.21), Nov.22, 1967; #104(May 17), Aug.13, Sept.3, 1968; Feb.3, #68(Mar.29), 1969; #77,#213,#163,#77, 1985; #223,#196,#94, #43, 1986; #133,#73,#113, #47,#61,#21,#29, 1987; *Oct.24, 1988; #94(May 15), 1990

RUN DATE: 25-Jun-2003
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ENERGY AND MINERALS DIVISION

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PR REL Orphan Boy Resources Inc., June 17, Jul.16,18, Oct.16, Dec.23,
2002; Mar.3, 2003
W MINER Oct. 1968
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Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/21

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW071**

MINFILE NUMBER: **082FNW072**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER NUGGET**, MOUNTAIN SCENERY (L4264)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 52 24 N
LONGITUDE: 117 21 01 W

NORTHING: 5524606
EASTING: 474831

ELEVATION: 1981 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: The Silver Nugget occurrence (Paper 1989-5, Map 3).

COMMODITIES: Silver

MINERALS

SIGNIFICANT: Pyrite Tetrahedrite Pyrargyrite Silver Argentite
Stephanite

COMMENTS: One or more silver-bearing sulphides which may include tetrahedrite, pyrargyrite, native silver, argentite and stephanite are reported.

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

STRIKE/DIP: 063/55S

TREND/PLUNGE:

COMMENTS: The fissure-filled lode has a strike of 063 degrees and a dip of 55 degrees southeast.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Middle Jurassic			Nelson Intrusions

ISOTOPIC AGE: 169 +/- 3 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

LITHOLOGY: Quartzite
Augite Porphyry
Greenstone
Argillite
Quartz Latite Porphyry
Feldspar Porphyry

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional Contact

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist
Hornfels

CAPSULE GEOLOGY

The Silver Nugget occurrence is located at 1981 metres elevation, in the headwaters of Aylwin Creek. Silverton, British Columbia lies 8.25 kilometres to the north.

The Silver Nugget occurrence is located within but near the boundary of an outlier of Lower Jurassic Rossland Group metavolcanics and Early Jurassic subvolcanic equivalents. Lithologies comprising the Rossland Group at the Silver Nugget occurrence include pyritic quartzite, augite porphyry, greenstone and argillite. These rocks have been tentatively correlated with the Elise Formation. Early Jurassic subvolcanic equivalents include quartz latite porphyry and feldspar porphyry. These hostrocks are enclosed by potassium feldspar porphyritic granite of the Middle Jurassic Nelson intrusions. For a more detailed description of the geology of this outlier refer to the Willa occurrence (082FNW071).

The occurrence is composed of a quartz-filled fissure lode hosting pyrite and one or more silver-bearing sulphides. These may include tetrahedrite, pyrargyrite, native silver, argentite and stephanite. The lode has a strike of 063 degrees and dips 55 degrees to the southeast.

The lode has been explored and developed by two short adits. One adit was a crosscut 24 metres long, from which drifting occurred.

CAPSULE GEOLOGY

Production records indicate 1 tonne of production in 1907 from which 7060 grams of silver were recovered. However, 1 tonne of production is also reported in 1908. The ore in both years averaged 7783 grams per tonne silver (Geological Survey of Canada Memoir 184, page 124).

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EMPR BC METAL MM01400
EMPR FIELDWORK 1987, pp. 31-48, 535-541; 1989, pp. 251-255; 1990, pp. 171-178
EMPR INDEX 3-213
EMPR OF 1988-11; 1990-18; 1992-1
EMPR P *1989-5
GSC MEM *184, p. 124, *308, p. 150
GSC OF 481

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REPORT: RGEN0100

CAPSULE GEOLOGY

(Geological Survey of Canada Memoir 184, page 122). Zinc values are reported to have exceeded lead (Geological Survey of Canada Memoir 308, page 119).

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EMPR P 1989-5
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REPORT: RGEN0100

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EMPR FIELDWORK 1987, pp. 31-48, 535-541; 1989, pp. 251-255; 1990, pp.
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EMPR P 1989-5
GSC MEM *184, pp. 88, 89, 122

DATE CODED: 1985/07/24
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REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW075**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIGHLAND LIGHT**, VICTOR, TRENTON (L.5232),
LAST CHANCE NO. 11 (L.5233), HIGHLAND

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 52 02 N
LONGITUDE: 117 22 01 W
ELEVATION: 1828 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Highland occurrence (Paper 1989-5, Map 3).

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5523933
EASTING: 473630

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz Calcite Pyrite Barite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 111 Barite-fluorite veins
DIMENSION: 7 Metres STRIKE/DIP: 060/60S TREND/PLUNGE:
COMMENTS: The Victor fissure zone is 7.6 metres wide, strikes 060 degrees and dips 60 degrees to the southeast.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Nelson Intrusions
ISOTOPIC AGE: 169 +/- 3 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			
Lower Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Augite Porphyry
Greenstone
Argillite
Quartz Latite Porphyry
Feldspar Porphyry
K-Feldspar Porphyritic Granite

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Pre-mineralization
GRADE: Greenschist Hornfels

CAPSULE GEOLOGY

The Highland Light occurrence is located at 1828 metres elevation on a ridge west of Beaverton Creek, a tributary to Enterprise Creek. Silverton, British Columbia lies 9 kilometres to the north.

The Highland occurrence is located on the Trenton (Lot 5232) and Last Chance No. 11 (Lot 5233) Reverted Crown grants, formerly the Highland Light and Victor claims.

The occurrence is underlain by metavolcanics of the Lower Jurassic Rossland Group. Lithologies consist of augite porphyry, greenstone and argillite, tentatively correlated with the Elise Formation. These form part of an outlier composed of Rossland Group volcanics and Early Jurassic subvolcanic equivalents. Quartz latite porphyry and feldspar porphyry comprise subvolcanic equivalents. For a more detailed description of the outlier geology refer to the Willa occurrence (082FNW071).

On the lower Trenton (Victor) claim, a 23 metre long adit crosscuts a fracture zone. The zone is 7.6 metres wide, strikes 060 degrees, dips 60 degrees southeast and is composed of a series of vuggy quartz-filled fractures carrying disseminated galena and sphalerite. A second adit, 64 metres long and 20 metres vertically above, intersected the same zone hosting a few stringers and little or no mineralization. On the Last Chance No. 11 (Highland Light)

CAPSULE GEOLOGY

claim, an adit explored a 60 centimetre wide fault-fissure zone. The strike of this fissure is 310 degrees and dips 75 degrees northeast. The fissure hosted a little quartz and calcite and a few nodules of barite. A little pyrite was found.

Production records for the Highland Light occurrence indicate a total of 10 tonnes of ore were produced in 1904, 1906 and 1918. A total of 88,395 grams silver were recovered.

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EMPR INDEX 3-199
EMPR OF 1988-11; 1990-18; 1992-1
EMPR P 1989-5
GSC MEM *173, p. 15, Map 272A; *184, p. 176; 308, p. 150

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/22

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW076**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAISY**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 51 24 N
LONGITUDE: 117 22 04 W
ELEVATION: 1219 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5522759
EASTING: 473564

LOCATION ACCURACY: Within 500M

COMMENTS: The Daisy occurrence (Paper 1989-5, Map 3).

COMMODITIES: Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Massive Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 10 Metres STRIKE/DIP: 015/60S TREND/PLUNGE:
COMMENTS: The lower lode is up to 10.7 metres wide, strikes 015 degrees and dips 60 to 75 degrees to the southeast.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

ISOTOPIC AGE: 169 +/- 3 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

LITHOLOGY: K-Feldspar Porphyritic Granite

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

CAPSULE GEOLOGY

The Daisy occurrence is located at 1219 metres elevation on the west bank of Beaverton Creek, a tributary of Enterprise Creek. Silverton, British Columbia lies 10 kilometres to the north.

The occurrence was originally located on the former Daisy Group, composed of three claims. No work has been reported on this occurrence since 1925.

Hostrocks of the Daisy occurrence are potassium feldspar porphyritic granite of the Middle Jurassic Nelson intrusions.

At least two lodes have been discovered at the Daisy occurrence. One of these is a fissure up to 10.7 metres wide that strikes 015 degrees and dips 60 to 75 degrees to the southeast. The lode includes several narrow fissures 2.5 to 5.0 centimetres wide composed of gouge, quartz and calcite with galena, sphalerite, pyrite and chalcopyrite mineralization. Mineralization is restricted to the narrow fissures.

The lode has been explored by two adits. The lower adit is 91 metres long and was driven along the hangingwall of the lode. The lode has been traced on surface for 213 metres vertically above the lower adit. Here, the fissure hosts up to 15 to 18 centimetres of massive galena in an oxidized gangue or 18 to 20 centimetres of massive sphalerite.

The second adit is located about 30 metres vertically above the lower adit. It was driven for 30 metres. A 10.6 metre inclined shaft and several opencuts also explore the lode at this location. The lode strikes 320 degrees and dips 20 to 25 degrees to the northeast. The lode consists predominantly of a quartz vein with disseminated galena, sphalerite and chalcopyrite.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 412
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BIBLIOGRAPHY

EMPR AR 1896-69; 1900-983
EMPR ASS RPT 15297, 17652
EMPR FIELDWORK 1987, pp. 31-48, 535-541; 1989, pp. 251-255; 1990, pp.
171-178
EMPR OF 1988-11; 1990-18; 1992-1
EMPR P *1989-5
GSC MEM 173, Map 272A; *184, p. 171

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/22

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW077**

NATIONAL MINERAL INVENTORY: 082F14 Ag31

NAME(S): **COMSTOCK (L.1814)**, COMSTOCK MINE, COMSTOCK-SILVER CUP, SILVER CUP (L.1815), RUBY TRUST (L.1804), SILVER CHIEF (L.1813), ISABEL FR. (L.1817), KENTUCKY GIRL (L.1818)

STATUS: Past Producer	Underground	MINING DIVISION: Slocan
REGIONS: British Columbia		
NTS MAP: 082F14E		UTM ZONE: 11 (NAD 83)
BC MAP:		
LATITUDE: 49 53 28 N		NORTHING: 5526549
LONGITUDE: 117 13 48 W		EASTING: 483479
ELEVATION: 2103 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS: No. 9 level adit on Lot 1814, on the divide between Fennell and Silverton creeks, 11.5 kilometres southeast of Silverton (Assessment Report 17821).		

COMMODITIES: Silver Lead Zinc Copper Gold

MINERALS

SIGNIFICANT: Galena	Sphalerite	Tetrahedrite	Pyrargyrite
COMMENTS: Minor tetrahedrite; trace pyrargyrite.			
ASSOCIATED: Quartz	Carbonate	Magnetite	
ALTERATION: Carbonate	Limonite		
ALTERATION TYPE: Carbonate	Oxidation		
MINERALIZATION AGE: Unknown			

DEPOSIT

CHARACTER: Vein			
CLASSIFICATION: Epigenetic	Mesothermal		
TYPE: I05 Polymetallic veins	Ag-Pb-Zn±Au	I01 Au-quartz veins	
DIMENSION: 2100 x 121 x 2 Metres		STRIKE/DIP: 055/35S	TREND/PLUNGE:
COMMENTS: Brecciated zone.			

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Nelson Intrusions

LITHOLOGY: Quartz Monzonite
 Biotite Lamprophyre

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Plutonic Rocks	

INVENTORY

ORE ZONE: COMSTOCK	REPORT ON: Y
CATEGORY: Measured	YEAR: 1987
QUANTITY: 45355 Tonnes	
COMMODITY	GRADE
Silver	1199.8000 Grams per tonne
Lead	6.0000 Per cent
Zinc	10.0000 Per cent
COMMENTS: Proven reserves for the Comstock-Silver Cup property.	
REFERENCE: Western Investment News - May 1987.	

CAPSULE GEOLOGY

The Comstock occurrence is located at about 2103 metres elevation on the divide between Fennell and Silverton creeks. Silverton, British Columbia is located 11.5 kilometres to the northwest. The Comstock Group historically consisted of seven claims including the Ruby Trust (Lot 1804), Silver Chief (Lot 1813) (forfeited to the Crown February 9, 1993) and Comstock (Lot 1814) (forfeited to the Crown February 9, 1993), Silver Cup (Lot 1815), Isabel Fraction (Lot 1817) and Kentucky Girl (Lot 1818).

The earliest recorded work was in 1898 and continued intermittently until 1920. Early workings consisted of nine adits totalling 853 metres length. A mill was erected in 1897 to treat Comstock ore but was only used for two months. No further work was recorded until 1970. Work in 1970 was conducted by R.H. Murphy and partners and included a small shipment of dump material to the Trail smelter. Further work was done in 1972 and 1973. In 1976, H.S. Murphy and R.H. Murphy conducted a geochemical survey, trenching and

CAPSULE GEOLOGY

one 25-metre drillhole. In 1988, Dragoon Resources Ltd. custom smelted ore in a mill in Ainsworth.

The area is dominated by granitic rocks of the Middle Jurassic Nelson intrusions. At the Comstock occurrence these consist of biotite lamprophyre and quartz monzonite.

At the Comstock mine, mineralized quartz veins occur predominantly along the contact of a biotite lamprophyre body and quartz monzonite, both of the Nelson intrusions. The quartz monzonite is fine to medium grained, massive and fresh. The biotite lamprophyre is dark grey to black, medium grained with local coarse biotite crystals; magnetite is common. Monzonite blocks occur within the lamprophyre body.

Quartz veining and related mineralization is hosted in a brecciated zone 5 centimetres to 2 metres wide, striking 035 to 055 degrees and dipping 35 to 55 degrees southeast. Mineralization consists of galena, sphalerite, minor tetrahedrite and trace pyrrargyrite. Gouge is evident on both the hangingwall and footwall of the zone which also contains crushed quartz monzonite and lamprophyre fragments. The zone has been traced over a strike length of approximately 2100 metres between the 1670 and 2040 metre elevations (Assessment Report 17821).

Intense iron carbonate alteration, limonitic fractures and minor quartz-carbonate veining occur adjacent to the main mineralized zone. Several east striking lamprophyre dikes and quartz veins intersect the main zone.

Measured geological (proven) reserves at the Comstock-Silver Cup property is 45,355 tonnes grading 1199.8 grams per tonne silver, 6 per cent lead and 10 per cent zinc (Western Investment News - May 1987).

The Comstock mine was developed by nine adits. Stoping was carried out between the second and third levels and between the fifth and seventh levels, for a strike length of 15 metres and 109 metres respectively. The underground workings have explored the mineralized zone over a vertical distance of 121 metres.

Production records indicate 455 tonnes of ore mined. From this, 1,687,774 grams silver, 12,387 grams gold, 217,634 kilograms lead and 126,657 kilograms zinc were recovered.

BIBLIOGRAPHY

- EMPR AR 1898-1074,1188; 1899-687; 1903-H137; 1904-G176,G177; 1905-J160; 1908-J247; 1915-K122; 1916-K516; 1920-N127; 1935-A26,E35; 1970-A55
- EMPR ASS RPT 8583, 15110, *17821
- EMPR BC METAL MM00156
- EMPR EXPL 1976-E41
- EMPR FIELDWORK 1987, pp. 31-48
- EMPR GEM 1970-450; 1972-60; 1973-80,81
- EMPR INDEX 3-192
- EMPR LMP Fiche No. 60283-60287
- EMPR MAP 65 (1989)
- EMPR MIN STATS 1990, p. 29
- EMPR OF 1988-11; 1990-18; 1998-10
- EMPR P 1989-5, p. 13
- GSC ANN RPT 11
- GSC BULL 129; 161
- GSC MAP 3-1956
- GSC MEM 173, p. 12; *184, pp. 33,34; 308, p. 126
- GSC OF 481; 1195
- GSC P 84-1A
- GSC SUM RPT 1916
- GCNL #106, 1980
- N MINER Apr.2, 1981
- WIN May 1987

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/05

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW078**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOU DILLON**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 53 13 N
LONGITUDE: 117 12 31 W
ELEVATION: 1615 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5526082
EASTING: 485014

LOCATION ACCURACY: Within 500M

COMMENTS: The Lou Dillon occurrence (Paper 1989-5, Map 3).

COMMODITIES: Lead Zinc Silver Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
COMMENTS: An unidentified silver-bearing mineral is reported. Pyrite carries silver and gold.

ASSOCIATED: Quartz Siderite Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres STRIKE/DIP: 045/65S
COMMENTS: The fault-fissure lode strikes 045 degrees and dips 65 to 90 degrees to the southeast.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Nelson Intrusions

ISOTOPIC AGE: 169 +/- 3 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

LITHOLOGY: K-Feldspar Porphyritic Granite
Biotite Granite Dike

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

CAPSULE GEOLOGY

The Lou Dillon occurrence is located on a tributary, east of Silverton Creek and 2 kilometres west of Long Mountain. Silverton, British Columbia lies 12.5 kilometres to the northwest.

By 1935, the workings consisted of a lower crosscut adit 84 metres long and intersecting the lode at its face. The lode was drifted for 5.4 metres to the northeast and 22 metres to the southwest.

Hostrocks of the Lou Dillon occurrence are coarse grained porphyritic granite of the Middle Jurassic Nelson intrusions. Occasional fine grained biotite granite dikes crosscut the coarser granite.

Drifting has exposed a fault-fissure lode composed of brecciated wallrock and gouge cemented with interstitial quartz, siderite and lesser calcite. The lode strikes 045 degrees and dips 65 to 90 degrees southeast. At about 9 metres above the main crosscut, a 47.5 metre long drift exposed up to 1.9 metres of ribbon quartz with galena, sphalerite, pyrite and an unidentified silver-bearing mineral. The pyrite carries gold and silver.

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EMPR FIELDWORK 1987, pp. 31-48, 535-541; 1989, pp. 251-255; 1990, pp. 171-178
EMPR GEM 1977-E52
EMPR OF 1988-11; 1990-18; 1992-1
EMPR P *1989-5

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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PAGE: 416
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM *173, Map 272A, p. 13; *184, p. 69

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/22

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

folded are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

The Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted within coarse grained potassium feldspar porphyritic granite of the Nelson intrusions near the northern contact with the Slocan Group rocks. Within the workings the porphyritic granite is cut by a few hornblende biotite dikes. The occurrence consists of a fissure vein striking 160 degrees and dipping 75 degrees west. The vein has been explored with at least five adits over a vertical range of about 145 metres. Within the adits the vein varied from a few centimetres up to 3 metres in width. The wider portions of the vein consisted mainly of gouge and crushed granite. The vein followed a hornblende biotite dike on its hangingwall for most of its length. Between the No. 5 and No. 4 levels the ore zone was mined for an average strike length of 22 metres and 50 metres updip. The zone varied between 15 centimetres and 2.5 metres and was composed of a series of overlapping lenses of vein material carrying layers of massive ore 15 to 30 centimetres thick. The massive ore layers consisted of sphalerite, galena, argentite, pyrrargyrite and native silver in a gangue of quartz-calcite and minor barite.

A second mineralized zone is situated about 180 metres south of the main workings on the Troy claim. This zone strikes 060 degrees and dips steeply northwest. It consists of an 18 metre wide brecciated zone within porphyritic granite. The breccia consists of large blocks of granite cemented by quartz and calcite containing sphalerite, galena, argentite and native silver.

Production from the Fisher Maiden between 1894 and 1979 yielded about 2319 kilograms of silver, 59,023 kilograms of lead, 59,896 kilograms of zinc, 289 kilograms of cadmium and 31 grams of gold from 1132 tonnes mined.

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- EMPR AR 1893-1059; 1894-741; 1896-37,68; 1897-534; 1899-598;
1902-149,301; 1903-136; 1904-177,201; 1905-160; 1908-247; 1909-273;
1910-243; 1915-124; 1924-199; 1925-246; *1926-257; 1927-276;
1928-294; 1935-A26,E34; 1953-142; 1956-A51,97; 1958-A46,48;
1962-A50,80; 1979-130
EMPR BC METAL MM01191; MM01399 (Silver Maiden)
EMPR BULL 29
EMPR INDEX 3-196; 4-121
EMPR MINING 1975-1980, Vol.1, pp. 32,33
EMPR P 1989-5
EMPR PF (Starr, C.C. (1928): Abstract of Fisher Maiden Mine,
6 p. and sketches)
EMR MP CORPFILE (Fisher Maiden Mining Company)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 13; *184, pp. 41-43; 308, p. 126
Falconbridge File

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/18

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

The Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The Comstock-Virginia occurrence consists of a quartz vein located within a northeast trending fault zone in the porphyritic granite phase of the Nelson intrusions. The vein dips steeply northwest and varies from a few centimetres to 0.75 metre in width. It consists mainly of white quartz which cements fragments of the wallrock and is mineralized with galena, sphalerite, tetrahedrite, pyrite, pyrargyrite and argentite. The vein walls are well defined and marked by a narrow gouge seam.

The vein has been exposed in three adits 23 metres apart vertically. The middle adit was rehabilitated for a distance of 55 metres in 1980. A grab sample taken from the middle adit assayed 9052 grams per tonne silver, 28.9 per cent lead and 29.1 per cent zinc (Property File - Ash, W.M., 1988).

In 1909, 5 tonnes of ore were mined from the property to produce 15,552 grams of silver and 2722 kilograms of lead.

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- EMPR AR 1903-244; 1909-106; 1926-449; *1948-141
- EMPR ASS RPT 9433, *12524
- EMPR BC METAL MM01151
- EMPR BULL 29
- EMPR INDEX 3-192
- EMPR P 1989-5
- EMPR PF (*Ash, W.M. (1988): Report on the Jack-1, Black-1 and Can't Fix-1 Claims in Statement of Material Facts, Nautilus Resources Inc., August 10, 1989)
- GSC MAP 273A; 1091A; 1667
- GSC MEM 173; *184, p. 203; 308, p. 130
- GCNL #182, 1980; #15, 1983
- N MINER Apr.2, 1981

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/15

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW081**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOUNTAIN CON (L.9841)**, CASTICK (L.9840)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 55 38 N
LONGITUDE: 117 08 44 W
ELEVATION: 2410 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5530549
EASTING: 489553

LOCATION ACCURACY: Within 500M

COMMENTS: Location of underground workings.

COMMODITIES: Silver Lead Gold Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Cerussite Pyrite
ASSOCIATED: Quartz Siderite
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: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Porphyritic Granite
Lamprophyre Dike

HOSTROCK COMMENTS: Porphyritic granite phase of Nelson intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Mountain Con occurrence consists of two Reverted Crown grants (Lots 9840 and 9841). The workings are located on Lot 9841 (Mountain Con), near the headwaters of Long Creek, in the Slocan Mining Division at 2410 metres elevation above sea level.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

The Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The Mountain Con occurrence consists of a 10 to 80 centimetre wide quartz vein associated with a narrow lamprophyre dike that is emplaced parallel to a northeast trending joint set within the porphyritic granite phase of the Nelson intrusions. The dike occurs in places on the hangingwall, and in places on the footwall side of the vein. The vein is regular and persistent and has well defined walls. It consists of galena, sphalerite, pyrite and cerussite in a matrix of white quartz, siderite and crushed wallrock.

The vein has been explored with at least four adits covering a vertical range of 150 metres. Surface outcrops of the vein are strongly oxidized.

Sporadic production from the Mountain Con between 1899 and 1927 yielded 6,417,608 grams of silver, 130,826 kilograms of lead, 485 kilograms of zinc and 373 grams of gold from 448 tonnes mined.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 422
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BIBLIOGRAPHY

EMPR AR 1900-827; 1903-136; *1904-193,194,201; 1905-160; 1906-249;
1907-100,214; 1908-99,247; 1909-115; 1911-284; 1912-149; 1913-420;
1914-287; 1915-124,445; 1916-198; 1918-167; 1921-136; 1922-202;
1926-251; 1927-276; *1930-250; 1931-142; 1968-253
EMPR BC METAL MM01320
EMPR BULL 29
EMPR INDEX 3-206
EMPR LMP Fiche No. 61062
EMPR P 1989-5
EMPR PF (McGullock, A.L. (1909): Plans and Sections of Mountain Con
workings)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 13; *184, pp. 89,90,194; 308, pp. 133,147
GSC SUM RPT 1916, pp. 56,57

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/15

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW081**

MINFILE NUMBER: **082FNW082**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRANITE KING (L.4538)**, GREY EAGLE

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 082F14E
 BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 55 32 N
 LONGITUDE: 117 06 45 W
 ELEVATION: 2347 Metres

NORTHING: 5530360
 EASTING: 491925

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Reverted Crown grant Lot 4538.

COMMODITIES: Lead Zinc Silver Tungsten

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Silver Scheelite

ASSOCIATED: Quartz Siderite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear 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>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1979

SAMPLE TYPE: Grab

COMMODITY

	GRADE	
Silver	199.0000	Grams per tonne
Lead	17.2000	Per cent
Tungsten	0.0800	Per cent
Zinc	11.5000	Per cent

COMMENTS: A grab sample of the mineralized vein.

REFERENCE: Assessment Report 7950.

CAPSULE GEOLOGY

The Granite King occurrence consists of a single Reverted Crown grant (Lot 4538) situated on the southeast flank of Mount Carlyle, in the Slocan Mining Division, at 2347 metres elevation above sea level.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

The Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence consists of narrow, brecciated quartz-siderite veins emplaced along shears within porphyritic granite of the Nelson intrusions. The veins consist mostly of broken angular blocks of granite cemented by quartz and siderite. Galena, sphalerite and pyrite are disseminated within the gangue minerals. Small amounts of

CAPSULE GEOLOGY

native silver occurs as wires on the vein walls and minor scheelite has been noted. A grab sample collected from the vein in 1979 assayed 199 grams per tonne silver, 17.2 per cent lead, 11.5 per cent zinc and 0.08 per cent tungsten (Assessment Report 7950). At least two veins have been explored, the main vein is 5 to 70 centimetres wide, strikes 050 degrees and dips 60 degrees northwest. The second vein is 3 metres east and parallel to the main vein. It is 5 to 30 centimetres wide and has the same mineralogy.

The veins have been exposed in three short adits and a crosscut was driven from the lower Flint adit (082FNW083), 750 metres northeast, to intersect the vein 100 metres below the Granite King workings.

BIBLIOGRAPHY

EMPR AR 1901-1224
EMPR ASS RPT *7950
EMPR BULL 29
EMPR GEM 1970-458
EMPR P 1989-5
GSC MAP 273A; 1667; 1090A; 1091A
GSC MEM 173; *184, p. 220; 308
GSC SUM RPT 1916, pp. 56,57

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/16

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW083**

NATIONAL MINERAL INVENTORY: 082F14 Pb23

NAME(S): **FLINT**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 55 51 N
LONGITUDE: 117 06 20 W
ELEVATION: 2050 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5530946
EASTING: 492424

LOCATION ACCURACY: Within 500M

COMMENTS: Location of underground workings.

COMMODITIES: Silver

Lead

Zinc

Gold

Tungsten

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Pyrrhotite Scheelite

ASSOCIATED: Quartz Siderite Tourmaline

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Middle Jurassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1979

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

576.0000

Grams per tonne

Tungsten

4.8800

Per cent

COMMENTS: A grab sample from the vein in the uppermost adit. Further sampling failed to duplicate the tungsten values but scheelite was observed in the vein.

REFERENCE: Assessment Report 7950.

CAPSULE GEOLOGY

The Flint mine is situated near the headwaters of Carlyle Creek between the two Flint lakes, in the Slocan Mining Division. The underground workings are at 2050 metres elevation above sea level.

This property was staked in 1898 and the first recorded production was in 1905. The Flint lode has been opened up by 3 crosscut adits driven in a westerly direction. The lowermost adit reaches the lode at 67 metres from the portal, and has been extended beyond the lode for 72 metres, to a point believed to be within 15 metres of the Granite King lode. The portal of No. 2 adit is located about 46 metres southwest of, and about 24 metres above the portal of the lowest adit, and the portal of the uppermost or No. 1 adit is 46 metres above and 152 metres southwest of this same portal. No. 2 adit reaches the lode at 15 metres, and the No. 1 at about 30 metres. At each adit level drifts have been run southerly along the lode for distances of 183, 85, 18 metres at levels 3, 2, and 1, respectively, and from near the face of No. 3 adit a raise extends to the surface.

In 1953, after remaining idle since about 1917, some work was done on the property, and a little ore taken out.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of

CAPSULE GEOLOGY

the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

The Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence consists of a brecciated quartz-siderite vein emplaced along a shear within porphyritic granite of the Nelson intrusions. The vein strikes 010 degrees, dips 60 degrees to the west and consists mostly of broken angular blocks of granite cemented by quartz and siderite. Minor tourmaline occurs disseminated within the quartz. The vein varies in width from a few centimetres up to 3.4 metres. Galena, sphalerite, pyrite, pyrrhotite and minor scheelite occur as disseminations within the quartz and as massive to banded pods, some up to 1 metre wide, concentrated along the hangingwall. Most of the high-grade ore was mined out in the early 1930s.

The vein has been explored with four adits and extensive drifting. The lowermost adit extends to the Granite King vein (082FNW082), 750 metres to the southwest.

A grab sample taken from the vein in the uppermost adit assayed 576 grams per tonne silver and 4.88 per cent tungsten but later sampling of the vein failed to duplicate the tungsten assay. However, scheelite was observed in the underground workings (Assessment Report 7950).

Production from the Flint vein between 1905 and 1985 yielded 360,491 grams of silver, 69,087 kilograms of lead, 6445 kilograms of zinc and 43 grams of gold from 177 tonnes mined.

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1911-132,284; 1915-119,124; 1916-196; *1917-157,184,448;
1919-120,152; 1927-286; 1929-322; 1930-253; 1948-140; 1953-45,137
EMPR ASS RPT *7950, 16556
EMPR BC METAL MM01193
EMPR BULL 29
EMPR GEM 1970-458; 1971-407
EMPR INDEX 3-196
EMPR MIN STATS 1985, p. 50
EMPR P 1989-5
GSC MAP 272A; 1091A; 1667
GSC MEM 173, pp. 94-95; *184, p. 217; 308 p. 131
GSC SUM RPT 1916, pp. 56,57
CIM BULL 1980, p. 28
Brame, S. (1979): Mineralization near the northeast margin of the Nelson batholith, Southeast British Columbia. Unpubl. M.Sc. Thesis University of Alberta.

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/16

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW084**

NATIONAL MINERAL INVENTORY: 082F14 Pb24

NAME(S): **MARTIN**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 55 18 N
LONGITUDE: 117 05 43 W
ELEVATION: 1815 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5529926
EASTING: 493161

LOCATION ACCURACY: Within 500M

COMMENTS: Location of underground workings.

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite Pyrite

ASSOCIATED: Quartz Siderite Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 30 Metres

STRIKE/DIP: 045/65W

TREND/PLUNGE: 225/45

COMMENTS: Orientation of the largest ore shoot that was up to 0.6 metre wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Porphyritic Granite
Altered Mafic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Martin occurrence is situated on Carlyle Creek in the Slocan Mining Division. The property is at 1815 metres elevation above sea level.

The Martin group consists of 7 claims located in the upper basin of Dago Creek. The property was located in 1902, and some work was done each year until 1925.

The main workings consist of 2 adits 41 metres apart vertically, and intermediate levels at 20 and 27 metres above the lower adit. No. 1 adit is about 183 metres, and No. 2 adit 44 metres in length, and the intermediate levels total about 110 metres. The workings are connected by raises. Several metres of crosscutting to, and drifting on lodes other than the main lode, has been done on No. 1 level and the intermediate levels.

There has been no record of any work done on this group since 1925.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

The Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence consists of quartz veins emplaced along a northeast trending fault zone within coarse grained, porphyritic granite of the Nelson intrusions. In the mine workings a narrow band of altered dark micaceous rock (probably an altered mafic dike)

CAPSULE GEOLOGY

follows the main vein. The fault zone and veins dip 65 to 70 degrees northwest. The main vein consists mainly of crushed and altered granite cemented with white quartz, siderite and calcite. Sphalerite and galena with minor pyrite and chalcocopyrite are interstitial to the broken granite blocks. The ore, where best developed, was nearly massive galena that ranged from a few centimetres up to 0.6 metre in thickness. The largest shoot, 30 metres long, appeared to plunge 45 degrees southwest. Two other small veins converge eastwards and intersect the main vein in the underground workings. The veins have been explored with two adits and a minimum of 350 metres of drifting. Production from the Martin occurrence between 1915 and 1924 yielded 101,645 grams of silver, 28,387 kilograms of lead and 1981 kilograms of zinc from 54 tonnes of ore mined.

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1924-191
EMPR ASS RPT *7950, 16556
EMPR BC METAL MM01296
EMPR BULL 29
EMPR INDEX 3-205
EMPR P 1989-5
GSC MAP 273A; 1091A
GSC MEM 173; *184, p. 234; 308, pp. 119,131
GSC SUM RPT 1925 Part A, pp. 197,198

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/16

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW085**

NATIONAL MINERAL INVENTORY: 082F14 Ag34

NAME(S): **MOHAWK (L.14111)**, TEN DAY MAN

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 58 27 N
LONGITUDE: 117 06 33 W
ELEVATION: 1815 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adit portal.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5535764
EASTING: 492172

COMMODITIES: Lead Silver Copper

MINERALS

SIGNIFICANT: Galena Pyrite Tetrahedrite Pyrrargyrite
ASSOCIATED: Siderite Calcite
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	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Andalusite Schist
Quartzite
Granodiorite Dike
Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional Contact RELATIONSHIP: GRADE: Greenschist Hornfels

PHYSIOGRAPHIC AREA: Selkirk Mountains

COMMENTS: Contact metamorphism from the Nelson intrusions.

CAPSULE GEOLOGY

The Mohawk occurrence is situated on Twelve Mile Creek, on Crown grant Lot 14111 at 1815 metres elevation above sea level, in the Slocan Mining Division.

This property is about 1.6 kilometres southeast of Utica Mine (082FNW086) and to the south of and adjoining the Rainbow group (082FNW087). Workings consist of 5 adits and considerable surface stripping. Two adits 18 metres apart vertically, were driven to explore a southeasterly dipping lode. The upper adit is 12 metres long and follows the lode which has andalusite schist on the hanging-wall and a quartzite foot-wall. The lode dips 70 degrees southeast, is marked by about 15 centimetres of gouge, and carries some siderite and a little galena. The lower adit is about 38 metres long. At this level the lode is from 1.5 to 1.8 metres wide and contains galena in bunches and narrow stringers.

The second lode was exposed by an opencut for 46 metres, and it is reported that \$7000 worth of ore was taken out of these surface workings. An upper adit at an elevation of about 1920 metres was driven 38 metres on a mineralized shear zone which dips 70 degrees northwest, and is from 1.5 to 1.8 metres wide. In this drift some silver, some silver-lead ore, was encountered in bunches associated with pyrite and calcite. From the face at the adit a raise extends to the surface 15 metres above. Fifteen metres below this adit is another adit 15 metres long on the lode, and about 18 metres below this vertically, another adit was driven apparently on the same lode, for 100 metres. This zone is from 1.5 to 1.8 metres wide, and is filled with crushed wall-rock, streaks of gouge, and small bunches of galena associated with calcite gangue.

There has been no record of recent work on this property. Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed

CAPSULE GEOLOGY

shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

Immediately south of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson Intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5). The sedimentary sequence has been affected by contact metamorphism from the emplacement of the nearby Nelson intrusions.

Rocks on the Mohawk property are massive andalusite schist and quartzite of the Slocan Group, striking 035 degrees and dipping steeply southeast. The occurrence consists of two brecciated veins, one dipping steeply southeast and the other dipping steeply northwest, both veins strike 035 degrees. The southeast dipping vein is 1.5 to 1.8 metres wide and follows the andalusite schist-quartzite contact for about 40 metres. It consists of broken rock cemented by siderite. Galena occurs in small amounts, concentrated in pockets along the vein. The vein has been explored with two adits driven 20 metres apart, vertically.

The northwest dipping vein has been exposed in three separate adits and consists of crushed wallrock mixed with calcite and siderite. Galena, pyrite and tetrahedrite with minor pyrargyrite are concentrated in pockets along the vein. The vein had a maximum width of 1.8 metres where it was stoped (Geological Survey of Canada Memoir 184).

Limited production from the Mohawk occurrence between 1918 and 1921 yielded 109,515 grams of silver and 13,118 kilograms of lead from 21 tonnes mined.

BIBLIOGRAPHY

EMPR AR 1919-122; 1921-133,153; 1926-266
EMPR BC METAL MM01310
EMPR BULL 29
EMPR INDEX 3-205
EMPR P 1989-5
GSC MAP 273A; 1091A
GSC MEM 173; *184, p. 235; 308, p. 130

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW086**

NATIONAL MINERAL INVENTORY: 082F14 Ag40

NAME(S): **UTICA (L.4566)**, ALICE NO. 5 (L.4567), ANDREW JAY (L.5304),
ROCK BOULDER (L.5305), COLORADO (L.5308), SOL (L.14107),
SOL NO. 1 (L.14108), MINERVA FR. (L.14109), HERCULES (L.14110),
TIME & TIDE (L.14111), LAST CHANCE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 58 30 N
LONGITUDE: 117 07 38 W
ELEVATION: 1981 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of No. 4 portal.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5535859
EASTING: 490878

COMMODITIES: Silver Lead Zinc Gold Cadmium
Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Tetrahedrite Silver Arsenopyrite
Pyrite Chalcopyrite
ASSOCIATED: Quartz Siderite Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Discordant Massive Shear
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Fractured
DIMENSION: 210 x 80 x 2 Metres STRIKE/DIP: 040/65S TREND/PLUNGE:
COMMENTS: Dimension of stope on the East vein.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Slocan Undefined Formation
Middle Jurassic Nelson Intrusions

LITHOLOGY: Andalusite Schist
Limestone
Argillite
Biotite Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: GRADE: Greenschist
Hornfels

CAPSULE GEOLOGY

The Utica property is located between elevations of 1830 and 2290 metres on the northeast side of Paddy Peak, 18 kilometres northwest of Kaslo. The property is near the headwaters of Utica Creek, a tributary of Twelve Mile Creek. The main portal (No. 4 adit) is at 1981 metres on Crown grant 4566.

The showings were discovered and staked in July 1892 by Patrick McCue. Development work during the following years was limited to the annual assessment requirements. In about 1899 a nine-month option was acquired by Messrs. Peyton and Corbin, of Spokane. Development work to that date had been carried out in 3 adit levels. In about 1900 the property was optioned to G.H. Hughes, who drove No. 4 adit. Five claims, the Utica, Alice No. 5, Andrew Jay, Rock Boulder, and Colorado (Lots 4566, 4567, 5304, 5305 and 5308 respectively) were Crown-granted to McCue in 1903. The Sol, Sol No. 1, Minerva Fr., Hercules, and Time & Tide claims (Lots 14107-14111) were apparently Crown-granted at a later date.

No further activity was reported until 1909 when the first production was recorded. The property was acquired from the McCue estate by C.F. Caldwell & associates who incorporated Utica Mines, Limited in October 1911. Operations by the company continued into 1918. Production, mainly from the East vein, was hand sorted for shipment, the milling-grade material being stockpiled. During this period the workings on Nos. 3 and 4 levels had been expanded to a total of about 1524 metres of crosscuts and drifts. The No. 7 level,

CAPSULE GEOLOGY

107 metres below No. 4, was driven as an exploratory crosscut for 610 metres in about 1917, however, the veins were not located. Lessees worked the property during the period 1919-23.

The owners reached an agreement with Major H.H. Armstead & associates on the formation of a new company in which Utica shareholders would receive shares in the new company. Accordingly, Utica Mines, Limited was wound up voluntarily in November 1923 and Canadian Mines Merger Company, Limited was incorporated in July 1924; the name was changed in December 1924 to Canadian Mines Merger, Limited. Exploration work resumed in the lower adit in search for the vein extensions on that level. About 305 metres of additional crosscutting was carried out before work was suspended in 1925.

Shareholder dissatisfaction with the former arrangement led to an agreement with Strobie, Forlong & associates under which a new company Utica Mines, Limited was incorporated in May 1928. Exploration work was resumed and in 1929 the West vein was encountered in the lower crosscut, but was apparently only sparsely mineralized and work ceased. The company wound up voluntarily in March 1937.

Utica Mines (1937) Limited was incorporated by the former owners and some development work was carried out during the year, and briefly by a contractor during 1938. Further development work was carried out by the company in 1940 and 1946-50. The West vein was drifted on for about 259 metres. A raise from the East vein was completed to No. 4 level in 1947. This work encountered a mineralized zone on which No. 5 sublevel was driven. Some ore was shipped from No. 7 level dump in 1950.

J.A. Cooper of Kaslo held a lease on the property from the fall of 1954 until the fall of 1957 and sections of the East vein were mined on No. 5 and No. 7 levels. Cooper, backed by New York interests incorporated Lajo Mines Limited in June 1957 to acquire the property under a long term lease. A 50 ton-per-day mill was installed and operated on a testing basis in early 1958. The mill operated again in 1960, milling about 4630 tonnes.

Standard Beryllium Corporation of New York obtained a controlling interest in Lajo Mines and carried out an extensive examination of the property early in 1961. A pilot run of 820 tonnes of dump and backfill material was put through the mill. The grade of the material was: 263.9 grams per tonne silver, 0.65 per cent lead; 2.3 per cent zinc. During the fall 30 metres of drifting was done on the East vein on No. 5 level and 13 metres of winze was sunk below No. 7 level. On the surface some trenching was done on the West and Sol veins.

Peerless Canadian Explorations Limited optioned the mine and mill from Lajo in March 1963. Development work was done on No. 4 and No. 5 levels. Underground diamond drilling was done to test the East vein and surface diamond drilling in 5 holes totalling 213.3 metres was done on the Sol and Andrew J veins. The option was abandoned prior to April 1964.

Continental Consolidated Mines Ltd. optioned the property in 1965 and some geological work was reported. Silver Peak Mines Ltd. held an option on the property in 1968. Sampling and diamond drilling was reported.

Turismo Industries Ltd. in 1978 obtained an option on a 50 per cent interest in the property. The company name was changed in July 1978 to General Energy Corp. By a further agreement of June 1979 with Martin & Lilly Ltd. and Lorede Resources Ltd. the company acquired a 30 per cent interest in the mine dumps. The dumps were estimated to contain 9072 tonnes at 257.1 grams per tonne silver (VSE SMF 12/09/79, General Energy Corp.). Lessees under the name Keen Creek Developments Ltd. during 1979 mined about 1360 tonnes on the 1130-metre level on the Last Chance claim. A new adit at the 1100-metre level was driven 66 metres to the main shear; the lease was terminated. David Minerals during 1980 carried out diamond drilling on the 1100 level, drifting to a new vein discovery, and raising to the 1130 level. The milling of 5366 tonnes of dump ore at the Ainsworth mill to May 15, 1981 proved unprofitable.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slokan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slokan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slokan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six

CAPSULE GEOLOGY

texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Utica occurrence is hosted by andalusite schist, after argillites and limestone of the Slocan Group metamorphosed by contact metamorphism of nearby Nelson intrusions. The strata generally strike northwest and dip 25 to 60 degrees northeast but locally they can be complexly folded. The metasedimentary rocks are intruded by three stocks of biotite granite, probably related to the Nelson intrusions.

The Utica consists of two subparallel brecciated veins occurring within fault zones with sinistral strike-slip movement and later normal movement. The faults strike 040 degrees, dip between 60 and 70 degrees southeast and have well-defined walls marked by thick seams of carbonaceous gouge. It is suspected that the two faults, which are 35 metres apart in the No. 4 adit, merge toward the surface. The East vein varies in thickness from tens of centimetres up to 2 metres. It has been stoped in the No. 4 adit for a strike length of 210 metres and for 80 metres updip above that level. It contains mostly brecciated hostrocks cemented by siderite, quartz and calcite. The ore occurs as scattered lenses and veinlets of interbanded argentiferous galena and sphalerite with gangue minerals, averaging 70 centimetres in width. Tetrahedrite, arsenopyrite, pyrite, chalcopyrite, and native silver occur in minor amounts within the sphalerite-rich layers.

The west vein varies from 1 to 6 metres and is largely composed of crushed and sheared wallrock. The ore occurs in parallel shoots aligned across the vein and apparently associated with crossfractures. Silver appears to be associated with sphalerite. Late movements in the faults induced fracturing of sphalerite and shearing of galena with galena flowing around fragments of sphalerite. The veins have been explored with five adits and at least 2400 metres of drifting.

Production from the Utica mine between 1909 and 1983 yielded about 30 tonnes of silver, 1551 grams of gold, 1600 kilograms of cadmium, 171 kilograms of copper, 992 tonnes of lead and 718 tonnes of zinc from 21,823 tonnes mined.

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- EMPR BULL 29
EMPR BC METAL MM00017
EMPR INDEX 3-217; 4-126
EMPR IR 1984-2, p. 103; 1984-3, p. 109; 1984-4, p. 122; 1984-5, pp. 113,116
EMPR LMP Fiche No. 61706
EMPR MINING 1975-1980, Vol.1, pp. 37,75; 1981-1985, pp. 27,50
EMPR P 1989-5
EMPR PF (Geological plans Utica mine, 1" = 40'; Starr, C.C. (1925): Report of Examination of the Utica Mine, 9 p.; Horizontal Projection of Utica Mine, 1923)
EMR MP CORPFILE (Utica Mines Limited; Peerless Canadian Exploration Limited; Lajo Mines Limited; Continental Consolidated Mines Ltd.; General Energy Corp.)
GSC MAP 272A; 273A; 1091A; 1667
GSC MEM 173, pp. 93,94; *184, p. 252; *308, p. 137
GSC SUM RPT 1916, pp. 56,57
CANMET IR 195; IR MD 3235(1957)
GCNL Jun.30,#28, 1978; #148, 1979; #211, 1980; #116, 1981; #40, 1984
N MINER Mar. 5, 1981

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW087**

NATIONAL MINERAL INVENTORY: 082F14 Pb22

NAME(S): **RAINBOW (L.14615)**, MCINNIS

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 58 27 N
LONGITUDE: 117 06 42 W
ELEVATION: 1890 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5535764
EASTING: 491993

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits from Geological Survey of Canada Map 273A.

COMMODITIES: Lead Silver Gold Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Calcite Siderite

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	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Andalusite Schist
Quartzite
Granodiorite Dike
Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional Contact

RELATIONSHIP:

GRADE: Greenschist
Hornfels

CAPSULE GEOLOGY

The Rainbow occurrence is situated on Utica Creek, on Crown grant Lot 14615 at 1890 metres elevation above sea level, in the Slocan Mining Division.

Workings include a shaft and 2 adits. The latter are about 70 metres apart vertically and the collar of the shaft about 30 metres above and 40 metres southwest of the portal of the lower adit. All three lodes are encountered in the lower adit level. This adit was driven as a crosscut for 38 metres to the most easterly lode, and continued for about 43 metres southwest as a drift on the lode. A crosscut from near the face of the drift was driven 55 metres to the northwest cutting a second lode at 26 metres, and a third lode, known as the "McInnis vein", at 50 metres. The second lode is about 1.2 metres wide with gouge on both walls and is composed of crushed rock containing a little calcite and siderite. The McInnis lode at this level is about 3 metres wide but shows little mineralization. Higher up, however, this lode was intersected at 9 metres from the portal by the upper crosscut adit, and was followed southwest by a drift for 18 metres. In this drift a few lenses of vein matter were encountered at the face of the lode was about 45 centimetres wide.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

Immediately south of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from

CAPSULE GEOLOGY

diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5). The sedimentary sequence has been affected by contact metamorphism from the emplacement of the nearby Nelson intrusions.

Rocks on the Rainbow property are massive andalusite schist and quartzite of the Slocan Group, striking 035 degrees and dipping steeply southeast. The occurrence consists of three brecciated veins emplaced along narrow shears parallel to the foliation. The veins have been explored with a shaft and two adits about 40 metres apart vertically. All three veins are exposed in the lower adit. The veins vary from 1.3 to 6 metres in width and consist mainly of crushed wallrock cemented by calcite and siderite. Galena, sphalerite and pyrite form narrow seams, 10 to 40 centimetres wide, on the footwall side of the vein and are concentrated in lenses and stringers at irregular intervals along the vein.

Production from the occurrence in 1924 and 1926 yielded 17,200 grams of silver, 2963 kilograms of lead and 31 grams of gold from 6 tonnes of ore.

BIBLIOGRAPHY

EMPR AR 1926-265
EMPR BC METAL MM01365
EMPR BULL 29
EMPR INDEX 3-210
EMPR P 1989-5
GSC MAP 273A; 1091A
GSC MEM 173; *184, p. 242; 308, p. 130

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW088**

NATIONAL MINERAL INVENTORY:

NAME(S): **HELEN**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 59 45 N
LONGITUDE: 117 05 30 W
ELEVATION: 1690 Metres

NORTHING: 5538171
EASTING: 493430

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits from Geological Survey of Canada Map 273A.

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Cerussite
ASSOCIATED: Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Epigenetic Hydrothermal
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>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Porphyritic Granite
Shale
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SHEAR REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1919
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	1920.0000 Grams per tonne
Gold	1.3000 Grams per tonne
Zinc	12.0000 Per cent

COMMENTS: A 45 centimetre wide chip sample of the mineralized portion of the shear zone.

REFERENCE: Minister of Mines Annual Report 1919, page 121.

CAPSULE GEOLOGY

The Helen occurrence is located at 1690 metres elevation above sea level, between Robb and Twelve Mile creeks, in the Slocan Mining Division.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

CAPSULE GEOLOGY

The occurrence consists of a brecciated vein within a northwest striking shear zone cutting a porphyritic granite stock-like apophysis of the Nelson intrusions. The shear dips 45 degrees southeast and is composed essentially of broken and crushed granite, 1 to 1.5 metres wide, sparsely mineralized with galena, cerussite, sphalerite and carbonate as filling between the granite blocks. A 45 centimetre wide chip sample taken from the mineralized portion of the shear assayed 1.3 grams per tonne gold, 1920 grams per tonne silver and 12 per cent zinc (Minister of Mines Annual Report 1919). The vein has been explored with a shaft and two adits driven 30 metres apart vertically.

BIBLIOGRAPHY

EMPR AR 1917-156,186; 1918-160; *1919-121,152; 1920-122
EMPR ASS RPT 12532, 13653
EMPR BULL 29
EMPR P 1989-5
GSC MAP 273A; 1667; 1091A
GSC MEM *184, p. 223; 308

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW089**

NATIONAL MINERAL INVENTORY: 082F14 Pb21

NAME(S): **KENO**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 22 N
LONGITUDE: 117 05 43 W
ELEVATION: 1980 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5537461
EASTING: 493170

LOCATION ACCURACY: Within 500M

COMMENTS: Location from Geological Survey of Canada Map 273A.

COMMODITIES: Lead Silver Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Calcareous Argillite
Limestone
Porphyritic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Keno occurrence is located at 1980 metres elevation above sea level, between Robb and Twelve Mile creeks, in the Slocan Mining Division.

According to Cairnes (1935, p. 227): "The Keno property, comprising one or more claims held by location is about 1067 metres above and 6.4 kilometres by trail southeast of Baylock. The workings include three adits, of which the lower two were inaccessible in 1925."

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The occurrence consists of a brecciated vein within grey limestone and calcareous argillite of the Slocan Group. The shear strikes north and dips 50 degrees east and is composed essentially of broken wallrock and gouge. The shear, which has been explored with three adits, is 30 to 120 centimetres wide. At 16 metres from the portal the shear splits into an east trending, vertically dipping segment and a south trending, east dipping segment. The east-trending shear cuts a porphyritic dike 10 metres from the split and pinches out 6 metres past the dike. The drift following the

CAPSULE GEOLOGY

south shear was abandoned 14 metres past the split where the shear was 60 centimetres wide. Mineralization within the shear consists of galena, sphalerite and tetrahedrite in the quartz matrix cementing the brecciated wallrock.

Production in 1921 yielded 4665 grams of silver and 1361 kilograms of lead from 3 tonnes of ore.

BIBLIOGRAPHY

EMPR ASS RPT 12532, 13653
EMPR BC METAL MM01255
EMPR BULL 29
EMPR P 1989-5
GSC MAP 273A; 1090A; 1091A
GSC MEM 173; *184, p. 227; 308, p. 130

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW090**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIG BEN**, MARBLE ARCH, CALIFORNIA,
SILVER KING

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 59 38 N
LONGITUDE: 117 04 34 W
ELEVATION: 1478 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of Marble Arch shaft (likely producer of Silver King ore in 1916).

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5537954
EASTING: 494545

COMMODITIES: Silver Lead Gold Zinc Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Carbonaceous Limestone
Calcareous Argillite
Calcareous Schist
Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: VEINLET
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY
Silver 1349.5000 Grams per tonne
Gold 4.8000 Grams per tonne
Lead 70.0000 Per cent
COMMENTS: Grab sample of mineralized veinlet from the adit at the Marble Arch showing.
REFERENCE: Minister of Mines Annual Report 1926, page 266.

CAPSULE GEOLOGY

The Big Ben occurrence is located at 1478 metres elevation above sea level, on the north side of Twelve Mile Creek, in the Slocan Mining Division. The occurrence includes the Marble Arch and California showings which are believed to be the extension of the Big Ben occurrence. This occurrence is likely the Silver King, a producer in 1916, operated by J. Koski.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six

CAPSULE GEOLOGY

texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The occurrence consists of a brecciated vein cutting carbonaceous limestone, calcareous argillite and schist of the Slocan Group and a granitic stock of the Nelson intrusions. The vein strikes 070 degrees, dips 67 degrees northwest and is composed essentially of broken wallrock and gouge. The shear has been explored with 3 shafts and 5 adits along 400 metres of strike length.

On the California claim, disseminated galena, sphalerite and pyrite occur along a band of fractured limestone and calcareous argillite. The shear has a maximum width of 6 metres. The shear extends up the slope on the Marble Arch showing where a shallow shaft and two short adits are developed on a quartz-filled shear containing stringers of galena and tetrahedrite. A grab sample of a mineralized stringer assayed 4.8 grams per tonne gold, 13,495 grams per tonne silver and 70 per cent lead (Minister of Mines Annual Report 1926). The wallrock is calcareous schist.

Further up the slope, at the Big Ben occurrence, the vein is 45 to 50 centimetres wide and mineralized with stringers and masses of galena and pyrite in quartz. Here, the vein is hosted within porphyritic granite of the Nelson intrusions.

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EMPR AR 1916-195-196; *1926-266; 1927-288
EMPR ASS RPT *12532, 13653, 16380
EMPR BC METAL MM01397
EMPR BULL 29
EMPR INDEX 3-213
EMPR P 1989-5
GSC MAP 273A; 1667; 1091A
GSC MEM 173; *184, p. 193; 308

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

This group of claims was located in 1891 by Messrs. Becker, McLeod, Rossiter and Sandon. Most of the exploratory work on the Montezuma (Lot 2041) and Mexico (Lot 2042) claims was done by the Kaslo-Montezuma Mining & Milling Co. of Seattle in the years 1898-1899. The No. 1 adit, driven 6 metres below the surface outcrop, showed pronounced mineralization along the foot and hanging-wall sections of the zone across widths of from 1.5 to 3 metres. No. 2 adit, 24.3 metres below No. 1, crosscuts to the same lode. A third adit, nearly 92 metres below No. 2 level, reached the lode by a long crosscut and was connected by a raise with the upper workings. Most of the ore was stoped from the upper levels over a maximum length of about 46 metres. Below No. 2 level the ore became lean and formed a more or less chimney-shaped mass. This ore was stoped out without, apparently, discovering further deposits. A mill was built on Keen Creek but it was destroyed by fire shortly after operations at the mine ceased.

The property was taken over by H. Giegerich of Kaslo in 1906. Development work underground was confined to the blocking out of a body of concentrating ore. About 90 tonnes of high grade galena was taken out in the process. The body of concentrating ore was taken out and very little has been done with the property since. A shipment of zinc was made from the mine dump in 1918. During 1950 B.W. Price and J.H. Lassen held a lease on the property. In 1951 Kootenay Belle Gold Mines Ltd. of Vancouver acquired ownership of the property and mined 33 tonnes of ore from the old workings. Operations of this company were suspended in 1952 and the assets taken over by the Canada Trust Company of Vancouver.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

West of the occurrence the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The rocks underlying the Montezuma property are andalusite schist, phyllite, quartzite, calcareous argillite and limestone of the Slocan Group that have been affected by contact metamorphism due to the emplacement of the Nelson intrusions. The sedimentary rocks are folded in a vertical dipping series of isoclinal folds striking northwest and plunging steeply to the south.

Mineralization consists of galena, sphalerite, pyrrhotite and pyrite as replacement in limestone strata. The mineralization is in a chimney-like structure, 15 metres wide and 25 to 30 metres in length, which plunges 70 degrees southeast. The mineralized chimney has been explored with a gloryhole and two short adits. A grab sample from the dump near the portal of the upper adit assayed 446 grams per tonne silver, 12.85 per cent lead and 0.4 per cent zinc. The dump is estimated to contain 475 tonnes of material (Property File - Prospectus, Hilroy Mines Ltd., 1967). A 2 to 3 metre wide feldspar porphyritic dike that cuts the limestone beds near the mineralized chimney contains small amounts of pyrite, chalcopyrite and sphalerite concentrated in quartz veins. A chip sample taken from the mineralized porphyritic dike assayed 46 grams per tonne silver, 0.15 per cent lead and 0.3 per cent zinc across 1.5 metres (Property File - Prospectus, Hilroy Mines Ltd., 1967).

Production from the limestone-hosted mineralization between 1898 and 1951 yielded 1,679,159 grams of silver, 555,491 kilograms of lead and 136,314 kilograms of zinc.

BIBLIOGRAPHY

- EMPR AR 1892-532; 1893-1046,1059; 1896-94; 1897-527; 1898-1085;
*1899-596,701,702,707; 1904-158,198; 1906-143; 1907-97,213;
1908-93,247; 1915-445; 1918-160,193; 1927-286; 1929-284; 1950-138;
1951-39; *1967-255; 1968-257
EMPR ASS RPT 13238, *10780, 16556
EMPR BC METAL MM01313
EMPR BULL 29
EMPR INDEX 3-206

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 444
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR P 1989-5
EMPR PF (Starr, C.C. (1928): Report of Preliminary Examination of
the Montezuma Mine, 4 p.; *Malcom, D.C. (1967): Report on
Montezuma Property in Prospectus, Hilroy Mines Ltd. (N.P.L.),
August 27, 1967)
GSC ANN RPT 1897 Part A, pp. 10,33
GSC MAP 273A; 1091A; 1667
GSC MEM 173; 184, p. 237; 308, p. 131
CANMET IR 12 (1906), p. 169

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/21

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW092**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACK BEAR (L.10783)**, KASLO SILVER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 55 01 N
LONGITUDE: 117 03 45 W

NORTHING: 5529398
EASTING: 495513

ELEVATION: 1036 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: The Black Bear mineral occurrence (Paper 1989-5, Map 3). Location of shaft and dumps.

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Pyrite Sphalerite Tetrahedrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres
COMMENTS: The veins are 30 to 45 centimetres wide.

STRIKE/DIP: 065/65S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Upper Triassic

Middle Jurassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Mount Carlyle Stock

ISOTOPIC AGE: 169 +/- 3 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

LITHOLOGY: Slaty Argillite
K-Feldspar Porphyritic Granite

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist
Hornfels

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis

SAMPLE TYPE: Chip

YEAR: 1920

COMMODITY

COMMODITY	GRADE	
Silver	181.7000	Grams per tonne
Gold	2.7400	Grams per tonne
Lead	15.0000	Per cent
Zinc	3.6000	Per cent

COMMENTS: A 48-centimetre chip sample from near the bottom of the shaft.

REFERENCE: Minister of Mines Annual Report 1920, page 123.

CAPSULE GEOLOGY

The Black Bear occurrence is located at 1019 metres elevation, on the Black Bear Reverted Crown grant (Lot 10783). The Reverted Crown grant lies northeast of the junction of Carlyle Creek with Keen Creek and adjoins the eastern edge of the Liberty, 082FNW093. Kaslo, British Columbia lies 15 kilometres to the east.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been

CAPSULE GEOLOGY

regionally metamorphosed to lower greenschist facies.

Immediately west of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5). The sedimentary sequence has been affected by contact metamorphism from the emplacement of the nearby Nelson intrusions.

In 1920, work by G.B. Gerrard was started on restoring the old workings of the Black Bear occurrence, which included a 10.6-metre shaft, a short crosscut adit below and an opencut above the shaft.

The workings intersected a vein that appeared to follow the bedding of contact metamorphosed, slaty argillites of the Slocan Group on the eastern edge of the Middle Jurassic Mount Carlyle stock. The stock is composed primarily of potassium feldspar porphyritic granite. The vein width varied from 30 to 45 centimetres and hosted galena, pyrite and minor sphalerite mineralization in a quartz gangue. The strike of the vein is 065 degrees and the dip is 67 degrees southeast.

A 48-centimetre chip sample taken near the bottom of the shaft in 1920 yielded 2.74 grams per tonne gold, 181.7 grams per tonne silver, 15 per cent lead and 3.6 per cent zinc (Minister of Mines Annual Report 1920, page 123).

Production records for the Black Bear occurrence indicate 5 tonnes of ore was mined in 1922 from which 1866 grams silver and 944 kilograms lead were recovered.

Cream Minerals Ltd. optioned the property in late 1997. A grab sample assayed 101.2 grams per tonne silver, 7.76 per cent lead, 12.82 per cent zinc, and 0.23 grams per tonne gold (GCNL #182 (September 22), 1998).

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EMPR BC METAL MM01129
EMPR BULL 29
EMPR EXPL 1987-C56; 1998-71
EMPR FIELDWORK 1987, pp. 31-48; 535-541; 1989, pp. 251-255; 1990, pp. 171-178
EMPR INDEX 3-189
EMPR OF 1988-11; 1990-18; 1992-1
EMPR P *1989-5
GSC MAP 273A; 1091A
GSC MEM 173, Map 272A, p. 16; *184, p. 195; 308, p. 131
GCNL #182(Sept.22), 1998
WWW <http://www.langmining.com/cream/main.htm>

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/24

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

Immediately west of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5). The sedimentary sequence has been affected by contact metamorphism from the emplacement of the nearby Nelson intrusions.

The Liberty occurrence is located immediately east of the contact between the Mount Carlyle stock of the Nelson intrusions and metasediments of the Slocan Group, which the Liberty occurrence is hosted in. Metasediments include interbedded slate, argillite, andalusite schist and limestone striking north to northeast. Quartz porphyry dikes and sills intrude. The border phase of the potassium feldspar porphyritic granite Mount Carlyle stock is coarse grained hornblende diorite and quartz diorite.

The lowest lode, at about 122 metres above Keen Creek, has been explored by at least two adits. The lode strikes 055 degrees and dips 60 degrees to the southeast. Mineralization intersected consists of streaks and pockets of galena, pyrite, chalcopyrite and sphalerite in a gangue of quartz and siderite. Less than 30 metres vertically above, an adit intersects porphyry and quartzite hosting a mineralized fissure. The fissure strikes northeast and dips 60 degrees southeast. At the face of the adit the lode is 60 centimetres wide and carries pyrite and galena in a gangue of quartz, siderite and brecciated wallrock. Copper staining was observed. Less than 113 metres vertically higher an adit intersects a fissure striking 055 degrees and dipping 75 degrees southeast. Other adits at higher elevations were unsuccessful at finding further mineralization.

Production records for the Liberty occurrence indicate ore was produced in 1899, 1923, 1925 and 1979 totalling 1457 tonnes. This ore yielded 61,193 grams silver, 12,426 kilograms lead, 103,331 kilograms zinc, 976 kilograms cadmium and 717 grams gold.

Cream Minerals Ltd. is exploring the area as the Kaslo Silver property.

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- CJES Vol.5, pp. 955-957

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/24

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW094**

NATIONAL MINERAL INVENTORY: 082F14 Zn4

NAME(S): **CORK-PROVINCE** CORK (L.4883), PROVINCE (L.5042),
KASLO SILVER, DUBLIN, CORK SOUTH

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 54 26 N
LONGITUDE: 117 04 31 W
ELEVATION: 1100 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5528318
EASTING: 494595

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits and dumps. See also Black Bear (082FNW092), Black Fox (082FNW093), Bismark (082FNW096), Wintrop (082FNW097), Silver Bear (082FNW100), Index (082FNW101), Gold Cure (082FNW185) and Silver Bell (082FNW186).

COMMODITIES: Silver Zinc Lead Cadmium Gold
Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Stratabound Discordant Massive
CLASSIFICATION: Replacement Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Faulted Fractured
DIMENSION: Metres STRIKE/DIP: 050/65S TREND/PLUNGE:
COMMENTS: Attitude of fault zone along which replacement bodies occur.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Triassic Slocan Undefined Formation
Middle Jurassic Nelson Intrusions

LITHOLOGY: Limestone
Quartzite
Andalusite Schist
Argillite
Hornblende Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional Contact RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: CORK SOUTH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1997
SAMPLE TYPE: Trench
COMMODITY GRADE
Silver 112.8000 Grams per tonne
Zinc 5.3600 Per cent
Lead 2.8500 Per cent

COMMENTS: Trench sample, 11 metres.
REFERENCE: GCNL #230 (Dec.1), 1997.

CAPSULE GEOLOGY

The Cork-Province mine is situated south of Keen Creek, just west of the mouth of Ben Hur Creek at 1100 metres elevation above sea level, in the Slocan Mining Division. The property includes the Cork and Province Reverted Crown grants (Lots 4883 and 5042).

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast

CAPSULE GEOLOGY

inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

Immediately northwest of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5). The sedimentary sequence has been affected by contact metamorphism from the emplacement of the nearby Nelson intrusions.

Rocks on the property are massive andalusite schist, argillite, quartzite and limestone of the Slocan Group. The rocks strike 070 degrees and dip 80 degrees southeast away from the intrusive contact. Near the occurrence, the Nelson intrusions consist of coarse grained hornblende diorite.

The deposit consists of a fault or shear zone striking 050 degrees and dipping 65 degrees southeast. The shear zone has been developed with at least four adits and a vertical shaft. Within the mine, the shear is up to 2 metres wide and dextral displacement along the vein offsets the beds about 25 metres horizontally. Orebodies have a most pronounced development where the shear intersects limestone beds. Replacement of limestone occurs up to 30 metres from the fault zone and is determined largely by fracture development in calcareous beds. Orebodies have been discovered in at least three separate limestone beds and the most important orebody was found on the boundary between the Cork and Province claims.

The ore occurred as replacement of limestone and consisted of an intimate mixture of sphalerite and galena with small amounts of pyrite and chalcopyrite in a gangue of siderite with some quartz and calcite associated with altered wallrock.

The Cork group of 8 claims was staked for the Silver Star Mining Co. Ltd. in 1900. The Province group, consisting of 6 adjoining claims, was staked in 1902 and Province Mines Ltd. began the development work. For a number of years these two groups were operated as two mines, the Cork and the Province. The Province mine was operated by the Company or by leasers until 1908. The Cork mine closed in 1910 and remained closed the following year although the management was taken over by the West Kootenay Corporation. A shipment of ore, under the name of the Selkirk Mining Co. Ltd., was reportedly made from the Cork mine in 1913.

The two properties were combined in 1914 under the name of Cork-Province Mines Ltd. and its operated intermittently until 1930. Leasers made several small shipments of ore from clean up work on the surface and from underground during the period 1930-1948. In 1949 the property was acquired by Base Metals Mining Corporation Ltd. and operations continued until late in 1953 when the mine was closed and the lower workings allowed to flood.

During the early years of operation, development work was carried out on 5 levels. The main adit (No. 3 level) was driven as a crosscut tunnel for 274 metres. It is connected to No. 1 level by a raise and to Nos. 4 and 15 levels by a 70 degree shaft, which was later deepened to establish a 6th level. In 1952 a vertical shaft was sunk from No. 3 level for 169 metres and Nos. 7 and 8 levels established. These new levels required crosscuts, each about 61 metres long, to reach the vein. Drifts on these two lower levels indicated ore of average mine grade but insufficient work was done to determine its extent.

London Pride Silver Mines Ltd. acquired a 10 year lease on the property in April 1964. During the summer the mine was rehabilitated and the 150 ton mill was put into operation in September. The mine and mill were closed in May 1966, when known reserves were exhausted.

Production from the Cork-Province property between 1900 and 1966 yielded about 16 tonnes of silver, 5846 tonnes of lead, 9033 tonnes of zinc, 69 tonnes of cadmium and 1896 grams of gold from 191,410 tonnes mined.

Cream Minerals Ltd. sampled the property in 1997; a grab sample returned 677.8 grams per tonne silver, 5.68 per cent zinc and 29.54 per cent lead (GCNL #174, 1997). A 4-metre sample from a trench assayed 34.6 grams per tonne silver, 1.09 per cent zinc and 1.28 per cent lead (GCNL #230, 1997). In the Cork South trench, about 50 metres southwest of the mine workings, an 11-metre sample assayed 112.8 grams per tonne silver, 5.36 per cent zinc and 2.85 per cent lead (GCNL #230, 1997). A drill hole intersected 21.1 metres grading 209.27 grams per tonne silver, 6.02 per cent lead and 8.09 per cent zinc (GCNL #13, 1998). The mineralization is hosted in a carbonate rock that represents the down-dip extension of mineralization

CAPSULE GEOLOGY

uncovered in the trench. The zone has an interpreted true thickness of 6 to 7 metres with a weighted average grade of 179.52 grams per tonne silver, 5.12 per cent lead and 7.33 per cent zinc (GCNL #13, 1998). The mineralized shear has been traced for about 3 kilometres in a northeast direction.

Cream Minerals Ltd. is exploring the area as the Kaslo Silver property. See Black Bear (082FNW092), Black Fox (082FNW093), Bismark (082FNW096), Wintrop (082FNW097), Silver Bear (082FNW100), Index (082FNW101), Gold Cure (082FNW185) and Silver Bell (082FNW186).

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1915-119,445,448; 1916-195,516; 1917-155,185,448; 1918-160;
1919-120,153; 1920-144; 1922-190; 1923-211; 1924-189; 1925-233,239;
1926-260; 1927-286; *1928-305; 1929-284,320; 1930-253; 1931-142;
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*1964-A55,121; 1965-A55,187,188; 1966-A52,224
EMPR ASS RPT 858, 7713, *10712, 13673, 18322, 19256, 25247, 25334,
25584
EMPR BC METAL MM01153
EMPR EXPL 1979-71; 1982-65; 1997-48; 1998-10,71
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EMPR INDEX 3-193; 4-120
EMPR LMP Fiche No. 60331-60341
EMPR OF 1988-11
EMPR P *1989-5, p. 24
EMPR PF (Richmond, A.M. (1929): Plan, sections)
EMR MP CORPFILE (Cork-Province Mines Ltd.; Base Metals Mining Corp.
Ltd.; London Pride Silver Mines Ltd.)
GSC MAP 273A; 1091A; 1667; 1956-3
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GSC SUM RPT 1925 Part A, p. 192
CANMET IR 12 (1906), pp. 169-174
GCNL #44(Mar.4), #167(Aug.29), #174(Sept.10), #185(Sept.25), #230
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#85(May 4), #129(July 7), #131(July 9), #151(Aug.7), #182
(Sept.22), #220(Nov.17), #225(Nov.24), 1998
N MINER May 4, Aug.17, 1998; May 3, 1999
WWW <http://www.langmining.com/cream/main.htm>;
http://www.infomine.com/index/properties/KASLO_SILVER.html

DATE CODED: 1985/07/24
DATE REVISED: 1998/06/15

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW095**

NATIONAL MINERAL INVENTORY: 082F14 Zn2

NAME(S): **BLACK FOX (L.2176)**, CALIFORNIA (L.2177), DAISY (L.2175),
AINSWORTH FR., PATRICK, E.G. 1-12,
KASLO SILVER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 54 07 N
LONGITUDE: 117 05 12 W
ELEVATION: 1128 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Black Fox occurrence (Paper 1989-5, Map 3). Location of adits
and shaft.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5527732
EASTING: 493776

COMMODITIES: Zinc Lead Silver Gold Cadmium

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite
COMMENTS: Pyrite is reported to carry silver and gold.
ASSOCIATED: Quartz Siderite
COMMENTS: Siderite is minor.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 3 Metres STRIKE/DIP: 060/65S TREND/PLUNGE: /
COMMENTS: The main lode has a maximum width of about 3 metres. The general
strike of the veins is 060 degrees and the dip is 65 degrees to the
southeast.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Mount Carlyle Stock

ISOTOPIC AGE: 169 +/- 3 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

LITHOLOGY: Argillite
Andalusite Schist
K-Feldspar Porphyritic Granite

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional Contact RELATIONSHIP: PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE: Greenschist Hornfels

CAPSULE GEOLOGY

The Black Fox occurrence is located at 1128 metres elevation on the southeastern side of Keen Creek, between Ben Hur and Briggs creeks. Kaslo, British Columbia is located 16 kilometres to the east.

The Black Fox occurrence is located on ground covered by the Black Fox Group, consisting of Daisy (Lot 2175), Black Fox (Lot 2176) and California (Lot 2177) Crown grants. Other claims also historically related to the Black Fox occurrence include the Ainsworth Fraction, Patrick and E.G. 1 to 12.

The Daisy claim was first located and worked in the 1890s. The Black Fox claim was added in 1898. During the 1890s, about 305 metres of drifting, crosscutting and shaft sinking was completed, mainly on the Daisy and California claims. This work was done by the Black Fox Mining Company. Operations ceased after exploration efforts directed towards lead-silver ore was never found. In 1951, the adit was reopened and mining commenced until 1953. Another 183 metres of drifting was done on the A and D veins, with drifting and overhand stoping of the A vein and a raise connecting to the old shaft. Mining was also carried out in 1960 and 1961 by the New Ainsworth Base Metals Ltd. In 1961, the main drift was extended north-south along the main lode. Other work included diamond

CAPSULE GEOLOGY

drilling to test the potential of vein to the east and a geophysical survey.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

Immediately north of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5). The sedimentary sequence has been affected by contact metamorphism from the emplacement of the nearby Nelson intrusions.

The Black Fox occurrence is hosted in argillite of the Slocan Group. Contact metamorphism has altered argillite to andalusite schist. The Middle Jurassic Mount Carlyle stock comprised of potassium feldspar porphyritic granite lies immediately to the northwest.

The veins at the Black Fox occurrence are banded and fissure hosted, the larger veins showing evidence of considerable faulting and shearing. Vein widths vary from a few to 60 centimetres, generally occurring concordant with bedding of the Slocan metasediments. The general strike of these veins is 060 degrees and the dip 65 degrees to the southeast. Quartz, minor siderite and sheared hostrock carry varying amounts of irregularly distributed sphalerite, galena and pyrite with minor silver and gold.

The largest of these veins occurs in the northwest corner of the Daisy claim. It is referred to as the main lode and has a maximum width of 3 metres and has been traced for about 61 metres on surface. A second lode, intersected in the crosscut, outcrops on surface north of the main lode, 30 metres south of and 23 metres vertically above the crosscut portal. The vein is 1.4 metres wide, strikes 052 degrees and dips 70 degrees to the southeast.

The old shaft intersected the California vein which has a strike almost perpendicular to the others and is reported to have contained some good ore.

Production records for the Black Fox occurrence show 886 tonnes of ore produced in 1951, 1952 and 1961. Recovery totalled 53,777 grams silver, 187 grams gold, 74,440 kilograms zinc, 5800 kilograms lead and 41 kilograms cadmium.

Cream Minerals Ltd. acquired the property in 1998. Grab samples assayed high in silver, lead and zinc.

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EMPR ASS RPT 858
EMPR BC METAL MM01131
EMPR FIELDWORK 1987, pp. 31-48,535-541; 1989, pp. 251-255; 1990, pp.
171-178
EMPR INDEX 3-189; 4-119
EMPR LMP Fiche No. 60105
EMPR OF 1988-11; 1990-18; 1992-1
EMPR P *1989-5
EMR MP CORPFILE (New Ainsworth Base Metals Ltd.)
GSC MAP 273A; 1090A; 1667p
GSC MEM 173, Map 273A; *184, pp. 196,197; *308, pp. 184,191
GSC SUM RPT 1916, pp. 56-57
CANMET IR 12 (1906), p. 267
GCNL #182(Sept.22), 1998
WWW <http://www.langmining.com/cream/main.htm>

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/26

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW096**

NATIONAL MINERAL INVENTORY: 082F14 Ag44

NAME(S): **BISMARK (L.11273)**, BISMARK GROUP, MOUNTAIN GOAT (L.11274),
HIGHLAND LADDIE (L.11275), BLACK BEAR, BISMARK FR.,
BISMARK #1, CROWN POINT (L.5297), FULL RIG (L.5296),
GOLD CURE (L.5294), GOLD CURE FR. (L.5295), KASLO SILVER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 53 16 N
LONGITUDE: 117 04 27 W
ELEVATION: 1860 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5526156
EASTING: 494672

LOCATION ACCURACY: Within 500M

COMMENTS: The Bismark occurrence (Paper 1989-5, Map 3). See also Black Bear (082FNW092), Cork-Province (082FNW094), Black Fox (082FNW095), Wintrop (082FNW097), Silver Bear (082FNW100), Index (082FNW101), Gold Cure (082FNW185) and Silver Bell (082FNW186).

COMMODITIES: Silver

Lead

Zinc

Cadmium

MINERALS

SIGNIFICANT: Galena Pyrite
ASSOCIATED: Calcite Quartz

COMMENTS: Quartz is minor.

COMMENTS: Galena and pyrite are heavily oxidized on surface.

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

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

Stratabound Replacement

Mesothermal

Polymetallic manto Ag-Pb-Zn

SHAPE: Tabular

MODIFIER: Faulted

Fractured

DIMENSION: 34 x 1 Metres

STRIKE/DIP: 235/70N

TREND/PLUNGE:

COMMENTS: The average vein width is 1.0 metre. Stopping has been carried out from the surface down to the No. 2 level, over 34 metres below. The vein strikes 235 degrees and dips 70 degrees to the northwest.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE: Triassic
Middle Jurassic

GROUP: Slocan
FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER: Nelson Intrusions

ISOTOPIC AGE: 169 +/- 3 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

Nelson Intrusions

Middle Jurassic
ISOTOPIC AGE: 169 +/- 3 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

Mount Carlyle Stock

LITHOLOGY: Andalusite Schist
Argillite
Limestone
Siliceous Sandstone
Homblende K-Feldspar Porphyritic Granite
K-Feldspar Porphyritic Granite
Dike

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Contact Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist Amphibolite

INVENTORY

ORE ZONE: UNDERGROUND WORKINGS

REPORT ON: N

CATEGORY: Assay/analysis
 SAMPLE TYPE: Chip

YEAR: 1980

COMMODITY	GRADE	
Silver	1241.0000	Grams per tonne
Lead	3.0800	Per cent
Zinc	1.9800	Per cent

COMMENTS: Sample 22297, a 0.3-metre chip sample taken from a raised stope to surface.

REFERENCE: Assessment Report 8437.

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis
 SAMPLE TYPE: Chip

YEAR: 1980

COMMODITY	GRADE	
Silver	2040.0000	Grams per tonne
Lead	1.5800	Per cent
Zinc	17.1000	Per cent

COMMENTS: Sample 1177, a 0.4-metre chip sample taken from the lower adit.

REFERENCE: Assessment Report 8437.

CAPSULE GEOLOGY

The Bismark occurrence is located at 1860 metres elevation on the east side of Briggs Creek, a tributary to Keen Creek. Kaslo, British Columbia lies 16 kilometres to the east.

The Bismark occurrence is located on the Bismark Claim Group, consisting of the Bismark (Lot 11273), Mountain Goat (Lot 11274) and Highland Laddie (Lot 11275) Crown grants and previously included the Black Bear claim.

The Bismark property was first staked in 1898 and then worked intermittently until 1910. In 1926, J.A. McKay began to reopen the mine, however, the work was never completed. Consolidated Mining and Smelting Co. Ltd. optioned the property in 1928. Their option was dropped after doing some exploration work. The early workings of the Bismark occurrence include three adits over a vertical range of 122 metres. B.C. Metals Mines Ltd. was formed in 1951 to develop the Bismark occurrence, now consisting of 8 claims. A contract was signed with Columbia Diamond Drilling Co. to explore the workings at depth but further records of the program and/or results are unknown. In 1957, the property was acquired by Castle Oil and Gas Ltd. In 1980, the property was examined by E. Denny, the owner, and Hudson Bay Exploration and Development Company Limited. An extensive sampling program was undertaken of surface outcrops and the lower adit. Greenwich Resources Inc. undertook an exploration program on the Bismark property in 1984, consisting of rock, silt and soil geochemistry, and a ground electromagnetic survey. Cream Minerals Ltd. sampled the property in 1997; a 60-centimetre chip sample assayed 2134.5 grams per tonne silver, 26.36 per cent zinc and 0.27 per cent lead (GCNL #174, 1997). A hole drilled in 1998 intersected 9.3 metres of 313.7 grams per tonne silver, 0.73 per cent lead and 0.92 per cent zinc (Northern Miner, May 3, 1999). The property is along a 25 to 80-metre northeast-trending shear zone that has been traced for 3.7 kilometres.

Hostrocks of the Bismark occurrence are Triassic Slocan Group sediments southwest of the Mount Carlyle stock, a satellite stock of the Middle Jurassic Nelson intrusions and about 600 metres northwest of the Nelson batholith. The stock and the Nelson batholith in the area are composed of potassium feldspar porphyritic and hornblende potassium feldspar porphyritic granite, respectively. The Slocan Group on the property consists of a sequence of well-bedded argillite, silicic sandstone and recrystallized limestone. Andalusite schist occurs locally, a result of contact metamorphism. Slocan Group metasediments strike 235 degrees and dip 70 degrees to the northwest. They are crosscut by a few dikes.

Mineralization is stratabound, along bedding-parallel faults and fractures and have formed partly by replacement of one or more limestone beds. Early reports and maps indicate that a shoot of oxidized lead ore, about 9 metre long, was exposed on surface and underground in the uppermost (No. 1) adit and persisted in chimney-shaped form to the No. 2 level 34 vertical metres below. The shoot intersected near the face of the No. 3 level is probably the downward extension, an additional depth of 72.5 metres. Here, the shoot is 60 centimetres wide. At a crosscut 41 metres from the portal, the lode was about 90 metres wide. At surface, the lode is 1.0 to 1.2 metres wide, consisting of calcite with bunches of galena, minor quartz and pyrite, all considerably oxidized. The best samples taken during the 1980 exploration program were Sample 1177 and Sample

CAPSULE GEOLOGY

22297. Sample 1177 was a 0.4 metre chip sample taken from the lower adit in a zone of fine sphalerite. It yielded 2040 grams per tonne silver, 17.1 per cent zinc and 1.58 per cent lead (Assessment Report 8437). Sample 22297, a 0.3 metre chip sample across a zone of galena, was taken from the raised stope to surface and yielded 1241 grams per tonne silver, 3.08 per cent lead and 1.98 per cent zinc (Assessment Report 8437). The southwest strike extension of mineralization outcrops at the Gold Cure claims (082FNW185).

Production records for the Bismark occurrence indicate nearly eleven consecutive years of production from 1898 to 1910. During this time, 868 tonnes of ore were produced from which 2,484,321 grams silver and 43,250 kilograms lead were recovered.

Cream Minerals Ltd. is exploring the area as the Kaslo Silver property. See Black Bear (082FNW092), Cork-Province (082FNW094), Black Fox (082FNW095), Wintrop (082FNW097), Silver Bear (082FNW100), Index (082FNW101), Gold Cure (082FNW185) and Silver Bell (082FNW186).

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EM EXPL 1997-48; 1998-71
EMPR AR 1898-1085; 1900-851; 1902-153; 1903-140; 1904-158,198; 1911-290; 1915-449; 1926-260; 1928-307; 1933-210; 1951-166
EMPR ASS RPT *8437, *12146
EMPR BC METAL MM01128
EMPR FIELDWORK *1987, pp. 31-48,535-541; 1989, pp. 251-255; 1990, pp. 171-178
EMPR INDEX 3-189
EMPR OF 1988-11; 1990-18; 1992-1
EMPR P *1989-5
GSC MEM 173, Map 272A; *184, p. 194; *308, pp. 133,147
CANMET IR 12 (1906), p. 266
CMH 1957, p. 37
GCNL #136(July 16), #174(Sept.10), 1997; #85(May 4), #151(Aug.7), #182(Sept.22), #220(Nov.17), #225(Nov.24), 1998; #72(Apr.15), 1999
N MINER Oct.25, 1951; Aug.17, 1998; May 3, 1999
WWW <http://www.langmining.com/cream/main.htm>

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/26

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1987

COMMODITY	GRADE	
Silver	490.0000	Grams per tonne
Gold	0.2200	Grams per tonne
Copper	0.1800	Per cent
Lead	19.2000	Per cent
Zinc	15.8000	Per cent

COMMENTS: Dump grab, JL-275.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Wintrop occurrence is located at 1554 metres elevation on the east side of Klawala Creek, a southeastern tributary to Keen Creek. Kaslo, British Columbia is located 18 kilometres to the east.

The Wintrop occurrence is also historically part of the former Gibson (until 1923) or Daybreak claim group. The main claims of this group are the Butte (Lot 12410) and Wintrop (Lot 12409) Crown grants.

The first shipments of ore from the occurrence were in 1896 and 1897 by the Gibson Mining Co. No further work was done until 1917 when D.K. May began more development work, which by this time consisted of about 914 metres of drifts on four levels over 122 vertical metres. In 1918, litigation proceedings forced the operation to close and a forest fire destroyed the camp in 1921.

The Daybreak Mining Co. reopened the mine in 1924 which operated intermittently until 1928 when further litigation forced the mine to close a second time. Leasers made small shipments of ore in 1935. The property remained idle until 1949 when the portals were reopened. In 1957, the Daybreak Mining Corp. (1952) Ltd. reopened the workings but no further work was reported. The total workings consisted of five adits between 1548 and 1661 metres elevation. Cream Minerals Ltd. sampled the property in 1997. The property is along a 25 to 80-metre northeast-trending shear zone that has been traced for 3.7 kilometres.

Hostrocks are primarily abundant pure limestones and calcareous argillites together with quartzites of the Triassic Slocan Group. Metasediments, biotite schists and psammites of the Slocan Group are also locally developed adjacent to the Middle Jurassic Nelson batholith to the southeast and the Mount Carlyle stock to the northwest. The Nelson batholith is composed of hornblende potassium feldspar porphyritic granite while the Mount Carlyle stock is composed of potassium feldspar porphyritic granite.

The Wintrop occurrence occupies a bedding parallel, northeast striking, steeply dipping lode structure in the Keen Creek metasedimentary reentrant. Mineralization is chiefly wallrock replacement and better developed where lodes crosscut calcareous horizons.

Five adits explore two parallel structures, the A and B lodes. The lodes are about 100 metres apart, strike 225 degrees and dip 75 degrees northwest and are roughly concordant with bedding. The A lode is a sheared and brecciated zone, 0.6 to 1.5 metres wide, comprised of cataclastic and fault gouge. Mineralization comprises disseminated sphalerite, galena and pyrite in a siderite and quartz gangue. Hematite is also present. The B lode consists of cubic and banded galena, mixed galena and sphalerite, pyrite and minor chalcopryrite in a gangue of hematite and brecciated hostrock. A third or C lode outcrops about 76 metres to the southeast of the B lode and has not been prospected to any great extent.

Production records for the Wintrop occurrence indicate 613 tonnes of ore have been mined intermittently from 1895 to 1935. From this ore, 367,388 grams silver, 103,771 kilograms lead, 53,318 kilograms zinc and 62 grams gold have been recovered.

A grab sample from the dump taken in 1987, assayed 490 grams per tonne silver, 0.22 gram per tonne gold, 0.18 per cent copper, 19.2 per cent lead and 15.8 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

- EM EXPL 1998-10,71
EMPR AR 1896-94; 1897-527; 1898-1085; 1903-140; 1904-158,198;
1906-143,251; 1917-156,186; 1918-192; 1919-120; 1923-211;
1924-189,368; 1925-234; 1926-260; 1927-286; 1928-307; 1929-322;
1935-A27,E35; 1949-187; 1957-51
EMPR BC METAL 01464
EMPR FIELDWORK 1987, pp. 31-48,535-541; 1989, pp. 251-255; 1990, pp.
171-178
EMPR INDEX 3-197
EMPR OF *1988-11; 1990-18; 1992-1
EMPR P *1989-5, p. 24

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 459
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (Hill, H.L. (1965): Report)
EMR MP CORPFILE (Gibson Mining Co. Ltd.)
GSC MEM 173, Map 273A; *184, pp. 218,219; 308, p. 131
GCNL #167(Aug.29), #174(Sept.10), 1997; #85(May 4), #182(Sept.22),
#220(Nov.17), 1998
N MINER Apr.11, 1957
WWW <http://www.langmining.com/cream/main.htm>

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/26

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW098**

NATIONAL MINERAL INVENTORY:

NAME(S): **NOME**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 51 26 N
LONGITUDE: 117 04 37 W
ELEVATION: 2011 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5522759
EASTING: 494469

LOCATION ACCURACY: Within 500M

COMMENTS: The Nome occurrence (Paper 1989-5, Map 3).

COMMODITIES: Silver Gold Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite
COMMENTS: Galena and sphalerite are minor.
COMMENTS: Pyrite is partially oxidized near the surface.
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
DIMENSION: 1 Metres STRIKE/DIP: 194/48W TREND/PLUNGE:
COMMENTS: The shear zone is about 1.2 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Nelson Intrusions

ISOTOPIC AGE: 169 +/- 3 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

LITHOLOGY: Hornblende K-Feldspar Porphyritic Granite
Basic Dike

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 29.0000 Grams per tonne
Gold 0.1100 Grams per tonne
Lead 0.5600 Per cent
Zinc 0.0808 Per cent

COMMENTS: Sample JL-273, a grab sample of vein material.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Nome occurrence is located near the headwaters and on the east side of Klawala Creek, a tributary of Keen Creek. The occurrence lies in Kokanee Glacier Provincial Park, about 17 kilometres southwest of Kaslo, British Columbia.

Workings at the Nome occurrence include two adits about 61 vertical metres apart.

The underlying hostrock is hornblende potassium feldspar porphyritic granite of the Middle Jurassic Nelson batholith. Several basic dikes were also noted crosscutting granite.

Mineralization occupies a shear zone about 1.2 metres wide. The shear zone strikes 194 degrees and dips 48 degrees to the northwest. The lower adit explored this shear zone. A quartz vein hosted in this shear contained disseminated pyrite and minor galena and sphalerite were noted. The pyrite is partially oxidized near the surface.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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CAPSULE GEOLOGY

Minor silver and gold values were obtained from 2 grab samples taken in 1987. Sample JL-273 yielded 29 grams per tonne silver, 0.11 gram per tonne gold, 0.56 per cent lead and 0.08 per cent zinc; the sample was a grab of vein material (Open File 1988-11).

BIBLIOGRAPHY

EMPR AR 1906-144; 1907-98; 1911-132
EMPR FIELDWORK 1987, pp. 31-48, 535-541; 1989, pp. 251-255; 1990, pp. 171-178
EMPR OF *1988-11; 1990-18; 1992-1
EMPR P *1989-5
GSC MEM 173, Map 272A; *184, p. 238

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/27

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Unknown
COMMODITY

YEAR: 1987

	GRADE	
Silver	410.0000	Grams per tonne
Gold	0.1000	Grams per tonne
Copper	0.1250	Per cent
Lead	8.1000	Per cent
Zinc	9.4900	Per cent

COMMENTS: Sample JL-191 of vein material.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The BNA occurrence is located east of Kyawats Creek, 750 metres south of its confluence with Keen Creek. Kaslo, British Columbia is about 20 kilometres to the northeast.

The BNA occurrence is covered by the BNA claim group, consisting of the BNA (Lot 5994), Humming Bird (Lot 5995), Onoka (Lot 5997) and Lynx Fraction (Lot 5996) Crown grants. The claims were Crown granted to the B.N.A. Mines Co. in 1904. The property was worked on a small scale from 1904 to 1911 and then lay idle until 1950. B.N.A. Mines Limited Liability owned the property in 1950. In 1950 and 1951, a small amount of surface stripping was done above the No. 6 adit and a raise was driven in the No. 6 adit, 62 metres from the portal.

The occurrence occupies a narrow belt of Triassic Slocan Group metasediments within the Keen Creek reentrant. Metasediments, in order of importance, include argillite, quartzite, biotite schist, limestone and siltstone. Slocan lithologies are flanked by potassium feldspar porphyritic granite of the Middle Jurassic Nelson batholith and hornblende potassium feldspar porphyritic granite of the Middle Jurassic Mount Carlyle stock.

Mineralization occupies a bedding-parallel breccia lode structure. The strike of the lode is 045 degrees and the dip 85 degrees to the southeast. The lode width varies from 1.5 to 7.6 metres. Mineralization is chiefly argentiferous galena, sphalerite and minor native silver replacements of wallrock or open-space fillings in a calcite and minor quartz gangue.

Production records for the BNA occurrence indicate 173 tonnes of ore produced intermittently from 1900 to 1981. Recovery totalled 475,442 grams silver, 197 grams gold, 11,484 kilograms lead and 11,361 kilograms zinc.

BIBLIOGRAPHY

EMPR AR 1899-596; 1904-295,297; 1906-144; 1908-93; 1909-106,272;
1911-132,290; 1950-138; 1951-39,163; 1952-172
EMPR BC METAL MM01119
EMPR FIELDWORK 1987, pp. 31-48,535-541
EMPR INDEX 3-188
EMPR IR 1984-3, p. 108
EMPR OF *1988-11
EMPR P *1989-5
GSC MEM 173, Map 272A; *184, p. 198; 308, p. 133
CANMET IR 12 (1906), p. 268
WWW http://www.infomine.com/index/properties/KASLO_SILVER.html

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/27

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

The Silver Bear occurrence is located at 1460 metres elevation midway between Desmond and Kyawats creeks, southeast of Keen Creek. The ground was covered by the former Silver Bear claim group, composed of the former Silver Bear and Broughton Crown grants. Kaslo, British Columbia is located 22 kilometres to the northeast.

Work began on the Silver Bear occurrence in 1919. During this year the claim was worked by the owners of the neighbouring Silver Bell occurrence (082FNW187). The claim was acquired by M.S. Davys in 1920 and worked intermittently until 1927. The following year, F. Helme acquired the property and also worked it intermittently until 1943. In 1951, a lease was granted to S. Hallgren, who in turn sub-leased the property for two years. Abacot Mines Ltd. acquired the Silver Bear and Broughton claims in 1953. The lowest level was restored and a small shipment of ore was reported made before the mine shutdown. N.E. Cloggie acquired ownership in 1956 and made a shipment of ore mined in the previous year. Cream Minerals Ltd. sampled the property in 1997 and reported up to 4536.5 grams per tonne silver, 6.20 per cent zinc and 15.59 per cent lead (GCNL #167, 1997). A 35-metre trench sample assayed 221.5 grams per tonne silver, 2.40 per cent zinc and 1.57 per cent lead (GCNL #230, 1997).

The Silver Bear shear zone has been traced for 1.2 kilometres. It averages 25 metres in width and hosts 3 sub-parallel mineralized bands. This shear may be the southern extension of the Gold Cure shear zone (see 082FNW096, 097, 185). Eight diamond drill holes were completed in 1998.

The property is developed by six adits, three or more intermediate levels and several opencuts. Underground workings aggregate over 914 metres. The principal workings are three crosscut adits that explore the main lode over a vertical range of 104 metres.

The Silver Bear occurrence occupies a narrow belt of Triassic Slovan Group metasediments within the Keen Creek reentrant. Metasediments, in order of importance, include slate, carbonaceous argillite, limestone, siltstone and biotite andalusite schist. Slovan lithologies are flanked by hornblende potassium feldspar porphyritic granite of the Middle Jurassic Nelson batholith and potassium feldspar porphyritic granite of the Middle Jurassic Mount Carlyle stock.

Two nearly parallel mineralized lodes, 24 metres apart, comprise the Silver Bear occurrence. These lodes have a general strike of 045 degrees and a dip of 65 degrees to the southeast. Each lode is composed of quartz-calcite-siderite veins in brecciated and crushed wallrock along the contact of slate and limestone that are part of a band of Slovan sediments with synclinal dips away from flanking granitic intrusions of the Nelson batholith. Galena, sphalerite, pyrite and silver-bearing sulphides occur as irregular replacements in limestone. The main or "footwall" lode has been traced for over 305 metres in underground workings. Most of the work has been done on the west or "footwall" lode. The hangingwall is marked by a heavy clay gouge. Most of the production has come from between the No. 2 level and surface. The main shoot had a maximum length on the No. 2 level of about 27 metres. The east or "hangingwall" lode is similar in character to the "footwall" lode but significant mineralization was not discovered. A third lode is intersected by an old adit six metres above the No. 1 crosscut adit and has been only lightly prospected.

A total of 459 tonnes of ore have been mined from the Silver Bear occurrence producing 791,074 grams silver, 93 grams gold, 10,213 kilograms lead and 8910 kilograms zinc.

BIBLIOGRAPHY

- EM EXPL 1997-48; 1998-10,71
EMPR AR 1919-121,369; 1920-122,144; 1921-133; 1923-211; 1924-189;
1926-260; 1927-286; 1928-307,441; 1929-284,322; 1930-253;
1931-146; 1932-180; 1939-38; 1942-72; 1951-165; 1952-42;
1953-137; 1954-138; 1955-A49,590
EMPR BC METAL MM01390
EMPR FIELDWORK 1987, pp. 31-48,535-541; 1989, pp. 251-255; 1990, pp.
171-178
EMPR INDEX 3-212; 4-125
EMPR OF 1988-11; 1990-18; 1992-1
EMPR P *1989-5
EMPR PF (Starr, C.C. (1927): Report of Examination of the Silver
Bear Mine, 15 p., sampling plan and section of workings,
1"=50')
GSC MEM 173, Map 272A; *184, p. 244; 308, p. 147
GCNL #1, 1982; #131(July 9), #167(Aug.29), #174(Sept.10),
#185(Sept.25), #230(Dec.1), 1997; #85(May 4), #151(Aug.7), #182
(Sept.22), #220(Nov.17), 1998; #91(May 11), 2000
N MINER May 4, Aug. 17, 1998

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 466
REPORT: RGEN0100

BIBLIOGRAPHY

WWW <http://www.langmining.com/cream/main.htm>;
http://www.infomine.com/index/properties/KASLO_SILVER.html

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/27

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW101**

NATIONAL MINERAL INVENTORY: 082F14 Pb25

NAME(S): **INDEX, METROPOLITAN, WHITEY, ANDEX, H, K, DEX, KASLO SILVER**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATTITUDE: 49 51 20 N
LONGITUDE: 117 07 57 W
ELEVATION: 1219 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Index mineral occurrence (Paper 1989-5, Map 3).

Underground
MINING DIVISION: Slokan
UTM ZONE: 11 (NAD 83)
NORTHING: 5522579
EASTING: 490476

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Arsenopyrite
ASSOCIATED: Quartz Siderite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Sheared
DIMENSION: Metres STRIKE/DIP: 125/85 TREND/PLUNGE:
COMMENTS: Mineralized crush zone; southwest dip.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic	Slokan	Undefined Formation	
Middle Jurassic			Nelson Intrusions
ISOTOPIIC AGE: 169 +/- 3 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			
Middle Jurassic			Mount Carlyle Stock

LITHOLOGY: Slate
Carbonaceous Argillite
Siltstone
Biotite Andalusite Schist
Limestone
Feldspar Porphyry Dike
Feldspar Porphyry Sill
Homblende K-Feldspar Porphyritic Granite
K-Feldspar Porphyritic Granite

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Pre-mineralization
Syn-mineralization
GRADE: Greenschist
Hornfels

CAPSULE GEOLOGY

The Index occurrence is located at 1219 metres elevation between Desmond and Kyawats creeks, southeast of Keen Creek. Kaslo, British Columbia is located 22 kilometres to the northeast.

The Index occurrence was first located in 1905 by F. Helme. The property was worked intermittently until 1918. Index Mining Co. held the property under bond in 1919, with plans to extend the lower adit to intersect a mineralized vein at depth. Operations were terminated in 1920 without the vein being intersected. In 1948, the property was re-staked by Kaslo Silver-Lead Co. Thirteen claims were held which included the old Index and Metropolitan workings. A small vein was exposed by surface trenching. Property ownership was transferred to Kaslo Base Metals Ltd. in 1951, with acquisition of an additional claim and two fractional claims. The lower adit was extended in a southeast direction for 246 metres without intersecting the mineralized zone of the upper adits. In 1969, Andex Mines Ltd. acquired the Index property and surrounding ground. A total of 642 metres of surface trenching and 70 metres of surface diamond drilling

CAPSULE GEOLOGY

in four holes were conducted. Further trenching was done by Andex Mines Ltd. in 1971. In 1972, trenching and 13.7 metres of rotary drilling in nine holes were done. Workings consist of three adits, totalling 396 metres. Workings of the Metropolitan lie about 305 metres above the Keen Creek road and consist of two adits of unknown length. Cream Minerals Ltd. sampled the property in 1997; a grab sample assayed 158.1 grams per tonne silver, 10.53 per cent zinc and 4.38 per cent lead (GCNL #174, 1997).

The Index occurrence occupies a narrow belt of tightly folded and contact metamorphosed Triassic Slovan Group metasediments within the Keen Creek reentrant. Metasediments, in order of importance, include slate, carbonaceous argillite, limestone, siltstone and biotite andalusite schist and are crosscut by several feldspar porphyry dikes and sills. Lithologies are flanked by hornblende potassium feldspar porphyritic granite of the Middle Jurassic Nelson batholith and potassium feldspar porphyritic granite of the Middle Jurassic Mount Carlyle stock.

A mineralized crush zone carries pockets and narrow veins of quartz and minor siderite with variable galena, sphalerite, arsenopyrite and pyrite. The zone strikes 125 degrees and dips 85 degrees to the southwest.

A total of 20 tonnes of ore is recorded mined intermittently from the Index occurrence. From this, 39,345 grams silver, 8863 kilograms lead and 1894 kilograms zinc were recovered. Production was from the upper two adits of the Index occurrence.

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- EM EXPL 1998-65-75
EMPR AR 1905-159; 1906-143; 1907-97; 1909-106,272; 1915-120; 1917-157,186; 1918-160; 1920-122; 1924-368; 1926-260; 1927-286; 1948-141; 1949-184; 1951-165; 1957-A46,51; 1967-255
EMPR BC METAL MM01242
EMPR EXPL 1975-38
EMPR FIELDWORK 1987, pp. 31-48,535-541; 1989, pp. 251-255; 1990, pp. 171-178
EMPR GEM 1969-333; 1971-408; 1972-59
EMPR INDEX 3-201; 4-122
EMPR LMP Fiche No. 60790
EMPR OF 1988-11; 1990-18; 1992-1
EMPR P *1989-5
EMPR PF (Cohen, H.H. (1966): Andex Mines Ltd. Prospectus; Starr, C.C. (1927): Notes of Inspection of the Index Mine, 4 p.)
GSC MEM 184, pp. 223,224; 308, p. 131
GCNL #167(Aug.29), #174(Sept.10), 1997; #85(May 4), 1998
N MINER Nov.25, 1948; Feb.22, 1951; Oct.16, 1952
WWW <http://www.langmining.com/cream/main.htm>

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/28

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW102**

NATIONAL MINERAL INVENTORY:

NAME(S): **GLUE POT (L.1026)**, GLUEPOT

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 53 11 N
LONGITUDE: 117 07 41 W
ELEVATION: 1524 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5526007
EASTING: 490801

LOCATION ACCURACY: Within 500M

COMMENTS: The Gluepot occurrence (Paper 1989-5, Map 3).

COMMODITIES: Silver Copper

MINERALS

SIGNIFICANT: Pyrite Tetrahedrite
COMMENTS: The silver-bearing sulphide is probably tetrahedrite.
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 61 x 1 Metres STRIKE/DIP: 235/70N TREND/PLUNGE:
COMMENTS: The shear zone is about 1.2 metres wide. Opencuts prove a strike length of up to 61 metres on surface.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 169 +/- 3 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: Diorite
Lamprophyre Dike
Acid Dike

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

CAPSULE GEOLOGY

The Gluepot occurrence is located at 1524 metres elevation, northwest of Keen Creek and southwest of its junction with the Long Creek tributary. Kaslo, British Columbia lies about 19 kilometres to the east.

Workings of the Gluepot occurrence consist of a 55-metre long adit, driven along a shear zone hosted in coarse-grained diorite of the Middle Jurassic Nelson batholith. The shear zone is about 1.2 metres wide, strikes 235 degrees and dips 70 degrees to the northwest. A lamprophyre dike follows the hangingwall of the shear zone and an acidic dike the footwall. A number of opencuts prove a strike length of the shear zone of up to 61 metres.

A 15 centimetre or less quartz vein is hosted in this shear zone, and carries a little pyrite and a disseminated silver-bearing mineral, probably tetrahedrite.

BIBLIOGRAPHY

EMPR AR 1902-298; 1922-191
EMPR FIELDWORK 1987, pp. 31-48, 535-541; 1989, pp. 251-255; 1990, pp. 171-178
EMPR OF 1988-11; 1990-18; 1992-1
EMPR P *1989-5
GSC MEM 173, Map 272A; *184, p. 220

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/27

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW103**

NATIONAL MINERAL INVENTORY:

NAME(S): **FAIRMONT**, FAIRHOPE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 52 06 N
LONGITUDE: 117 13 10 W
ELEVATION: 1981 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5524015
EASTING: 484230

LOCATION ACCURACY: Within 500M

COMMENTS: The Fairmont occurrence (Paper 1989-5, Map 3).

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Argentite Pyrrargyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 942 x 3 Metres STRIKE/DIP: 025/50S

TREND/PLUNGE:

COMMENTS: The lode is 3.6 metres wide and traceable on surface for 942 metres.
The lodes strike 025 to 030 degrees and dip 50 degrees to the southeast.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

ISOTOPIIC AGE: 169 +/- 3 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

LITHOLOGY: Coarse Grained Quartz Monzonite

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

CAPSULE GEOLOGY

The Fairmont occurrence is located 1 kilometre southeast of Fishermaiden Lake in the headwaters of Silverton Creek. Kaslo, British Columbia lies about 26 kilometres to the east.

Workings at the Fairmont occurrence consist of an upper incline adit, exploring the "Fairhope" lode and a 366-metre drift exploring the "Fairmont" lode. In 1935, the property was owned by W. Valetine.

Hostrocks of the Fairmont occurrence are coarse grained porphyritic quartz monzonite of the Middle Jurassic Nelson batholith.

The "Fairhope" and "Fairmont" lodes are roughly parallel. They have a strike of 025 to 030 degrees and a dip of 50 degrees to the southeast. The "Fairmont" lode has received the majority of exploration. The lode is stated to be traceable on surface for 942 metres. In an opencut 91 metres above the "Fairmont" adit, the lode is 3.6 metres wide and composed of 1.8 metres of gouge and a 1.2 metre wide quartz vein. The vein hosts sphalerite, galena, considerable pyrite and some argentite. The lower adit follows a remarkably straight lode. Mineralization is irregular along the lode and consists of pyrrargyrite, pyrite with minor galena and sphalerite.

BIBLIOGRAPHY

EMPR ASS RPT 8950

EMPR FIELDWORK 1987, pp. 31-48, 535-541; 1989, pp. 251-255; 1990, pp. 171-178

EMPR OF 1988-11; 1990-18; 1992-1

EMPR P *1989-5

GSC MEM 173, Map 272A; *184, p. 40

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/27

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW104**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHRISTINA (L.10596)**, VIRGEL (L.10595), VIRGIL

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 50 24 N
LONGITUDE: 117 14 34 W
ELEVATION: 2233 Metres

NORTHING: 5520870
EASTING: 482543

LOCATION ACCURACY: Within 500M

COMMENTS: The Christina (Lot 10596) and the adjoining Virgel (Lot 10595) reverted crown granted claims are located just south of Paupo Mountain, 17 kilometres northeast of the town of Slocan. Access to the property is by trail from a point one kilometre west of Paupo Creek on the Enterprise Creek road.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Pyrite Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 90 Metres STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Christina (Lot 10596) and the adjoining Virgel (Lot 10595) reverted crown granted claims are located just south of Paupo Mountain, at about 2300 metres elevation, 17 kilometres northeast of the town of Slocan. Access to the property is by trail from a point one kilometre west of Paupo Creek on the Enterprise Creek road. The property lies in Kokanee Glacier Provincial Park.

The property was staked near the turn of the century by M. Murphy who did considerable surface prospecting and drove a couple of short adits. This work has explored a northerly trending fissure-vein lode hosted by a coarse grained, porphyritic phase of the Nelson batholith. The lode is narrow but persistent and somewhat like that on the Para claim (082FNW105) to the west. The vein is filled with quartz and a small amount of galena, pyrite and high grade silver minerals. Good silver values are reported to have been obtained at intervals on the vein which has been traced for more than 90 metres.

A grab sample taken in 1987, analysed 5.9 grams per tonne silver, 0.01 per cent lead and 0.19 per cent zinc (EMPR Paper 1989-5, page 21).

BIBLIOGRAPHY

EMPR AR 1912-326; 1919-131
EMPR FIELDWORK 1987, pp. 31-48
EMPR OF 1988-11
EMPR P 1989-5, p. 23
GSC MAP 272A, 1090A
GSC MEM 184, p. 156

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW105**

NATIONAL MINERAL INVENTORY:

NAME(S): **PARA (L.5662)**, ROYAL

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 082F14E
 BC MAP:
 LATITUDE: 49 50 34 N
 LONGITUDE: 117 14 46 W
 ELEVATION: 2225 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS:

Underground
 MINING DIVISION: Slocan
 UTM ZONE: 11 (NAD 83)
 NORTHING: 5521179
 EASTING: 482304

COMMODITIES: Lead Silver Zinc Gold Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite Pyrrargyrite Argentite
 ASSOCIATED: Quartz
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 SHAPE: Tabular
 MODIFIER: Faulted
 DIMENSION: Metres STRIKE/DIP: 005/40E TREND/PLUNGE:
 COMMENTS: Vein varies in width up to a metre.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 165 - 169 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
 TERRANE: Quesnel

INVENTORY

ORE ZONE: DUMP REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1987
 SAMPLE TYPE: Grab

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	1750.0000	Grams per tonne
Gold	1.0000	Grams per tonne
Copper	0.0300	Per cent
Lead	2.1600	Per cent
Zinc	36.5000	Per cent

 COMMENTS: Dump material. JL-245.
 REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

This property, comprising two claims, is situated at the head of Paupo Creek, a tributary of Enterprise Creek. The property lies in Kokanee Glacier Provincial Park.
 An adit drive along the strike is in about 76 metres, and if continued for a few metres further would strike daylight on the other side of the ridge. An 18-metre raise has been driven 48 metres from the portal. From these workings some 15 tonnes of ore has been extracted; of this, 6 tonnes was shipped in 1904. A sample taken across a width of 10 centimetres at the face of the tunnel ran 2.74 grams per tonne gold, 634.3 grams per tonne silver and 1.5 per cent zinc. A sample across a width of 10 centimetres in a small stope near the end of the tunnel ran 0.69 gram per tonne gold, 2005 grams per tonne silver, and 1.5 per cent zinc. A grab sample from a 9-tonne pile of sorted ore for shipment ran 0.69 gram per tonne gold, 4063 grams per tonne silver, and 4 per cent zinc (Annual Report 1919, page 131).
 Country rock is coarse-grained potassium feldspar porphyritic

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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CAPSULE GEOLOGY

granite. The vein occupies a fault-fissure, striking north 10 degrees west which varies in width up to a metre. The hangingwall is well defined and marked by 15 centimetres of gouge-argillic alteration. Mineralization includes pyrite, sphalerite, and galena in a quartz gangue. Tetrahedrite and pyrargyrite have been reported. Quartz vein is banded, alternating white and grey quartz containing disseminated pyrite.

A grab sample of dump material taken in 1987 assayed 1750 grams per tonne silver, 1 gram per tonne gold, 0.03 per cent copper, 2.16 per cent lead and 36.5 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EMPR AR *1919-131; 1924-201; 1925-246
EMPR FIELDWORK 1987, pp. 31-48,535-541
EMPR OF 1988-11
EMPR P 1989-5, p. 23
GSC MAP 272A
GSC MEM 184, p. 183

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/28

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW106**

NATIONAL MINERAL INVENTORY:

NAME(S): **REVENUE (L.7139)**, REVENUE FR. (L.7141), BIRTHDAY (L.7138),
TAMARAC (L.7140)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 49 36 N
LONGITUDE: 117 07 28 W
ELEVATION: 2060 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5519366
EASTING: 491049

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ASSOCIATED: Quartz Pyrite
ALTERATION: Carbonate Limonite
COMMENTS: Alteration zone is less than 3 metres wide. Iron-carbonate.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Fractured
DIMENSION: Metres STRIKE/DIP: 195/80W TREND/PLUNGE:
COMMENTS: Steeply dipping.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

ISOTOPIC AGE: 165 - 169 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

LITHOLOGY: Hornblende K-Feldspar Porphyritic Granite

HOSTROCK COMMENTS: Host hornblende granite is unaltered, hornblende diorite xenoliths within granite.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

This property, comprising the Revenue (Lot 7139), Revenue Fraction (Lot 7141), Birthday (Lot 7138) and Tamarac (Lot 7140) Crown-granted claims, lies on the north slope of Sturgis creek, an eastern tributary of Keen creek. It is accessible by the road up Keen creek from Zwicky and thence by trail for 4 kilometres up the valley of Sturgis creek. The property was acquired from the original owners by the Sturgis Creek Mines, Limited. The Revenue property lies within Kokanee Glacier Provincial Park.

Production in 1913, 1914, and 1916, amounted to 61 tonnes of silver-lead ore carrying an average of nearly 2640 grams per tonne silver and 54 per cent lead. In 1928 a further production of about 36 tonnes was reported.

The workings consist of four adits and some surface cuts. These explore a lode on a strike of north 15 degrees east and a dip varying from a high angle to the west to vertical. In June 1927, the underground workings aggregated over 180 metres of tunnelling.

A quartz filled fissure occurs in a strong shear-zone in rocks of the Nelson Batholith, carrying disseminations and concentrations of galena and sphalerite. The vein is 150 centimetres wide.

Sphalerite-rich layers and pods in quartz veins with patches of galena. Disseminated and massive pyrite in the veins. Limonitic fractures parallel the vein across a zone less than 3 metres wide.

Production from 1913 to 1941 totalled 246 tonnes yielding 676,832 grams silver, 217 grams gold, 78,776 kilograms lead and 20,679 kilograms zinc.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 475
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1902-153; 1905-159; 1907-97; 1911-290; 1912-325; 1913-
124,420; 1914-285,509; 1915-119; 1916-196,516; 1917-157,185;
1920-122; 1921-133; 1926-260; 1928-306,441; 1929-321; 1938-A35,
E43; 1939-38; 1941-25
EMPR BC METAL MM01372
EMPR FIELDWORK 1987, pp. 31-48,535-541
EMPR GEM 1970-458
EMPR INDEX 3-210
EMPR OF 1988-11
EMPR P 1989-5, pp. 14, 23
EMPR PF (Starr, C.C. (1928): Report of Examination of the Revenue
Mine, 8 p.)
GSC MAP 272A; 1091A
GSC MEM *184, p. 243; 308, pp. 133,147

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/23

CODED BY: GSB
REVISED BY: DAB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW107**

NATIONAL MINERAL INVENTORY: 082F14 Ag75

NAME(S): **VIOLET**, LOOKOUT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 49 38 N
LONGITUDE: 117 05 53 W
ELEVATION: 2580 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5519425
EASTING: 492947

COMMODITIES: Silver Lead Gold Copper Zinc

MINERALS

SIGNIFICANT: Galena Tetrahedrite Pyrite Sphalerite Freibergite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 100 x 3 Metres STRIKE/DIP: 040/85S TREND/PLUNGE:
COMMENTS: Dips southeast.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Nelson Intrusions

ISOTOPIC AGE: 165 - 169 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

LITHOLOGY: Hornblende Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: DUMP REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1987
SAMPLE TYPE: Grab	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	7000.0000 Grams per tonne
Gold	0.4900 Grams per tonne
Copper	0.1300 Per cent
Lead	16.4000 Per cent
Zinc	3.4000 Per cent

COMMENTS: Dump material. JL-441.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The property is located at 2580 metres elevation in the pass on the west side of Sunrise Mountain some 40 kilometres north-northeast of Nelson. Early access was by way of a trail up Silver Spray Creek, a tributary of Woodbury Creek. The property lies within Kokanee Glacier Provincial Park.

The Violet and Lookout claims were owned in 1921 by Dr. John Henry and J.M. Currie, of Ainsworth. Development work to that date had been done in two adits: a 15-metre drift adit on the vein, and 18 metres vertically below, a crosscut adit with hanging wall drift totalling 33.5 metres. Near the extremity of the lower adit a raise was driven to the upper adit.

By 1926 the property was owned by Dr. John Henry, W.G. McLanders, and Dan McLennan. Some activity was reported each year until 1931 but details are lacking.

Underlying rock is coarse-grained hornblende potassium-feldspar porphyritic granite. Mineralization occurs within an argillic, altered and silicified northeast trending shear zone situated in the

CAPSULE GEOLOGY

divide between Sunrise Mountain and Mount McQuarrie. Sulphides include galena, pyrite, lesser sphalerite, and "freibergite and silver sulphides (Cairnes, 1935)" in a much altered silicified fault zone.

A grab sample of dump material taken in 1987 assayed 7000 grams per tonne silver, 0.49 gram per tonne gold, 0.13 per cent copper, 16.4 per cent lead, and 3.4 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EMPR AR 1921-133; 1926-259; 1927-282; 1928-302; 1929-325;
1930-257; 1931-142
EMPR BC METAL MM01449
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-217
EMPR OF 1988-11
EMPR P 1989-5, pp. 22-23
GSC MAP 272A; 1091A
GSC MEM 184, p. 256; 308, pp. 133,147

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/24

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW108**

NATIONAL MINERAL INVENTORY:

NAME(S): **CABLE (L. 6503)**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 49 30 N
LONGITUDE: 117 04 24 W
ELEVATION: 2350 Metres

NORTHING: 5519176
EASTING: 494725

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Silver Platinum Gold Copper Lead
 Zinc

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
DIMENSION: 2 Metres STRIKE/DIP: 192/80W TREND/PLUNGE:
COMMENTS: Strikes 192 degrees and dips 80 degrees northwest.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Nelson Intrusions

ISOTOPIC AGE: 165 - 169 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

LITHOLOGY: Hornblende Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 9.0000 Grams per tonne
Gold 0.0500 Grams per tonne
Zinc 0.0100 Per cent

COMMENTS: Chip across vein and alteration, JL-381.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Cable property lies northwest of Mount Woodbury, within Kokanee Glacier Provincial Park. Underlying rocks are hornblende potassium feldspar porphyritic granite. Trenches expose a 2.0 metre wide argillic altered fault zone which contains a 0.8 metre quartz vein. The footwall is defined by a fine-grained fractured and altered lamprophyre dyke. Alteration extends 0.6 metre into the hangingwall. Mineralization is restricted to sparsely disseminated pyrite. Values in silver, platinum, and traces of gold are reported from Cairnes, 1935, but have not been duplicated. A grab sample taken in 1987 analyzed 9.0 grams per tonne silver, 0.05 gram per tonne gold and 0.01 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EM GEOFILE 2000-2; 2000-5
EMPR AR 1906-143; 1911-289
EMPR FIELDWORK 1987, pp. 31-48
EMPR OF 1988-11
EMPR P 1989-5, p. 21

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 479
REPORT: RGEN0100

BIBLIOGRAPHY

EMR MINES BR OTTAWA, (Mun Res Com Final Rpt. 1920, p. 169)
GSC ANN RPT Vol. IX (1896) Pt. B, p. 31
GSC MAP 272A
GSC MEM 184, p. 199

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/01

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW109**

NATIONAL MINERAL INVENTORY: 082F14 Ag45

NAME(S): **BALTIMORE (L.10060)**, CHANCE FR., MAPLE LEAF,
GRAFTON, FOOTHILL, NIPPER,
GRANITE, CONNECTION, C.K.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 48 52 N
LONGITUDE: 117 03 17 W
ELEVATION: 1990 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5518002
EASTING: 496063

COMMODITIES: Silver Lead Gold Zinc Copper

MINERALS

SIGNIFICANT: Galena Pyrite Sphalerite
ASSOCIATED: Quartz
ALTERATION: Clay Muscovite Limonite
ALTERATION TYPE: Argillic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
DIMENSION: 350 x 3 Metres STRIKE/DIP: 260/60N TREND/PLUNGE:
COMMENTS: Strikes 260 degrees and dips 60 degrees to the northeast.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

ISOTOPIC AGE: 165 - 169 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

LITHOLOGY: Hornblende Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1987

COMMODITY	GRADE	
Silver	2600.0000	Grams per tonne
Gold	1.1000	Grams per tonne
Lead	1.2400	Per cent
Zinc	1.4000	Per cent
Copper	0.0577	Per cent

COMMENTS: Sample JL-386.

REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

This group of claims is located on Silver Spray creek, a south-east flowing tributary of Woodbury creek. A road, 4.8 kilometres long, was built to the property from a point on Woodbury creek, 14.4 kilometres from the Nelson-Kaslo highway. The property lies on the eastern edge of Kokanee Glacier Provincial Park.

During 1901-02 development work on the Baltimore group, then owned by Wm. English of Kaslo, amounted to a 43-metre tunnel on the vein and a 15-metre shaft.

The Baltimore claim was Crown-granted to G.H. Davison in 1903 and was operated through 1907 along with 5 other claims, the Chance Frac., Maple Leaf, Grafton, Foothill and Nipper. In 1930 English Bros. of Kaslo prospected the property but did not re-open the mine.

The mine lay idle from 1907 until 1952 when it was re-opened by Victoria Lines Ltd. of Calgary. This Company acquired the Baltimore

CAPSULE GEOLOGY

claim; the Grafton and Maple Leaf Crown-granted claims optioned from W. English of Kaslo; the Granite Crown-granted claim leased from the Crown; the Connection and Foothill recorded claims leased from W. English; the C.K. group of 3 recorded claims. In 1953 about 47 metres of drift was completed. The property by this time had been developed by 5 adits between the 1830 and 1980 metre elevations. Most of the work prior to 1907 was done in the upper 3 adits, which are now largely inaccessible. No. 4 adit is a drift on the vein 3 metres long. No. 5 adit, 91.4 metres lower and 152.4 metres west of the upper workings, is about 69 metres long. The vein at the portal was about 27 centimetres wide but narrowed to a crack only about a metre inside.

Victoria Mines Ltd. was struck from the register in 1957.

Country rock is hornblende potassium feldspar porphyritic granite. Muscovite - biotite schists and psammite occupy sections of hangingwall and/or footwall of the vein.

The vein, which has been traced along the surface for over 100 metres, occupies a strong east-west, north-dipping shear structure. Mineralization includes pyrite, galena, plus or minus sphalerite, and silver minerals in a quartz gangue. A sample of the vein assayed 2600 grams per tonne silver, 1.1 grams per tonne gold, 1.24 per cent lead, 1.4 per cent zinc and 0.0577 per cent copper (Open File 1988-11).

Intermittent production from 1902 to 1954 totalled 60 tonnes, yielding 352,025 grams silver, 31 grams gold, 5,609 kilograms lead and 131 kilograms zinc.

BIBLIOGRAPHY

- EMPR AR 1901-1030; 1902-152; 1903-141; 1904-156,199; 1905-158;
1906-142,248; 1907-96,213; 1911-290; 1929-325; 1930-256;
1952-171; 1953-136; 1954-50,137
EMPR BC METAL MM01120
EMPR FIELDWORK 1987, pp. 31-48,535-541
EMPR INDEX 3-188; 4-119
EMPR OF 1988-11
EMPR P 1989-5, p. 23
GSC MAP 272A; 1091A
GSC MEM 184, p. 192; 308, p. 148

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/23

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW110**

NATIONAL MINERAL INVENTORY:

NAME(S): **ONTARIO NO. 2 (L.3182)**, JESSIE-BLUEBIRD, JESSIE,
BLUE BIRD, NEPTUNE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 32 N
LONGITUDE: 117 04 29 W
ELEVATION: 1950 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5517385
EASTING: 494624

LOCATION ACCURACY: Within 500M

COMMENTS: The Ontario No. 2 reverted Crown granted claim (Lot 3182) is located 4 kilometres southwest of Woodbury Mountain, 29 kilometres east-northeast of the town of Slocan. Access to the property is by road and trail up Woodbury Creek to Silver Spray Creek and thence 1.6 kilometres west-northwest to the top of the ridge - a total distance of 17 kilometres west of Kootenay Lake.

COMMODITIES: Silver Lead Gold Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Tetrahedrite
ASSOCIATED: Quartz
ALTERATION: Chlorite Clay Limonite
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: Metres STRIKE/DIP: 255/60N TREND/PLUNGE:
COMMENTS: Breccia vein. Strikes 255 degrees and dips 60 degrees northwest. Dimension ranges from 2 to 10 metres.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER

Middle Jurassic
ISOTOPIIC AGE: 165 - 169 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

Nelson Intrusions

LITHOLOGY: Hornblende Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Plutonic Rocks Quesnel

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 690.0000 Grams per tonne
Gold 0.3000 Grams per tonne
Lead 0.5900 Per cent
Zinc 0.0323 Per cent
COMMENTS: Sample MA-355.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Ontario No. 2 reverted Crown granted claim (Lot 3182) is located 4 kilometres southwest of Woodbury Mountain, 29 kilometres east-northeast of the town of Slocan. Access to the property is by road and trail up Woodbury Creek to Silver Spray Creek and thence 1.6 kilometres west-northwest to the top of the ridge - a total distance of 17 kilometres west of Kootenay Lake. The property lies in Kokanee Glacier Provincial Park.

Production from this property, consisting mostly of hand cobbled ore, began in 1907 and continued intermittently through 1921. Total

CAPSULE GEOLOGY

production was 161 tonnes, yielding 1743 kilograms of silver, 31 grams of gold and 15,854 kilograms of lead.

The workings include two adits connected by a 30-metre raise and stopes, comprising about 460 metres of underground development. These and other small workings explore a 1 to 10-metre wide shear zone in porphyritic Nelson granite. The lode strikes 075 degrees and dips 55 to 75 degrees northwest. Where visible, the deposit consists of gouge, crushed wallrock, quartz and ore minerals. The quartz is commonly banded and forms lenses of varying width. The ore minerals consist of massive and disseminated galena, pyrite and silver-bearing sulphides in the quartz that cements and replaces the shattered fragments of wallrock. Alteration of wallrock includes chlorite, limonite and sericite.

A vein sample taken in 1987 assayed 690 grams per tonne silver, 0.3 gram per tonne gold, 0.59 per cent lead and 0.0323 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EMPR AR 1906-143; 1907-96,213,218; 1908-93,246; 1909-106;
1910-97, 243; 1911-131; 1921-131,132; 1929-325
EMPR BC METAL MM01346
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-201
EMPR OF 1988-11
EMPR P 1989-5, p. 23
GSC MAP 272A; 1091A
GSC MEM 184, p. 239; 308, pp. 133,147

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW111**

NATIONAL MINERAL INVENTORY: 082F14 Pb11

NAME(S): **PONTIAC (L.2265)**, SCRANTON-PONTIAC, TECUMSIE (L.2261)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 47 26 N
LONGITUDE: 117 03 08 W
ELEVATION: 1810 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5515345
EASTING: 496241

LOCATION ACCURACY: Within 500M

COMMENTS: See Scranton (082FNW112) and Sunset (082FNW113).

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Silver Gold Galena Sphalerite Pyrite

COMMENTS: Weakly banded, fracture controlled.

ASSOCIATED: Quartz Pyrite Calcite

ALTERATION: Sericite

COMMENTS: Minor sericite and argillite.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

I01 Au-quartz veins

SHAPE: Bladed

MODIFIER: Fractured

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Middle Jurassic

ISOTOPIC AGE: 169 +/- 3 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

Nelson Intrusions

LITHOLOGY: Hornblende K-Feldspar Porphyritic Granite

Siltstone

Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

RELATIONSHIP:

GRADE: Hornfels

CAPSULE GEOLOGY

The property is located between elevations of 1700 and 2130 metres astride Pontiac Creek, a northerly flowing tributary of Woodbury Creek, some 35 kilometres northeast of Nelson. The claims, which include the Pontiac, Scranton (082FNW112) and Sunset (082FNW113), lie within Kokanee Glacier Provincial Park, 1 to 2 kilometres from the eastern boundary.

A series of quartz veins striking northeastward are exposed at intervals for a distance of about 2135 metres. Most of the early exploration work on this vein system was done at its extremities and comprised the Pontiac workings at the northeasterly end and the Sunset workings at the southwesterly end. Following the consolidation of the property in 1930 development work was carried out at lower elevations in the mid section of the property on the Scranton claim on the east side of Pontiac creek (known as the Lower Pontiac workings), and in the "Sunset" workings on the Grandview Fr. claim on the west side of the creek.

The first reported activity and first production from the Pontiac claim was recorded in 1898. The Pontiac (Lot 2265) and Tecumsie (Lot 2261) claims were owned in 1899 to Messrs. Heap and Heath of Ainsworth. That same year the claims were acquired by, and Crown-granted to, Nelson-Slocan Prospecting and Mining Company, Limited Liability. Considerable development work was carried out during 1900-1904 under the management of C.F. Caldwell. During this period underground exploration and development was done over a length of 122 metres and depth of 58 metres in 3 adits.

The first reported activity at the southwesterly end of the vein system was in 1899 when Woodbury Mines, Limited, carried out development work on the Sunset Group.

CAPSULE GEOLOGY

Activities at the various workings ceased in about 1908 and some of the claims were subsequently acquired by C.F. Caldwell. The Pontiac and Tecumsie claims were owned in the 1920's by Alice G. Caldwell and the estate of W.C. Chaplin.

In 1930 Hon. J.D. Chaplin, C.F. Caldwell, T. Doyle and J. Henry, owners of the various claim groups, gave an option to purchase the Scranton Consolidated Mining Company which was incorporated in Portland, Oregon to consolidate and develop the property. Investigation of the Scranton claim began but little was accomplished until 1939-40 when the main workings on the Scranton claim (lower Pontiac workings) were driven. A new company Scranton Mines Limited, was incorporated in August 1951 to acquire the 14-claim property. A new adit about 30 metres long was driven 15 metres below the old Pontiac workings.

Blue Star Mines Limited optioned the property in 1964 and carried out stripping and diamond drilling on the Scranton claim and extended the lower Pontiac adit.

No further activity was reported until 1967 when exploration was begun in a new adit at the 1800-metre elevation on the west side of Pontiac creek at the southeast edge of the Grandview claim. Silver Star Mines Ltd. acquired the property from Blue Star Mines and Scranton Mines through a stock transaction. A new adit was begun in 1968 at the 1737-metre elevation to explore the downward extension of mineralization in the 1800-metre level; drifting, raising and stoping was carried out on both levels. Some ore was shipped to the Blue Star mill at Ainsworth. Stoping of ore proved uneconomical and the operation was shut down in 1970.

Country rock is hornblende potassium feldspar porphyritic granite within inclusions of biotite-grade metasediments and quartzites.

The Pontiac occupies the northeast end of the Pontiac-Scranton-Grandview-Sunrise vein system. The vein strikes between 25 and 45 degrees northeast. Vein material consists of quartz and calcite mineralized with blebs and stringers of galena, sphalerite, and finely disseminated pyrite. A sample taken in 1987 from the Pontiac lower portal assayed 41 grams per tonne gold, 220 grams per tonne silver, 12.3 per cent lead and 5.6 per cent zinc (Open File 1988-11).

Intermittent production from 1898 to 1970 totalled 1160 tonnes yielding 592,948 grams silver, 6,191 grams gold, 74,395 kilograms lead and 4,398 kilograms zinc.

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1902-152; 1904-156-157,199; 1905-158; 1906-142; 1907-96; 1908-93;
1930-256; 1939-79; 1940-65; 1945-103; 1946-151; 1947-167;
1948-139; 1949-183; 1950-137; 1951-39,163; 1952-144,170;
1953-134; 1954-134; 1958-43; 1959-67; 1960-74; 1961-74; 1968-258;
1969-A56; 1970-A-55
EMPR BC METAL MM01360
EMPR BULL 1, p. 118
EMPR FIELDWORK 1987, pp. 31-48, 535-541
EMPR GEM 1969-333; 1970-459; 1971-407; 1972-59
EMPR INDEX 3-209,212
EMPR OF 1988-11
EMPR P 1989-5, pp. 18, 20, 22-23, 35-36
EMPR PF (See Scranton, 082FNW112)
GSC MAP 272A; 1091A
GSC MEM 184, p. 241; 308, p. 123

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/09

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

the various workings ceased in about 1908 and some of the claims were subsequently acquired by C.F. Caldwell.

In 1930 Hon. J.D. Chaplin, C.F. Caldwell, T. Doyle and J. Henry, owners of the various claim groups, gave an option to purchase the Scranton Consolidated Mining Company which was incorporated in Portland, Oregon to consolidate and develop the property. Investigation of the Scranton claim began but little was accomplished until 1939-40 when the main workings on the Scranton claim (lower Pontiac workings) were driven. These comprised two adits, less than 9 metres apart vertically, the upper containing about 550 metres of drifts and crosscuts, the lower being a 122-metre long drift. The levels were connected by two raises and a sublevel was driven from a winze. Little further worthwhile work was done until 1949 when a new adit was begun on the Scranton claim. During subsequent years the adit was driven 91 metres northeasterly with a raise to the adit above, and a 23-metre winze and 44 metres sublevel below.

A new company, Scranton Mines Limited, was incorporated in British Columbia in August 1951 to acquire the 14 claim property; the company head office remained in Portland, Oregon. On the west side of Pontiac creek, on the Grandview Fr. claim, the "Sunset" drift adit, which was begun in 1950, was driven southwesterly at about the 1737-metre elevation. By the end of 1952 the workings comprised about 268 metres of drifts and crosscuts and a 23-metre winze. In 1953 diamond drilling in 11 holes totalling 548.6 metres was done to determine the vein extension on the Sunrise claim. Little further activity took place until 1960-61 when an additional 30 metres of drifting and crosscutting and 43.5 metres of underground diamond drilling was carried out in the Scranton workings. A new adit about 30 metres long was driven 15 metres below the old Pontiac workings.

Blue Star Mines Limited optioned the property in 1964 and carried out stripping and 209.3 metres of diamond drilling on the Scranton claim and extended the lower Pontiac adit an additional 79 metres.

No further activity was reported until 1967 when exploration was begun in a new adit at the 1800-metre elevation on the west side of Pontiac creek at the southeast edge of the Grandview claim. The adit was driven as a crosscut for 30.4 metres, intersecting a strong quartz vein which was drifted on. Silver Star Mines Ltd. acquired the property from Blue Star Mines and Scranton Mines through a stock transaction. A new adit was begun in 1968 at the 1737-metre elevation to explore the downward extension of mineralization in the 1800-metre level; drifting, raising and stoping was carried out on both levels. Some ore was shipped to the Blue Star mill at Ainsworth. Stopping of ore proved uneconomical and the operation was shut down in 1970.

Adit, trench, and drill indicated reserves on the 1737 and 1800-metre levels ("West Sunset") workings (082FNW113) were estimated in November 1969 by W.M. Sharp at 42,680 tons averaging 8.06 grams per tonne gold and 240 grams per tonne silver, 9.1 per cent lead, 7.6 per cent zinc, plus cadmium values. (Northern Miner, March 12, 1970). Further production was reported during 1975-79.

David Minerals Ltd. acquired the property from Silver Star Mines, and the Ainsworth mill from Blue Star Mines, in 1977. Indicated reserves (likely West sunrise, 082FNW113) were reported at 17,935 tonnes averaging 9.26 grams per tonne gold and 240 grams per tonne silver, 8.2 per cent lead, and 8.0 per cent zinc (Northern Miner, January 12, 1978, page 24).

The Scranton mine occupies the middle section of a 2.1-kilometre southwest trending vein system. The Scranton contains at least 2 veins. Attitudes range from northeast to east striking, and dips from 25 southeast at the southwest end of the vein, steepening to 60 degrees southeast towards the northeast.

Vein mineralization is predominantly pyrite, up to 35 per cent, with lesser galena and sphalerite, plus or minus chalcopyrite, in a fractured quartz gangue.

Country rock is hornblende potassium feldspar granite and potassium feldspar granite. Biotite-grade, thin-bedded siltstone, argillite and limestone outcrop on surface and quartzite was intersected underground.

Production from 1948 to 1979 totalled 25,943 tonnes yielding 3,497,850 grams silver, 117,152 grams gold, 13,875 kilograms cadmium, 1,313 kilograms copper, 1,279,129 kilograms lead, 1,210,373 kilograms zinc. Production includes Sunset (082FNW113).

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1964-120; 1968-258; 1969-A56; 1970-A55; 1975-A95; 1976-A104;
1977-116; 1978-128; 1979-130
EMPR BC METAL MM00044
EMPR BULL 1, p. 118; 10, p. 94; 10, p. 156(Revised)
EMPR FIELDWORK 1987, pp. 31-48,535-541
EMPR GEM 1969-333; 1970-459; 1971-407; 1972-59
EMPR INDEX 3-209,212; 4-124
EMPR MINING IN BC 1975-1980, p. 36
EMPR MONTHLY RPT (G. Addie, Aug. 1975)
EMPR OF 1988-11; 1998-10
EMPR P *1989-5, pp. 18, 20, 22-23, 35-36
EMPR PF (*Reports by W.M. Sharp, 1967, 1975; *Reports by W.E. Clarke,
1977, 1978, 1979; Report by O.E. Gillespie, David Minerals Ltd.
(N.P.L.), 1978)
GSC MAP 272A; 1091A; 1956-3
GSC MEM 184-241
CMH 1972-73, p. 303 Res.
GCNL #124 (Jun.28), #133 (Jul.12), #139(Jul.20), 1978; #107(Apr.6),
1979;
IPDM July, 1979, pp. 14-15
N MINER Mar.12, 1970; Apr.6, Jan.12, 1978; May 26, 1979; Mar.5, 1981

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/09

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

exploration work on this vein system was done at its extremities and comprised the Pontiac workings at the northeasterly end and the Sunset workings at the southwesterly end. Following the consolidation of the property in 1930 development work was carried out at lower elevations in the mid section of the property on the Scranton claim, on the east side of Pontiac creek (known as the Lower Pontiac workings), and in the "Sunset" workings on the Grandview Fr. claim on the west side of the creek.

The first reported activity and first production from the Pontiac claim was recorded in 1898.

The first reported activity at the southwesterly end of the vein system was in 1899 when Woodbury Mines, Limited, a Spokane, Washington company, was carrying out development work on the Sunset No. 5 and Mayflower claims of the Sunset Group. The workings at that time comprised some 244 metres of drifts and crosscuts in 4 adits, and 2 shafts. Ore shipments began in 1899. Work on the property continued into 1901, the workings then comprising 7 or more adits.

Two claims, the International and Vernon, located adjoining and southwest of the Sunset group, were owned by C.F. Caldwell and associates of Salt Lake City. Assessment work in 1899 included a short adit on the International claim.

Subsequent details are lacking but apparently the Sunset and Mayflower claims lapsed and the ground was restaked as the Sunrise, Grandview and Granite claims. The Sunrise claim (Lot 5991) was Crown-granted to J.A. Poyntz in 1904. The adjacent Grandview (Lot 6279) and Granite (Lot 6278) claims were Crown-granted to W. Chaplin and A.G. Caldwell respectively in 1907.

Activities at the various workings ceased in about 1908 and some of the claims were subsequently acquired by C.F. Caldwell. In 1930 Hon. J.D. Chaplin, C.F. Caldwell, T. Doyle and J. Henry, owners of the various claim groups, gave an option to purchase the Scranton Consolidated Mining Company which was incorporated in Portland, Oregon to consolidate and develop the property. Investigation of the Scranton claim began but little was accomplished until 1939-40 when the main workings on the Scranton claim (lower Pontiac workings) were driven.

A new company, Scranton Mines Limited, was incorporated in British Columbia in August 1951 to acquire the 14 claim property; the company head office remained in Portland, Oregon. On the west side of Pontiac creek, on the Grandview Fr. claim, the "Sunset" drift adit, which was begun in 1950, was driven southwesterly at about the 1737-metre elevation. By the end of 1952 the workings comprised about 268 metres of drifts and crosscuts and a 23-metre winze. In 1953 diamond drilling in 11 holes totalling 548.6 metres was done to determine the vein extension on the Sunrise claim. Little further activity took place until 1960-61 when an additional 30 metres of drifting and crosscutting and 43 metres of underground diamond drilling was carried out in the Scranton workings. A new adit about 30 metres long was driven 15 metres below the old Pontiac workings.

Blue Star Mines Limited optioned the property in 1964 and carried out stripping and 209.3 metres of diamond drilling on the Scranton claim and extended the lower Pontiac adit an additional 79 metres.

No further activity was reported until 1967 when exploration was begun in a new adit at the 1800-metre elevation on the west side of Pontiac creek at the southeast edge of the Grandview claim. The adit was driven as a crosscut for 30.4 metres, intersecting a strong quartz vein which was drifted on. Silver Star Mines Ltd. acquired the property from Blue Star Mines and Scranton Mines through a stock transaction. A new adit was begun in 1968 at the 1737-metre elevation to explore the downward extension of mineralization in the 1800-metre level; drifting, raising and stoping was carried out on both levels. Some ore was shipped to the Blue Star mill at Ainsworth. Stopping of ore proved uneconomical and the operation was shut down in 1970.

Adit, trench, and drill indicated reserves on the 1737 and 1800-metre levels ("West Sunset") workings were estimated in November 1969 by W.M. Sharp at 42,680 tonnes averaging 8.06 grams per tonne gold and 240 grams per tonne silver, 9.1 per cent lead, 7.6 per cent zinc, plus cadmium values. (Northern Miner, March 12, 1970). Further production was reported during 1975-76.

David Minerals Ltd. acquired the property from Silver Star Mines, and the Ainsworth mill from Blue Star Mines, in 1977. Indicated reserves were reported at 17,935 tonnes averaging 9.26 grams per tonne gold and 240 grams per tonne silver, 8.2 per cent lead, and 8.0 per cent zinc (Northern Miner, January 12, 1978, page 24).

The country rock is hornblende potassium feldspar porphyritic granite and lesser hornblende diorite. The vein is less than 1.5

CAPSULE GEOLOGY

metres wide, limonite stained and sulphide-poor. The footwall granite is fractured and limonitic over 1 metre or less. The hangingwall is sharply defined and locally sericitized. Mineralization includes intergrown galena and sphalerite. Pyrite occurs as coarse aggregates and finely crystalline concentrations rimming galena. Erratic high grade gold values suggest free gold occurs in the veins. A grab sample from the Sunrise upper portal taken in 1987 assayed 32 grams per tonne gold, 310 grams per tonne silver, 21.2 per cent lead and 13.8 per cent zinc (Open File 1988-11).

Production from 1899 to 1901 totalled 145 tonnes yielding 313,269 grams silver, 2,333 grams gold and 57,494 kilograms lead. Later production is included with Scranton (082FNW112).

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1930-256; 1946-151; 1947-167; 1952-170; 1954-134; 1958-43;
1959-67; 1960-74; 1961-74; 1964-120; 1965-187; 1967-256;
1968-258
EMPR BC METAL MM01424, MM01302 (Mayflower)
EMPR BULL 1, p. 118
EMPR FIELDWORK 1987, pp. 31-48, 535-541
EMPR GEM 1969-333; 1970-459; 1971-407; 1972-59
EMPR INDEX 3-215
EMPR OF 1988-11; 1998-10
EMPR P *1989-5, pp. 18, 20, 22-23, 35-36
EMPR PF (See Scranton, 082FNW112)
GSC MAP 272A
GSC MEM 184, p. 249
N MINER Mar.12, 1970; Jan.12, 1978

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/09

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW114**

NATIONAL MINERAL INVENTORY: 082F14 Ag52

NAME(S): **SILVER CUP (L.6507), SUN, E.L.,
MOONLITE, EVENING STAR**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 13 N
LONGITUDE: 117 07 55 W
ELEVATION: 2408 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5516804
EASTING: 490505

LOCATION ACCURACY: Within 500M

COMMENTS: Crosscut adit, on Moonlight Peak at the headwaters of the north fork of Woodbury Creek, 20 kilometres south-southwest of Kaslo (Minister of Mines Annual Report 1949). See also Sun (082FNW207).

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite
ASSOCIATED: Quartz Carbonate
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Quartz vein.

101 Au-quartz veins
STRIKE/DIP: 015/70E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Nelson Intrusions

LITHOLOGY: Hornblende K-Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1987
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Silver	950.0000	Grams per tonne	
Gold	3.8000	Grams per tonne	
Lead	1.2800	Per cent	
Zinc	0.9900	Per cent	

REFERENCE: Open File 1988-11. Grab sample of vein, DB-328.

CAPSULE GEOLOGY

This property lies at the head of Woodbury Creek on the ridge between it and Sawtooth Creek, a tributary of Keen Creek, at the 2408-metre elevation. It may be reached by approximately 8 kilometres of trail from where the Scranton road turns up Pontiac Creek. The property is located in Kokanee Glacier Provincial Park.

The area is dominated by granitic rocks of the Middle to Late Jurassic Nelson Intrusions.

At the Silver Cup occurrence, a barren-looking quartz vein occurs in hornblende-potassium feldspar porphyritic granite of the Nelson Intrusions. The vein extends for several hundred metres with an average 015 degree strike and 70 degree easterly dip. The vein width is approximately 2.3 metres. Mineralization consists of stringers of galena, sphalerite and tetrahedrite. Brecciated clay-altered wallrock is evident in the vein.

A limonitic fracture zone less than 7 metres wide hosts the quartz and carbonate veins. Veins on surface are less than 5 centimetres wide and contain coarse sphalerite and galena within very coarse pink and white carbonate.

A grab sample of vein material assayed 950.0 grams per tonne

CAPSULE GEOLOGY

silver, 3.8 grams per tonne gold, 1.28 per cent lead and 0.99 per cent zinc (Open File 1988-11).

The E.L., Silver Cup (Lot 6507), Moonlite, Evening Star, and Sun (Lot 6955) claims extend in a northeasterly direction along the strike of the vein outcrop. These claims lie near the western edge of a more or less rectangular block of 33 claims and fractional claims that is roughly 5 claims wide and 6 claims in length. All these claims were Crown-granted to D.H. Nellis, some in 1907, and the remainder in 1911.

Very little information is available on this property and it is not known when the claims were located. A 1911 report states that 3 men worked on the Sun claim from June to December and 2 cars of ore were sacked ready for shipment. In 1917 Mr. Nellis shipped 35 tons of ore, reported to be from the Sun claim (082FNW207). The main workings are on the Silver Cup claim. Here Mr. Nellis drove a crosscut in a westerly direction, about 30 metres below the outcrop, on the Woodbury side of the divide. The crosscut is 22 metres long and intersects the vein 10 metres from the portal. A winze has been sunk on the vein, and 4.5 metres below the adit level a sublevel has been driven on the vein to the north of the shaft for 10.6 metres. About 4.5 metres back from the face the stringer of galena has been underhand mined for about a metre. The winze is reported to be 14 metres deep with a 15-metre drift to the south off the bottom. This lower level was inaccessible when the workings were examined in 1949.

In 1940 J. Flagel of Ymir shipped 31 tons of ore from the Silver Cup. Three claims, the E.L, Silver Cup, and Moonlite, owned by Mrs. C.A. Nellis, were optioned to A.G. Neiman & associates late in 1949. The only work reported at this time was done on an access road to the property.

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EMPR AR 1907-L218; 1911-K131,K290; 1917-F187,F448; 1940-A25,A81;
*1949-A183,A184
EMPR BC METAL MM01394
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-213
EMPR MAP 65 (1989)
EMPR OF 1988-11; 1990-18
EMPR P 1989-5, p. 24
GSC ANN RPT 11
GSC BULL 129; 161
GSC MAP 3-1956
GSC MEM 184; 308, pp. 119,131
GSC OF 481; 1195
GSC P 84-1A
GSC SUM RPT 1916

DATE CODED: 1985/07/24
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REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

Marguerite and Alice fractional claims were Crown-granted to Rene Laudi; the Apex, Crescent, Twin Lakes, and Green Lakes claims were Crown-granted to W.E. Boie.

On the east side of the southern lake, on the Tony claim, a crosscut tunnel said to be between 213 and 274 metres long was not driven far enough to reach its objective, a vein outcropping on the mountain slope above. At the 2274-metre elevation on the Joker claim an inclined shaft is said to be 29 metres deep on a 65 degree slope. On the side hill above the shaft a tunnel is said to have been driven westerly about 30 metres on a vein mineralized with pyrite, galena, and sphalerite, but the portal was later obscured by slide rock and vegetation. Open cutting was done on the Treadwell claims on the supposed extension of the shaft vein. On the northern boundary of the Treadwell claim a tunnel was driven for 20 metres along a fracture up to 55 centimetres wide and dipping 65 degrees east in which there is disseminated pyrite as well as some galena, sphalerite, and chalcopyrite; at 16.7 metres in from the portal there is a 3-metre winze. On the northern boundary of the John A claim a tunnel was driven 91.4 metres along a small quartz vein (strikes 055 and dips 85 degrees southeast) following a line of jointing in the granite. The quartz and wall rocks are both stained with secondary copper minerals and carry a little galena and tetrahedrite.

A sample of a vein taken in 1987, assayed 3.8 grams per tonne gold, 42 grams per tonne silver, 0.0057 per cent copper, 0.94 per cent lead, 0.44 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EMPR AR 1898-1078; 1899-705; 1900-851,988; 1901-1225; 1904-158;
1907-218; 1933-210
EMPR FIELDWORK 1987, pp. 31-48
EMPR MIN REF MAP 1
EMPR OF 1988-11
EMPR P *1989-5, p. 26
GSC MAP 272A, 1090A
GSC MEM 184, p. 227

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW116**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOOMERANG**, RICHMOND

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 08 N
LONGITUDE: 117 14 19 W
ELEVATION: 1710 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5516669
EASTING: 482829

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Argentite Silver

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

Mesothermal

STRIKE/DIP: 355/80E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Nelson Intrusions

ISOTOPIC AGE: 165 - 169 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

LITHOLOGY: Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	8.0000	Grams per tonne
Gold	0.0800	Grams per tonne
Lead	0.0250	Per cent
Zinc	0.0730	Per cent

COMMENTS: Sample MA-276.

REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Boomerang is located in Kokanee Glacier Provincial Park. The mineralized quartz vein is hosted by potassium-feldspar porphyritic granite (Middle Jurassic Nelson Intrusions). Zones of argillic alteration, limonitic weathering, and locally with silicification occur adjacent to the main fault fissure.

Mineralization is sparse but includes galena, light coloured sphalerite, pyrite, and reported native silver. A vein taken in 1987, assayed 8.0 grams per tonne silver, 0.08 grams per tonne gold, 0.025 per cent lead and 0.073 per cent zinc (Open File 1988-11).

Vein strikes north-south and dips at about 80 degrees eastward.

BIBLIOGRAPHY

EMPR AR 1919-130; 1920-170; 1940-81; 1941-75; 1956-A50,99;
1957-57; 1964-127
EMPR BC METAL MM01139
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 4-119
EMPR OF 1988-11
EMPR P 1989-5, p. 24
GSC MAP 272A; 1090A

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
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ENERGY AND MINERALS DIVISION

PAGE: 497
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 184, p. 185

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/24

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW117**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD-GALENA**, EAGLE BANK, GOLD GALENA

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 47 24 N
LONGITUDE: 117 14 34 W
ELEVATION: 2150 Metres

NORTHING: 5515311
EASTING: 482525

LOCATION ACCURACY: Within 500M

COMMENTS: The Gold-Galena prospect is located just east of Heather Lake, in the headwater area of Enterprise Creek, 17 kilometres east of the town of Slocan. Access to the property is by trail from the Enterprise Creek road.

COMMODITIES: Lead Zinc Silver Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epithermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Feldspar Porphyry Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Gold-Galena prospect is located just east of Heather Lake, in the headwater area of Enterprise Creek, 17 kilometres east of the town of Slocan. Access to the property is by trail from the Enterprise Creek road. The prospect is located in Kokanee Glacier Provincial Park.

Two adit tunnels have been driven north along a shear zone for about 30 metres. In the upper tunnel the vein, located on the footwall of the shear, is 45 centimetres wide. The mineralization consists of galena, sphalerite, and pyrite in quartz. The country rock in vicinity of the property is a coarse feldspar porphyry granite phase of the Nelson batholith. The wallrocks of the vein show argillic and limonitic alteration.

BIBLIOGRAPHY

EMPR AR 1932-179
EMPR FIELDWORK 1987, pp. 31-48
EMPR OF 1988-11
EMPR P 1989-5, p. 26
GSC MAP 1090A

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW118**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACKBURN (L.5190)**, WALLACE (L.12453)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 46 28 N
LONGITUDE: 117 12 06 W
ELEVATION: 1960 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5513572
EASTING: 485480

COMMODITIES: Lead Gold Silver Copper Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
COMMENTS: Two ore types: sphalerite-rich and galena-rich.
ASSOCIATED: Carbonate
COMMENTS: Manganese oxide weathered surfaces; carbonate gangue.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Fractured
COMMENTS: Lode strikes west and dips steeply southwest.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 165 - 169 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: K-Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1987	
SAMPLE TYPE: Grab		
<u>COMMODITY</u>	<u>GRADE</u>	
Silver	510.0000	Grams per tonne
Gold	0.1550	Grams per tonne
Copper	0.0670	Per cent
Lead	1.1000	Per cent
Zinc	12.1000	Per cent

COMMENTS: Grab sample DB-398, sphalerite-rich.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Blackburn is located northwest of Kaslo Lake, in Kokanee Glacier Provincial Park.

A mineralized shear zone in coarse-grained Nelson granite. Vein quartz occurs in small irregular lenses and stringers carrying a sparse dissemination of sulphides. The lode strikes north 65 degrees west and dips steeply southwest. The hangingwall is partly defined by a narrow fine-grained basic dyke.

Two ore types: 1) sphalerite-rich with pyrite and quartz vein, 2) galena-rich carbonate vein with characteristic manganese oxide weathering.

The veins occur in fresh potassium feldspar porphyritic granite, sub-parallel to prominent northwest trending linears. A sample taken in 1987, assayed 510 grams per tonne silver, 0.155 grams per tonne gold, 0.067 per cent copper, 1.1 per cent lead and 12.1 per cent zinc (Open File 1988-11).

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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PAGE: 500
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1901-1223; 1917-452
EMPR FIELDWORK 1987, pp. 31-48, 535-541
EMPR OF 1988-11
EMPR P 1989-5, p. 19
GSC MAP 1090A
GSC MEM 184, p. 195

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/24

CODED BY: GSB
REVISED BY: DAB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW119**

NATIONAL MINERAL INVENTORY:

NAME(S): **SLOCAN CHIEF (L.3896)**, SNOWSTORM, KOKANEE QUEEN

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 46 01 N
LONGITUDE: 117 10 56 W
ELEVATION: 2060 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5512735
EASTING: 486878

COMMODITIES: Silver Lead Gold Copper Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Arsenopyrite
ASSOCIATED: Quartz
ALTERATION: Limonite
COMMENTS: Manganese oxide weathering.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
SHAPE: Tabular
DIMENSION: Metres STRIKE/DIP: 130/40S TREND/PLUNGE:
COMMENTS: Shape of deposit is also irregular.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 165 - 169 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: K-Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1987
SAMPLE TYPE: Grab	
COMMODITY	<u>GRADE</u>
Silver	1900.0000 Grams per tonne
Gold	0.5400 Grams per tonne
Copper	0.0492 Per cent
Lead	2.6600 Per cent
Zinc	4.7500 Per cent

COMMENTS: Grab sample DB-306.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Slocan Chief is located in Kokanee Glacier Provincial Park. Slocan Chief mineralization occurs along a structure that also hosts the Smuggler (082FNW120), and Molly Gibson (082FNW121) deposits. Mineralization exhibits characteristic manganese oxide weathering. The quartz veins are vuggy with some chalcedonic quartz. An altered zone less than 3 metres wide with limonitic fractures contains the mineralized quartz veins. Arsenopyrite is characteristic to mineralization along this structure. A sample taken in 1987, assayed 1900 grams per tonne silver, 0.54 grams per tonne gold, 0.0492 per cent copper, 2.66 per cent lead and 4.75 per cent zinc.

BIBLIOGRAPHY

EMPR AR 1928-307; 1930-257
EMPR BC METAL MM01409
EMPR FIELDWORK 1987, pp. 31-48, 535-541

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 502
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR INDEX 3-214
EMPR OF 1988-11
EMPR P 1989-5, p. 19
GSC MAP 272A; 1091A
GSC MEM 184, p. 247; 308, p. 149

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/24

CODED BY: GSB
REVISED BY: DAB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW120**

NATIONAL MINERAL INVENTORY:

NAME(S): **SMUGGLER (L.5742)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 45 36 N
LONGITUDE: 117 10 26 W
ELEVATION: 2440 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5511961
EASTING: 487476

COMMODITIES: Silver Lead Zinc Gold Copper
 Arsenic

MINERALS

SIGNIFICANT: Galena Arsenopyrite Sphalerite Pyrite Chalcopyrite
ASSOCIATED: Quartz Chalcedony
COMMENTS: Manganese oxide weathering.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
SHAPE: Tabular
MODIFIER: Faulted Fractured

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

ISOTOPIC AGE: 165 - 169 Ma
DATING METHOD: Zircon
MATERIAL DATED: Zircon

LITHOLOGY: K-Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1987

COMMODITY	GRADE	
Silver	1100.0000	Grams per tonne
Arsenic	8.4300	Per cent
Gold	2.2000	Grams per tonne
Copper	0.2200	Per cent
Lead	4.8900	Per cent
Zinc	5.4000	Per cent

COMMENTS: Grab sample DB-308.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Smuggler is located in Kokanee Glacier Provincial Park. Smuggler mineralization occurs along a northwest trending structure that hosts Slocan Chief (082FNW119) and Molly Gibson (082FNW121). The galena-sphalerite-arsenopyrite-quartz-iron carbonate veins characteristically are black (manganese oxide) weathering. The veins are unique in that they contain abundant arsenopyrite. The veins are vuggy with variable amounts of chalcedonic quartz.

A grab sample taken in 1987, assayed 1100 grams per tonne silver, 8.43 per cent arsenic, 2.2 grams per tonne gold, 0.22 per cent copper, 4.89 per cent lead and 5.4 per cent zinc (Open File 1988-11).

Production, sometime before 1928 amounted to 13 tonnes grading 9463 grams per tonne silver and 65 per cent lead.

BIBLIOGRAPHY

EMPR AR 1928-306-307

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 504
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK 1987, pp. 31-48, 535-541
EMPR OF 1988-11
EMPR PAPER 1989-5, p. 19
GSC MAP 272A
GSC MEM 184, p. 247

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/24

CODED BY: GSB
REVISED BY: DAB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW121**

NATIONAL MINERAL INVENTORY: 082F11 Ag1

NAME(S): **MOLLY GIBSON (L.1579)**, ASPEN (L.1578), FLORENCE (L.1716),
 LA PLATA FR. (L.1719), LITTLE DIKE (L.4392), LITTLE FRACTION FR. (L.4393)

STATUS: Past Producer	Underground	MINING DIVISION: Nelson
REGIONS: British Columbia		
NTS MAP: 082F11E		UTM ZONE: 11 (NAD 83)
BC MAP:		
LATITUDE: 49 44 24 N		NORTHING: 5509734
LONGITUDE: 117 08 59 W		EASTING: 489212
ELEVATION: 2285 Metres		
LOCATION ACCURACY: Within 500M		
COMMENTS:		

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Sphalerite	Pyrite	Galena	Arsenopyrite	Chalcopyrite
ASSOCIATED: Quartz	Chalcedony	Siderite		
ALTERATION TYPE: Propylitic	Argillic		Hematite	
MINERALIZATION AGE: Unknown				

DEPOSIT

CHARACTER: Vein				
CLASSIFICATION: Epigenetic	Hydrothermal	Mesothermal		
TYPE: I05	Polymetallic veins Ag-Pb-Zn±Au	I01	Au-quartz veins	
SHAPE: Tabular				
MODIFIER: Faulted				
DIMENSION: 250 x 150 x 1	Metres	STRIKE/DIP: 154/67S	TREND/PLUNGE:	
COMMENTS: Dips to the southwest.				

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 165 - 169 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: Feldspar Porphyritic Granite
 Diorite Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel	

INVENTORY

ORE ZONE: MOLLY GIBSON	REPORT ON: Y
CATEGORY: Unclassified	YEAR: 1965
QUANTITY: 104325 Tonnes	
COMMODITY	GRADE
Silver	548.6000 Grams per tonne
Lead	2.9600 Per cent
Zinc	3.1700 Per cent
REFERENCE: Northern Miner, September 23, 1965.	

ORE ZONE: VEIN	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1987
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	2300.0000 Grams per tonne
Gold	0.5100 Grams per tonne
Copper	0.2050 Per cent
Lead	9.1000 Per cent
Zinc	3.9300 Per cent
COMMENTS: Grab sample of vein, JL-170.	
REFERENCE: Open File 1988-11.	

CAPSULE GEOLOGY

Molly Gibson vein follows a northwest striking joint set in potassium-feldspar porphyritic granite. Workings explore two veins, the Florence and Aspen - they strike 145 degrees and dip 75 degrees. Ore shoots plunge to the southeast at about 45 degrees. Wallrock

CAPSULE GEOLOGY

alteration includes pervasive propylitic, argillic, and locally hematite alteration. Vein mineralization comprises galena, sphalerite, arsenopyrite, pyrite, and chalcopyrite in a gangue of brecciated manganese rock, siderite, and quartz. Vein textures and mineralogy suggest several stages of brecciation and mineralization. A grab sample taken in 1987, assayed 2300 grams per tonne silver, 0.51 grams per tonne gold, 0.205 per cent copper, 9.1 per cent lead, and 3.93 per cent zinc.

The property is located on the west side of Kokanee Peak, in Kokanee Glacier Provincial Park, some 26 kilometres northeast of Nelson.

The date of discovery is not recorded although the Report of the Minister of Mines, 1922, states that shipments of high-grade ore were made as early as 1890. The Molly Gibson, Aspen, and Florence claims were optioned to Hon. Rufus, H. Pope in 1896. The Molly Gibson Mining Company, Limited was incorporated in British Columbia in November 1898. Six claims, the Aspen (Lot 1578), Molly Gibson (Lot 1579), Florence (Lot 1716), La Plata Fr. (Lot 1719), Little Dike (Lot 4392), and Little Fraction Fr. (Lot 4393) were Crown-granted to the company in 1901. During 1902 mining operations were carried out under contract, some 1800 tonnes of ore being shipped to the Nelson smelter. A snow slide ended operations late in 1902 and work was not resumed until 1904.

A new company The La Plata Mines Company Limited, was incorporated in April 1909 to operate the property. A 100-ton per day concentrator was built on Kokanee Creek, with a mile tramline to connect with the mine. Milling began in July 1906 and continued through 1907. Due to financial difficulties the company was dissolved in 1908.

The Consolidated Mining and Smelting Company of Canada Limited acquired the property in 1910 by payment of 2,000 treasury shares. A second tramline 7.2 kilometres long was built to replace a portion of the road between the mill and the west arm of Kootenay Lake. The mine and mill were operated intermittently until early 1920. Underground development work to 1920 totalled 2743 metres of drifts, crosscuts, and raises in 5 adits, the 5th level being at 2103 metres elevation. Lessees operated the mine and mill intermittently until 1926.

The company resumed development work in 1930. A new low level crosscut adit begun at the 1792-metre elevation had been driven for 564 metres in 039 direction when work ceased in 1932.

Homestake Silver Ltd. optioned the property in 1965. Ore reserves at that time were estimated at 104,325 tonnes averaging 548.6 grams per tonne silver, 2.96 per cent lead, 3.17 per cent zinc. (Northern Miner, September 23, 1965).

In 1966 a drift was driven on what appears to be the main vein, from a point 488 metres from the portal of the 5,880 crosscut, to a point 262 metres north of the crosscut. In 1967 the drift was advanced 558 metres, the drift face being 1382 metres from the portal. This work exposed 5 mineral zones aggregating 91.4 metres of strike length on a fissure which is about on the projection of the Florence-Aspen vein system. Average width (1 metre) and grade of mineralization for the 5 zones was reported at 358.9 grams per tonne silver, 2.76 per cent lead, and 3.67 per cent zinc. The most northerly mineralized shoot was exposed for a vertical distance of 25.3 metres by 30.5 metres of raise.

Pyramid Mining Co. Ltd., in October 1967, optioned an interest in the property and provided funds for the later development work.

Molly Gibson Silver Ltd. was incorporated in December 1967 as a private company to acquire the 10 Crown-granted claims. The shares of the company were held by: Homestake Silver Ltd. (49%), Cominco Ltd. (34%), and Pyramid Mining Co. Ltd. (17%).

BIBLIOGRAPHY

- EMPR AR 1896-73; 1899-691; 1900-845; 1901-1033,1225; 1904-140;
1905-25,166; 1906-149,213,248; 1907-104,213; 1909-119; 1910-113;
1911-257,284; 1912-153,322; 1913-129,419; 1914-326,510; 1915-134;
1916-204,517; 1917-172; 194,448; 1918-174; 1919-133,158; 1920-
132,149; 1921-142; 1922-206; 1923-214; 1924-191; 1925-248; 1926-
257; 1930-279; 1931-212; 1932-195; 1939-39; 1949-163; 1950-120;
1965-188; 1966-208; 1967-241
EMPR BC METAL MM01041
EMPR FIELDWORK 1987, pp. 31-48, 535-541
EMPR INDEX 3-205
EMPR OF 1988-11; 1998-10
EMPR P *1989-5, p. 19
EMR MIN BULL MR 223 B.C. 36
EMR MINES BR OTTAWA (Zinc Commissioner Report 12, 1906 p. 262)

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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BIBLIOGRAPHY

EMR MP CORPFILE (Homestake Resources Ltd.; Molly Gibson Silver Ltd.;
Thunderwood Explorations Ltd.; International Pyramid Mines Inc.;
Cominco Ltd.)
GSC EC GEOL Series 3, p. 252
GSC MAP 1090A, 1091A
GSC MEM 308, pp. 111, 148
N MINER Sept. 23, 1965

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/23

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW122**

NATIONAL MINERAL INVENTORY:

NAME(S): **ORO FINO**, ORO FINO NO. 2, GOLD CROSS NO. 1-3

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11E
BC MAP:
LATITUDE: 49 43 26 N
LONGITUDE: 117 12 15 W
ELEVATION: 2165 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5507952
EASTING: 485284

COMMODITIES: Gold Silver Zinc Lead Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ASSOCIATED: Quartz
ALTERATION: Sericite
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 100 Metres STRIKE/DIP: 029/63S TREND/PLUNGE:
COMMENTS: Vein dips southeast.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 165 - 169 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: Feldspar Porphyritic Granite
Quartz Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1987

COMMODITY	GRADE	
Silver	390.0000	Grams per tonne
Gold	24.0000	Grams per tonne
Copper	0.0070	Per cent
Lead	2.8000	Per cent
Zinc	3.8000	Per cent

COMMENTS: Grab sample of vein, JL-421.

REFERENCE: Open File 1988-11 and Paper 1989-5.

CAPSULE GEOLOGY

The Oro Fino workings occupy a 25-hectare claim located at the headwaters of Nilsik (Crazy Jane) Creek, south of Sunset and Outlook mountains. The property is located in Kokanne Glacier Provincial Park. Production in 1940 totalled 4 tonnes and yielded 62 grams gold, 964 grams silver, 48 kilograms lead and 112 kilograms zinc.

Development work includes two adits at the 2086-metre and 2118-metre elevations and surface trenching at 2196 metres elevation outlining a strike length of approximately 100 metres. The quartz vein occupies a tight fracture in potassium feldspar-porphyritic granite which strikes 030 degrees and dips 65 degrees southeast. Vein mineralogy comprises pyrite, sphalerite and galena: stronger mineralization is associated with smoky quartz. Wallrock is oxidized and altered to sericite and argillite assemblages up to 10

CAPSULE GEOLOGY

centimetres on either side of the vein.

A grab sample taken in 1987 of mineralized vein material stockpiled at the upper portal returned 24 grams per tonne gold, 390 grams per tonne silver, 2.8 per cent lead and 3.8 per cent zinc. Altered wallrock sampled from directly inside the lower portal returned 0.11 gram per tonne gold, 8 grams per tonne silver, trace lead and 0.01 per cent zinc (Open File 1988-11 and Paper 1989-5, page 24).

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EMPR OF 1988-11
EMPR P *1989-5, p. 24
GSC MAP 1091A
GSC MEM 308, pp. 156,171

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/23

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW123**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUDSON BAY**, FRAM (L.9273), NANSEN (L.9274),
HUDSON'S BAY

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11E 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 44 59 N
LONGITUDE: 117 13 16 W
ELEVATION: 1980 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5510828
EASTING: 484072

LOCATION ACCURACY: Within 500M

COMMENTS: The Hudson Bay prospect is centred on the Fram (Lot 9273) and Nansen (Lot 9274) claims, in the Sapphire Lakes area, 17 kilometres east of Slocan City. Access is about 5 kilometres by trail from the eastern extension of the Lemon Creek road.

COMMODITIES: Silver Gold Lead Zinc

MINERALS

SIGNIFICANT: Galena Pyrite Sphalerite
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 40 x 1 Metres

STRIKE/DIP: 020/40W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Granite
Lamprophyre

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1987

COMMODITY	GRADE	
Gold	2.4000	Grams per tonne
Silver	490.0000	Grams per tonne
Lead	0.2600	Per cent
Zinc	0.3000	Per cent

COMMENTS: Sample JL-147.

REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Hudson Bay prospect is centred on the Fram (Lot 9273) and Nansen (Lot 9274) claims, at about 1890 metres elevation, in the Sapphire Lakes area, 17 kilometres east of Slocan City. Access is about 5 kilometres by trail from the eastern extension of the Lemon Creek road. The property is located in Kokanee Glacier Provincial Park.

The Fram and Nansen claims were Crown granted to the Hudson's Bay company in 1909. The principal development on this property are two short adits connected by a vertical raise.

The rock of the area is typical of the main phase of the Nelson granitic batholith. However, in the immediate vicinity of the showings, the granite is brown to reddish brown in contrast to the characteristic grey of the surrounding Nelson rocks. This zone is about 30 metres wide and strikes slightly east of north on the east side of a small draw beside the adits. The exact structural nature of this red granite was not determined but it appears to be a later alteration phase of the original granite that follows a general line

CAPSULE GEOLOGY

of weakness within the main granite mass. On the floor of the draw in the ordinary granite, lamprophyre dikes are exposed which vary in width from 0.5 to 1 metre and strike generally north parallel to the trend of the granite.

The lower adit was driven 060 degrees on a mostly steeply dipping quartz stringer which, at 7 metres from the portal, intersects a similar vein striking 020 degrees, dipping 35 to 50 degrees northwesterly. From the portal the original stringer gradually widens to 20 centimetres at the raise where it displays a section of well banded quartz heavily mineralized with sulphides. At the face, this vein structure, represented by 76 cm of shearing, includes a 10-centimetre width of quartz, some additional quartz stringers and almost no sulphides. However, at a point 18 metres from the portal, a short crosscut driven a short distance to the east, intercepts an additional quartz vein, enriched in sulphides, that strikes 010 degrees and dips vertically.

The vein in the upper drift adit ranges in width up to 28 cm wide, strikes almost north and dips steeply. Continuity of the vein is well maintained over the 40-metre length of the drift and sulphide mineralization is consistent, except close to the face where the vein pinches to a 3.5-centimetre quartz stringer bounded by one to several centimetres of shearing.

Sampling of weak pyrite and galena mineralization at the face of the lower adit across the 60-centimetre wide vein and accompanying shear zone yielded 3.4 grams per tonne gold and 45 grams per tonne silver.

In the upper adit, at 25 metres from the portal, a 28-centimetre wide sample of the quartz vein, well mineralized with galena and pyrite, assayed 1.4 grams per tonne gold and 290 grams per tonne silver.

A vein sample taken in 1987 assayed 2.4 grams per tonne gold, 490 grams per tonne silver, 0.26 per cent lead and 0.3 per cent zinc (Open File 1988-11).

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EMPR P 1989-5, p. 26
GSC MAP 1090A,
GSC MEM 308

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW124**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER CREST**, WHITE HEATHER, GERMAN,
SILVER CROWN, SILVER BANNER, SILVER BUGLE,
SILVER BELL

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11E
BC MAP:
LATITUDE: 49 44 17 N
LONGITUDE: 117 12 36 W
ELEVATION: 2590 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Silver Crest property is located along the precipitous
summits midway between Slocan Lake and Kootenay Lake, 18 kilometres
east of Slocan City. Access to the property is 7 kilometres by
trail proceeding easterly from the Lemon Creek road.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5509528

EASTING: 484868

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Granite
Micaceous Lamprophyre

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 1.9000 Grams per tonne
Silver 46.0000 Grams per tonne
Lead 0.9700 Per cent
Zinc 0.4200 Per cent

COMMENTS: Sample MA-411.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Silver Crest property is located along the precipitous
summits midway between Slocan Lake and Kootenay Lake, 18 kilometres
east of Slocan City. Access to the property is 7 kilometres by
trail proceeding easterly from the Lemon Creek road.

Formerly part of the German Group (in 1916), the property
was worked as the Silver Crest and White Heather in 1921. Work on
the Silver Crest consisted of open cuts on top of a precipitous
bluff at 2590 metres elevation. The bluff falls abruptly for 430
metres towards Lemon Creek and the workings are reached by a
roundabout route which culminates in the Sapphire Lakes glacial
basin situated below the summit of Sunset Mountain.

The mineralization occurs in a fissure vein in Nelson granite.
A basic micaceous lamprophyre dike follows close to the vein on the
hangingwall side. The strike of the vein conforms to the northeas-
southwest trend of the summit of the mountain and the dip is steep
southeasterly. The vein varies in width from 20 to 30 centimetres
where exposed in the open cut and, to about a metre depth, the wall
rocks are somewhat decomposed and rusty. The associated minerals
are pyrite and galena in quartz gangue. A sample across the vein

CAPSULE GEOLOGY

yielded 62 grams per tonne gold, 620 grams per tonne silver and 7.6 per cent lead (Annual Report, 1921, p. 141).

On the White Heather, located 430 metres below the Silver Crest, open cuts and a 45-metre cross-cut, with a 90-metre drift exposed veins with minor mineralization. A 15-centimetre sample assayed 7.54 grams per tonne gold, 315.43 grams per tonne silver and 0.1 per cent lead (Annual Report 1921, page 141).

A vein sample taken in 1987 assayed 1.9 grams per tonne gold, 46 grams per tonne silver, 0.97 per cent lead and 0.42 per cent zinc (Open File 1988-11).

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EMPR P 1989-5, p. 26
GSC MAP 1090A

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW125**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOLDIER BOY**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 43 48 N
LONGITUDE: 117 12 43 W
ELEVATION: 2385 Metres

NORTHING: 5508633
EASTING: 484726

LOCATION ACCURACY: Within 500M

COMMENTS: The Soldier Boy property is on Sunset Mountain, about a kilometre southwest of Silver Crest, 18 kilometres east of Slocan City. Access to the property is about 8 kilometres by trail proceeding easterly from the Lemon Creek road.

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Argentite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
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>
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Soldier Boy property is on Sunset Mountain, about a kilometre southwest of Silver Crest, 18 kilometres east of Slocan City. Access to the property is about 8 kilometres by trail proceeding easterly from the Lemon Creek road. The property is located in Kokanee Glacier Provincial Park.

The target of exploration on the property is a mineralized fissure (lead) containing silver sulphides developed in Nelson granite. This fissure, of indeterminate width, strikes almost vertically down the face of a precipitous bluff and across the mountain towards the southeast, at right angles to the trend of the summits. Work has been confined to the only two accessible points, which are at the top and bottom of the bluff. The upper workings are reached by a circuitous route over the rugged ground southwest of the bluff.

At the top, at about 2400 metres elevation, stringers of ore are exposed in open cuts and a 20-metre long crosscut from the cliff face. An average sample from these cuts reportedly assayed 1.4 grams per tonne gold and 2500 grams per tonne silver (Annual Report 1921, page 141).

Below the portal the bluff falls almost vertically for 430 metres towards Lemon Creek. At the bottom of the bluff stringers of ore are exposed in another open cut. Sample from here assayed 15.8 grams per tonne gold and 2530 grams per tonne silver (Annual Report

BIBLIOGRAPHY

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EMPR FIELDWORK 1987, pp. 31-48
EMPR OF 1988-11
EMPR P 1989-5, p. 26
GSC MAP 1090A

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW126**

NATIONAL MINERAL INVENTORY: 082F11 Ag1

NAME(S): **BARNETT (L.2888)**, LITTLE MONTANA (L.2889), PULASKIE (L.2890),
G.H. (L.5502), FORT GEORGE (L.12080), ETTER (L.11729),
RETTET (L.11728), SARA B

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:
LATITUDE: 49 44 31 N
LONGITUDE: 117 15 39 W
ELEVATION: 1950 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5509972

EASTING: 481207

COMMODITIES: Silver

Gold

Lead

MINERALS

SIGNIFICANT: Argentite Pyrite Galena Magnetite Tetrahedrite
ASSOCIATED: Quartz
ALTERATION: Sericite
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I01 Au-quartz veins
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 300 x 4 Metres STRIKE/DIP: 215/25 TREND/PLUNGE:
COMMENTS: Dips northwest.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 165 - 169 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1987

COMMODITY	GRADE	
Silver	1100.0000	Grams per tonne
Gold	6.9000	Grams per tonne
Lead	0.1400	Per cent

COMMENTS: Vein sample, JL-416.

REFERENCE: Open File 1988-11 and Paper 1989-5, Table A.

CAPSULE GEOLOGY

The property is located west of McGuire Creek, on the east side of Mount Ruppel, in Kokanee Glacier Provincial Park.

Country rock is potassium feldspar porphyritic granite. In the vicinity of the workings the granite is well jointed.

The quartz vein, tested by 3 short adits and 450 metres of stripping, follows a flat basal jointing plane trending southwest. Quartz vein occupies an argillic altered shear zone with sericitic wallrock (less than 1.0 metre) containing sparse amounts of sulphides. Pyrite, galena and argentite are the chief sulphides. A vein sample taken in 1987 assayed 1100 grams per tonne silver, 6.9 grams per tonne gold and 0.14 per cent lead. Another vein sample, 500 metres to the east assayed 510 grams per tonne silver, 14.2 per cent lead and 0.33 per cent zinc (Open File 1988-11).

Production values are not available. However, in 1950, R.G. McLeod shipped 8 tonnes of ore from the Sara B; McLeod held the

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 516
REPORT: RGEN0100

CAPSULE GEOLOGY

property in the same year.

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EMPR INDEX 3-312
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DATE CODED: 1985/07/24
DATE REVISED: 1988/02/24

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW127**

NATIONAL MINERAL INVENTORY: 082F11 Au1, Au2

NAME(S): **ALPINE GOLD**, ALPINE MINE, NOONDAY,
GOLD CROWN, HIGHLAND CHIEF (L.2880), BERNE (L.2881),
SWISS (L.2879), KOOTENAY PASS (L.2882), ROCKY FR. (L.2883),
SWISS FR. (L.15002), ALPINE FR. (L.15003), WASHINGTON FR. (L.15004),
OREGON FR. (L.15005), IDAHO (L.15006), CLIMAX,
MARGARET

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W 082F11E
BC MAP:
LATITUDE: 49 41 01 N
LONGITUDE: 117 15 08 W
ELEVATION: 2111 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of lower (No. 10) adit, at the headwaters of Sitkum Creek on the slopes of Mount Cornfield, 20 kilometres north of Nelson (Engineering and Inspection - Mine plans).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5503485
EASTING: 481806

COMMODITIES: Gold Silver Lead Zinc Molybdenum
Tungsten

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Electrum Tetrahedrite
Molybdenite Scheelite
COMMENTS: Unidentified silver minerals; rare molybdenite and scheelite.
ASSOCIATED: Quartz Pyrite Calcite
ALTERATION: Sericite Chlorite Limonite
COMMENTS: Thin sericite halo at borders of veins.
ALTERATION TYPE: Sericitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Discordant
CLASSIFICATION: Epigenetic Mesothermal Hydrothermal
TYPE: I01 Au-quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au
I02 Intrusion-related Au pyrrhotite veins
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 400 x 1 Metres STRIKE/DIP: 255/30N TREND/PLUNGE:
COMMENTS: Quartz vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic Nelson Intrusions

LITHOLOGY: Quartz Monzonite
Granodiorite
Pegmatite Dike
Aplite
Biotite Lamprophyre
Aplite Dike
Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: ALPINE REPORT ON: Y
CATEGORY: Measured YEAR: 1989
QUANTITY: 190500 Tonnes
COMMODITY Gold GRADE 13.7000 Grams per tonne
COMMENTS: Proven reserves.
REFERENCE: George Cross News Letter February 8, 1989.

CAPSULE GEOLOGY

The property is located at the head of Sitkum Creek, 20 kilometres north of Nelson. The location of the Noonday group, relative to the four original claims of the Alpine group, is not known but may have covered adjacent ground which was in later years

CAPSULE GEOLOGY

Crown-granted as the Alpine, Swiss and Washington Fractions (Lots 15002-15004). The Alpine group, comprising 4 claims, the Swiss, Highland Chief, Berne, and Kootenay Pass (Lots 2879-2882, respectively) were owned from 1896 or earlier by C. Faas, H. Cleaver & associates. The claims were Crown-granted to Faas & associates in 1899.

No further activity was reported in this vicinity until 1918 when the Noonday group, comprising the Noonday, Climax, Margaret, and Pearl Fraction claims, was owned by J. Radcliffe and J.S. Johnson, of Nelson. Workings included open cuts and a 55-metre adit on the Noonday claim.

By 1927 the Alpine group was owned by E. Harrop & associates. The workings included 2 adits, possibly including the adit driven on the Noonday claim. The Alpine Syndicate acquired the property in about 1936 and built a road to the property. In 1937 further trenching was done, and the No. 10 drift adit was begun. In October 1938, Alpine Gold, Limited, operated the mine and acquired the adjacent Swiss, Alpine, Washington, and Oregon Fractions and the Idaho claim. The Basin, Meadow, and Sitkum claims (Lots 14922, 14928, 14929), located to the south and at elevations of 1675 to 1980 metres on Sitkum Creek, were acquired by the company for a millsite.

In 1938 the new No. 10 level adit was extended to 80 metres. A 50 ton-per-day mill was put into operation in December 1939 and operated intermittently until 1948. In 1938 and 1939 the adjacent Gold Crown was operated and ore mine by hand steel.

Development work to 1948 included two drift adits, Nos. 7 and 10 levels, located about 235 metres apart at elevations of 2180 and 2110 metres, respectively. The lower adit was driven to a length of 345 metres. The workings comprised over 1646 metres drifts, crosscuts, and raises. Diamond drilling totalling 366 metres was carried out in 1947. Reserves were estimated in 1949 at 90,720 tons at 19.5 grams per tonne gold (Financial Post Survey of Mines 1953, p. 81).

In 1987, Cove Energy Corporation acquired an option to purchase Granges Exploration Ltd., included construction of an access road, dump sampling, cross cutting to provide underground drill stations, and diamond drilling.

Work by Cove Resources Corporation in 1988 included a drift extension on No. 10 level, and diamond drilling; this downdip for about 300 metres and widens to about 6 metres. Reserves were reported as 190,500 tonnes proven at 13.7 grams per tonne gold (George Cross News Letter, February 2, 1989). Custom ore was shipped in 1988.

The area is dominated by granitic rocks of the Middle to Late Jurassic Nelson Intrusions.

In 1989, Cominco Ltd. acquired an option on the property and drilled and tested the downdip extension of the Alpine vein. The company drilled 1745 metres in 12 holes.

Intermittent production from 1915 to 1988 totalled 16,810 tonnes containing 222,044 grams of silver, 356,360 grams of gold, 49,329 kilograms of lead and 17,167 kilograms of zinc.

At the Alpine mine, a quartz vein occurs in a discrete shear zone striking 255 degrees and dipping moderately (30 degrees) north within quartz monzonite of the Nelson Intrusions.

The vein is traceable over 400 metres on surface and projects into Kokanee Glacier Provincial Park to the north. Vein contacts with hanging wall and footwall quartz monzonite are sharp and variably sericitized and chloritic. The vein ranges from 0.6 to 2.1 metres in width but averages 1.1 metres.

Pre-mineralization aplite and pegmatite dykes are common; post-mineralization lamprophyre dykes are less abundant, range to 4.8 metres in width and strike between 310 and 010 degrees with east and west dips. Normal faults with displacements up to 6 metres offset all dykes and veins.

Mineralization comprises massive, disseminated and stringer-type electrum, unidentified silver minerals, pyrite and lesser galena, sphalerite and tetrahedrite hosted in a quartz and minor calcite gangue. Rare clots of molybdenite were identified in altered potassium feldspar granite from the mine dump (Paper 1989-5).

The quartz vein is limonitic weathering, highly jointed and fractured and sometimes brecciated. Vein textures are massive crystalline, ribboned, or banded and vuggy. Quartz is variably milky, white, grey and colourless suggesting episodic deposition (Paper 1989-5). Stevenson (Bulletin 10) refers to scheelite mineralization at the Alpine occurrence.

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A291; *1947-A39,A158-A159,A275; 1948-A40,A130-A131,A251
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EMPR BC METAL MM00127
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EMR MP CORPFILE (Alpine Mining Company; Alpine Gold, Limited; Cove
Resources Corporation)
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1989; #38(Feb.22),#218(Nov.9), 1990

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/05

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW128**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRUSADER (L.5985A)**, BOULDER (L.2819), HIDDEN TREASURE (L.2818),
INDEPENDENCE (L.6588), CHAPLEAU CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 43 42 N
LONGITUDE: 117 20 40 W
ELEVATION: 1850 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5508483
EASTING: 475176

LOCATION ACCURACY: Within 500M

COMMENTS: The Crusader property is located north of Lemon Creek, 10 kilometres southeast of Slocan City. In addition to the Crusader claim, the property includes the Boulder and Hidden Treasure claims.

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Argentite Pyrite Silver Gold
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Crusader property is located north of Lemon Creek, 10 kilometres southeast of Slocan City. In addition to the Crusader claim, the property includes the Boulder and Hidden Treasure claims. In 1902 the discovery of mineralized float led to trenching which resulted in the discovery of a weathered quartz vein in Nelson granite. The vein is reported to be 0.75 metre wide composed of cellular, coarsely crystalline quartz containing pyrite, silver sulphides, some native silver and gold. Subsequent work from 1896 through 1902 included sinking a 33-metre shaft on the vein. The Crusader claim (Lot 5985) was crown granted in 1904. In 1939, production of 5 tonnes resulted in 218 grams of gold and 12,255 grams of silver. King Jack Resources conducted surveys on the Chapleau Creek property between 1985 and 1987.

BIBLIOGRAPHY

EMPR AR 1896-72; 1897-535; 1901-1028; 1902-151; 1904-296; 1939-39
EMPR ASS RPT 17367
EMPR BC METAL MM01158
EMPR BULL 7, p. 2
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-193
EMPR OF 1988-11
EMPR P 1989-5
EMPR PF (Santos, P.J. (1986): Consolidated Report on the Chapleau Creek Property for King Jack Resources Ltd.; Siems, P.L. (1989): Wallrock Alteration in Drill Core from the King Jack Resources Ltd. property, in 082FNW135)
GSC MAP 1090A, 1091A
GSC MEM 308, pp. 150, 154

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Cameronian claim from D. Cameron, of Vancouver. Work 1986-87 included geochemical soil, silt and rock surveys, mag, EM and HLEM surveys. Trench of anomalous targets located narrow beds of low grade zinc. Drilling in 1988 intersected stratiform massive sulphide zones of zinc (Assessment Report 17323). In 1991, Kokanee Explorations Ltd. drilled 9 holes, totalling 255.5 metres. They indicated a reserve of 13,600 tonnes grading 59.3 grams per tonne silver, 1.3 per cent lead and 3.6 per cent zinc is readily available to open pit mining with 1.7:1.0 waste to ore ratio (Assessment Report 21324).

A sample from the dump taken in 1987, assayed 320 grams per tonne silver, 0.03 grams per tonne gold, 0.0563 per cent copper, 7.8 per cent lead and 21.4 per cent zinc (Open File 1988-11). A sample taken 500 metres to the southwest assayed 0.32 per cent molybdenum, 0.024 per cent lead and 0.029 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

- EMPR AR 1897-535; 1898-1078; 1899-844,846; 1901-1028; 1903-242;
1922-204; 1927-277; 1928-295; 1929-318; 1946-168; 1948-149;
1951-43; 1959-A48,68
EMPR ASS RPT 12980, 14764, 16063, 17323
EMPR BC METAL MM01358
EMPR BULL 7, p. 2
EMPR EXPL 1986-C68; 1988-C38; 1990-20,65
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-200, 209; 4-122
EMPR INF CIRC 1991-1, p. 68
EMPR OF 1988-11; 1998-8-M, pp. 1-74
EMPR PF (Starr, C.C. (1928): Report of Examination of the Hope No. 2 Mine, with Map Showing Principal Workings; Starr, C.C. (1928): Letter to Piedmont Mines, Ltd.)
EMR MIN BULL MR 223 B.C. 35
GSC MAP 1091A
GSC MEM *308, pp. 185,189,190
GCNL #130(July 8), 1986; #66, 1988; #14(Jan.20), 1989; #167(Aug.29), #198(Oct.12), #231(Nov.29, 1990; #193(Oct.7), 1991
Allen, D.G. (1984): Geological Report on the Hope Prospect, Nov. 28, 1984, in Chapleau Resources Ltd. Prospectus, May 17, 1985

DATE CODED: 1985/07/24
DATE REVISED: 1988/03/01

CODED BY: GSB
REVISED BY: JML

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW130**

NATIONAL MINERAL INVENTORY:

NAME(S): **CHAPLEAU (L.4963)**, CHAPLEAU CONSOLIDATED, SEATTLE NO. 3 (L.4965),
CLYDE (L.4964), CORKER NO. 2 (L.5494), CHAPLEAU CREEK,
RAGAMAE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:
LATITUDE: 49 44 08 N
LONGITUDE: 117 23 43 W
ELEVATION: 1680 Metres
LOCATION ACCURACY: Within 500M

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5509304

EASTING: 471517

COMMENTS: The Chapleau property comprises the Chapleau and Chapleau Consolidated fraction and several other Crown granted claims centred 6 kilometres southeast of Slocan City. The Chapleau mine may be reached by a short access road about 1.5 kilometres long connected to the main road at a point about 13 kilometres from the Slocan highway. See also 082FNW131-136.

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Gold Chalcopyrite

Pyrrargyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Epigenetic

TYPE: I05

DIMENSION:

Mesothermal

Polymetallic veins Ag-Pb-Zn±Au

Metres

I01 Au-quartz veins

STRIKE/DIP: 110/25N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic-Cretaceous

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Porphyritic Quartz Monzonite
Porphyritic Granite
Argillaceous Quartzite
Pegmatite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: CHAPLEAU

REPORT ON: Y

CATEGORY: Combined

YEAR: 1989

QUANTITY: 505200 Tonnes

COMMODITY

GRADE

Gold

8.0000

Grams per tonne

Silver

238.0000

Grams per tonne

COMMENTS: Total resource for the Chapleau properties, including 082FNW131-136.

REFERENCE: Canadian Mines Handbook 1989-90, page 259.

ORE ZONE: CHAPLEAU

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1989

QUANTITY: 31026 Tonnes

COMMODITY

GRADE

Gold

8.1000

Grams per tonne

Silver

194.0000

Grams per tonne

COMMENTS: King Jack Resources Ltd.

REFERENCE: Assessment Report 22085.

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Grab

COMMODITY

	GRADE	
Gold	2.1000	Grams per tonne
Silver	36.0000	Grams per tonne
Lead	0.1000	Per cent
Zinc	0.1500	Per cent

COMMENTS: Sample JL-28.

REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Chapleau property comprises the Chapleau and Chapleau Consolidated fraction and several other Crown granted claims centred 6 kilometres southeast of Slocan City. The Chapleau mine may be reached by a short access road about 1.5 kilometres long connected to the main road at a point about 13 kilometres from the Slocan highway. See also 082FNW131-136.

Chapleau was one of the first properties in Lemon Creek area to receive attention. In 1896 the initial shipment of ore yielded 435 grams of gold and 11,788 grams of silver. Until 1900 development was rapid and an aerial tramway and stamp mill were erected. However, in 1904 the mine was closed as a result of decreasing value of the ore and difficulties were encountered because of faulting of the vein. Until 1941, ore was shipped intermittently by lessees. In 1946 and 1947 the workings were rehabilitated and a new road was constructed to the property, but there were no shipments of ore. Intermittent production from 1896 to 1941 totalled 297 tonnes, yielding 407,604 grams of silver and 29,455 grams of gold.

The country rock is porphyritic Nelson quartz monzonite that is bounded a short distance to the north and northwest by a large pendant and other inclusions of argillaceous quartzite. The granite is cut by small dikes of fine grained granite, pegmatite, and aplite. The phenocrysts of orthoclase and microcline in the porphyritic granite are up to a centimetre long. Larger feldspar phenocrysts, up to 7 centimetres in length, occur in the pegmatite dikes, elongated parallel to the walls. Some pegmatites contain small crystals of garnet and magnetite but no mica or ferromagnesian minerals.

The vein strikes 110 degrees and dips 25 degrees northeast. Its width ranges from 7 centimetres to 0.6 metre and widths up to 1.2 metres have been reported. The gangue is quartz that in places forms drusy cavities. Pyrite is the most abundant metallic mineral followed by sphalerite and galena. Minor chalcopyrite, free gold and ruby silver (?) are also reported.

In 1981, Julia Resources Corp., Agean Resources Corp. and Galilean Resources Corp., formed a joint venture and optioned the 3 claim Chapleau property (Chapleau (Lot 4963), Seattle No. 3 (Lot 4965) and Corker No. 2 (Lot 5494)). The joint venture conducted a program of exploration which included drilling a hole to a depth of 152 metres. On July 16, 1984, Dr. A. Ross Gorrell acquired title to the Chapleau, Seattle and the Corker #3 claims. In about 1984, King Jack Resources Ltd., a private company, acquired a lease option on the claims surrounding the Chateau Mine property and initiated a modest program of exploration. In November 25, 1985, Dr. Ross Gorrell sold all of his interest in the Chapleau, Seattle and Corker #2 claims to Epic Resources (B.C.) Ltd. In 1986, King Jack Resources Ltd. entered into negotiations with Epic Resources (B.C.) Ltd. pertaining to the 3 Chapleau mine claims. They conducted surveys and drilling as part of the Chapleau Creek property in 1987.

Reserves for the Chapleau mine are reported as 80,200 tonnes grading 19.7 grams per tonne gold and 737 grams per tonne silver (CMH 1989-90, page 259). In 1989, drilling outlined a reserve of 31,026 tonnes grading 8.1 grams per tonne gold and 194 grams per tonne silver (Assessment Report 22085). Total reserves for the Chapleau properties are reported as 505,200 tonnes grading 8 grams per tonne gold and 238 grams per tonne silver (CMH 1989-90, page 259). In July 1990, King Jack became International King Jack Resources Ltd., who became Petromin Resources Ltd. in April 1996.

A vein sample taken in 1987 assayed 2.1 grams per tonne gold, 36 grams per tonne silver, 0.1 per cent lead and 0.15 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EMPR AR 1896-48,73; 1897-535; 1898-1076; 1899-689; 1900-830,982;
1901-1027; 1904-169,204; 1905-163; 1918-473; 1932-160,179; 1933-
200,207; 1935-A26,E32,G51; 1936-E49; 1938-E3; 1939-39,78; 1940-27,

BIBLIOGRAPHY

64; 1941-27,45,62; 1946-168; 1947-173
EMPR ASS RPT 17367, 22085
EMPR BC METAL MM00277
EMPR BULL 7, p. 2
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-191
EMPR OF 1988-11
EMPR P 1989-5
EMPR PF (*Stevenson, W.G. (1986): Geological Report on the Chapleau
Mine for King Jack Resources Ltd; Santos, P.J. (1986):
Consolidated Report on the Chapleau Creek Property for King Jack
Resources Ltd. in 082FNW135)
GSC MAP 1090A, 1091A
GSC MEM 308, p. 156
CMH 1989-90, p. 259; 1990-91, p. 252; 1991-92, p. 215
GCNL Oct.17, 1975; #226, 1980
WWW http://www.infomine.com/index/properties/CHAPLEAU_CREEK.html

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW131**

NATIONAL MINERAL INVENTORY:

NAME(S): **KILO (L.9328)**, KILO 2 (L.9330), VIOLET NO. 3 (L.9329),
WEDGE FR. (L.9331), PANSY FR. (L.11732), CHAPLEAU CREEK,
RAGAMAC

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:
LATITUDE: 49 44 00 N
LONGITUDE: 117 22 46 W
ELEVATION: 1460 Metres
LOCATION ACCURACY: Within 500M

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5509051
EASTING: 472656

COMMENTS: The Kilo property, comprising the Kilo, Kilo 2, Violet, Wedge
and Pansy Crown granted claims, is centred 7 kilometres southeast of
Slocan City. It is accessible from the Chapleau Creek road, about
12.9 kilometres from the Slocan highway. See also 082FNW130,
132-136.

COMMODITIES: Gold Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I01 Au-quartz veins
DIMENSION: Metres
STRIKE/DIP: 105 Polymetallic veins Ag-Pb-Zn±Au
145/35N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite
Pegmatite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Kilo property, comprising the Kilo (Lot 9328), Kilo 2 (Lot 9330), Violet No. 3 (Lot 9329), Wedge Fr. (Lot 9331), and Pansy Crown Fr. (Lot 11732) granted claims, is centred 7 kilometres southeast of Slocan City. It is accessible from the Chapleau Creek road, about 12.9 kilometres from the Slocan highway. See also 082FNW130, 132-136.

The Kilo mine operated intermittently between 1897 and 1939. During the period 1900 through 1939 a total of 2,120 tonnes was produced yielding 29,640 grams of gold, 27,060 grams of silver, 48 kilograms of lead and 21 kilograms of zinc; there is no production recorded prior to 1900.

The property is underlain by coarse-grained, porphyritic Nelson granite cut by small pegmatite dikes. The underground workings consist of five levels and one sublevel, of which all but the highest and lowest levels are connected by raises; the highest level is connected to the surface by a raise. Portal to the No. 1 level is just above the road at 1460 metres elevation.

The vein strikes 135 to 155 degrees, dips 30 to 40 degrees northeast and ranges between 7 and 60 cm wide. Reportedly, the vein has been drifted on for 90 metres but is cut off by a fault near the face on No. 3 level. The vein is mainly quartz with pyrite and accessory galena and sphalerite.

Kilo Gold Mines Ltd. rehabilitated the Kilo adit in 1985. King Jack Resources Ltd. conducted the Chapleau Creek property between 1985 and 1987.

BIBLIOGRAPHY

EMPR AR 1897-535; 1898-1078; 1899-689; 1900-830; 1901-1027;
1903-139; 1904-168,204; 1905-163; 1910-247; 1912-150,323;
1913-126,420; 1932-25,160,179; 1933-207; 1934-A26; 1938-A35,E3,5;

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 528
REPORT: RGEN0100

BIBLIOGRAPHY

1939-40,79; 1940-168
EMPR ASS RPT 13170, *17367
EMPR BC METAL MM01256
EMPR BULL 7, p. 2
EMPR EXPL 1985-A37
EMPR INDEX 3-202
EMPR P 1989-5
EMPR PF (Santos, P.J. (1986): Consolidated Report on the Chapleau
Creek Property for King Jack Resources Ltd. in 082FNW135)
GSC MAP 1090A, 1091A
GSC MEM 308, p. 161
WWW http://www.infomine.com/index/properties/CHAPLEAU_CREEK.html

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW132**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOLLINGER**, GLADSTONE (L.12083), GLADIATOR (L.12088),
EAGLE (L.12090), MONTI (L.12091), BESSIE (L.19092),
BUENA VISTA (L.12089), CHAPLEAU CREEK, RAGAMAC

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:
LATITUDE: 49 43 42 N
LONGITUDE: 117 22 16 W
ELEVATION: 1620 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS: The Hollinger group of claims is located on the southeast side of Chapleau Creek, 8 kilometres southeast of Slocan City. Access is from the Lemon Creek road that connects to the Slocan highway. See also 082FNW130, 131, 133-136.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5508492

EASTING: 473254

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I01 Au-quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 168 x 1 Metres STRIKE/DIP: 180/15E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Hollinger group of claims is located on the southeast side of Chapleau Creek, 8 kilometres southeast of Slocan City. Access is from the Lemon Creek road that connects to the Slocan highway. See also 082FNW130, 131, 133-136.

The principal exposure on the property consists of a quartz vein striking 180 degrees dipping 15 degrees, with a width ranging from 0.3 to 1.2 metres. The quartz filling is strongly fractured and mineralized slightly with pyrite. The Nelson granite which hosts the vein, is badly decomposed in vicinity of the old workings. Development on this showing includes surface stripping at intervals over a length of 168 metres. Also, an adit has been driven on strike of the vein for 9 metres from a face at the southwest end of the stripping at 1620 metres elevation. A series of samples taken across the vein in the adit assay from nil to 5.5 grams per tonne gold and 6.9 grams per tonne silver.

In a southeasterly direction from these workings, and near the top of the hill, considerable amount of work was done previously. This development is scattered and shows several narrow but reportedly high grade veins in the granite. Some 180 metres southeast, a second adit has been driven southeastward for 10 metres on another vein. The vein has a width of 30 centimetres at the portal but pinches rapidly to 8 centimetres within the adit. The vein is flat lying and dips 10 to 15 degrees northwest and is down faulted repeatedly. Near the face of this adit an 8-centimetre sample of heavily oxidized vein material assayed 37 grams per tonne gold and 730 grams per tonne silver.

Another caved working, 68 metres further to the east, shows a 7- to 10-centimetre wide quartz vein in granite. It strikes due north and dips 10 to 15 east into the hill. A sample of honeycombed quartz from which much of the sulphide mineralization had been leached, assayed 32 grams per tonne gold and 390 grams per tonne silver.

King Jack Resources Ltd. conducted surveys on the Chapleau

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 530
REPORT: RGEN0100

CAPSULE GEOLOGY

Creek property between 1985 to 1987.

BIBLIOGRAPHY

EMPR AR *1938-E10
EMPR ASS RPT 17367, 19093
EMPR BULL 7, p. 2
EMPR OF 1988-11
EMPR P 1989-5
EMPR PF (Santos, P.J. (1986): Consolidated Report on the Chapleau
Creek Property for King Jack Resources Ltd. in 082FNW135)
GSC MAP 1090A
GSC MEM 308

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW133**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROSE (L.5979)**, LOUISE FR. (L.5980), CHAPLEAU CREEK,
RAGAMAC

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:

MINING DIVISION: Slocan

LATITUDE: 49 44 01 N
LONGITUDE: 117 22 13 W
ELEVATION: 1463 Metres

UTM ZONE: 11 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5509079
EASTING: 473317

COMMENTS: Centre of Reverted Crown grant Lot 5979, along Chapleau Creek, about
27 kilometres north of Nelson. See also 082FNW130-132, 134-136.

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: DUMP REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1938
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		6.8000	Grams per tonne
Gold		14.3000	Grams per tonne

COMMENTS: Assays range from 14.3 to 699.3 grams per tonne gold and 6.8 to 363.3 grams per tonne silver.

REFERENCE: Minister of Mines Annual Report 1938, page E8.

CAPSULE GEOLOGY

In 1938, the Rose Group consisted of the Rose (Lot 5979) and Louise Fraction (Lot 5980) mineral claims and owned by A.S. Johnson of Montreal, Quebec. The claims, on both sides of Chapleau Creek, adjoin the Kilo ground (082FNW131) on the east and southeast. No development on this ground is reported since 1899, and although there is evidence of that development, none is in condition for purposes of examination or is worthy of rehabilitation (Minister of Mines Annual Report 1938, page E8).

On Chapleau Creek, at an elevation of 1371 metres, there is a small pile of apparently selected vein material from irregular exposures of quartz vein in granite hostrock, evident in place in the creek bottom. The vein quartz is milky and massive, heavily fractured with healing of the fractures by later quartz. Sulphide mineralization is mainly medium to coarse grained pyrite and galena with probable sphalerite. Two grab samples taken from this ore pile assayed from 14.3 to 699.3 grams per tonne gold and 6.8 to 363.3 grams per tonne silver (Minister of Mines Annual Report 1938, page E8).

The granite host is inferred to be part of the Middle Jurassic Nelson intrusions.

King Jack Resources Ltd. conducted surveys on the Chapleau Creek property between 1985 to 1987.
See also 082FNW130-132, 134-136.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 532
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR *1938-E8
EMPR ASS RPT 10720, 13170, 17367
EMPR BULL 7, p. 2
EMPR P 1989-5
EMPR PF (Santos, P.J. (1986): Consolidated Report on the Chapleau
Creek Property for King Jack Resources Ltd. in 082FNW135)
GSC MAP 3-1956, 1090A
GSC OF 481; 1195

DATE CODED: 1985/07/24
DATE REVISED: 1997/04/23

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW134**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDSTREAM**, RITA (L.5978), BEARPAW,
LEGAL (L.5977), LOUISE FR. (L.5980), CHAPLEAU CREEK,
RAGAMAC

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:
LATITUDE: 49 44 24 N
LONGITUDE: 117 22 16 W
ELEVATION: 1680 Metres
LOCATION ACCURACY: Within 500M

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5509789
EASTING: 473260

COMMENTS: The Goldstream claim, held on location in 1938, is 7 kilometres east-southeast of Slocan City. Access to the claim is from the Chapleau Creek road, about 2.5 kilometres northeast of the Kilo mine (082FNW131). See also 082FNW130, 132, 133, 135, 136.

COMMODITIES: Gold Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 60 Metres
STRIKE/DIP: 075/20N
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Goldstream claim, held on location in 1938, is 7 kilometres east-southeast of Slocan City. Access to the claim is from the Chapleau Creek road, about 2.5 kilometres northeast of the Kilo mine (082FNW131). See also 082FNW130, 132, 133, 135, 136.

Initial exploratory work on the property, carried out in 1931 and 1932, consisted entirely of trenching and stripping the vein. In 1938 an adit drift was driven westward from the bank of a creek. The only ore produced at this time amounted to 36 tonnes containing 684 grams of gold and 715 grams of silver.

The country rock on the claim consists of porphyritic Nelson granite. The vein which strikes 075 degrees and dips 20 degrees north, ranges in width from 15 to 40 centimetres and has been followed underground for 15 metres and on surface for 60 metres. In many places the vein splits into two or three branches. The vein is composed of white quartz with pyrite cubes and some galena.

King Jack Resources Ltd. conducted surveys on the Chapleau Creek property between 1985 to 1987.

The Rita vein strikes 320 degrees and dips 11 degrees northeast. A 15-centimetre sample assayed 20.2 grams per tonne gold, 17.8 grams per tonne silver, 0.35 per cent lead and 0.1 per cent zinc (Santos, 1986).

BIBLIOGRAPHY

EMPR AR 1899-690; 1900-831; 1901-1028; 1902-151; 1903-139;
1904-168,297; 1932-179; 1938-E8,A37
EMPR ASS RPT 10720, 13170, 17367
EMPR BC METAL MM01210
EMPR BULL 7, p. 2
EMPR GEM 1970-447
EMPR INDEX 3-198
EMPR P 1989-5
EMPR PF (Santos, P.J. (1986): Consolidated Report on the Chapleau

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 534
REPORT: RGEN0100

BIBLIOGRAPHY

Creek Property for King Jack Resources Ltd. in 082FNW135)
GSC MAP 1090A, 1091A
GSC MEM 308, pp. 156,161

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW135**

NATIONAL MINERAL INVENTORY:

NAME(S): **KING JACK** TAIL HOLT (L.7358), TAILHOLT,
JACK, KING GEORGE, CHAPLEAU CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W 082F14W
BC MAP:
LATITUDE: 49 44 54 N
LONGITUDE: 117 21 46 W
ELEVATION: 1900 Metres

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5510713
EASTING: 473865

LOCATION ACCURACY: Within 500M

COMMENTS: The Tailholt property is in the head water area of Chapleau
Creek, 7.2 kilometres east southeast of Slocan City. Access is from
the Slocan highway via the Lemon Creek road. See also 082FNW130-134,
136.

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz Hematite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I01 Au-quartz veins
DIMENSION: Metres

STRIKE/DIP: 135/20N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: KING JACK

REPORT ON: Y

CATEGORY: Combined
QUANTITY: 37200 Tonnes

YEAR: 1989

COMMODITY	GRADE	
Gold	7.8500	Grams per tonne
Silver	79.9000	Grams per tonne

COMMENTS: Indicated and possible ore, King Jack Resources Ltd.
REFERENCE: Assessment Report 22085.

CAPSULE GEOLOGY

The Tail Holt property is in the head water area of Chapleau
Creek, 7.2 kilometres east southeast of Slocan City. Access is from
the Slocan highway via the Lemon Creek road. See also 082FNW130-134,
136.

The target of exploration in this area is a gold-bearing quartz
vein 0.3 to 0.9 metre thick, dipping 20 degrees (northeast?) into
the hill. Development work on this claim consists of a short adit,
crosscut and a decline for about 20 metres down the vein. Work on
this property was done mainly in the period 1898 to 1904.

About 100 metres south of the Tail Holt adit, the King Jack
adit was driven in 1922 by the King Jack Mining Company, on an
east-west trending, 30-degree north dipping vein for about 75 metres.
A 6.4-metre chip sample assayed 14.4 grams per tonne gold and 1214
grams per tonne silver (Annual Report 1922, page 204).

Albury Resources prospected on the claim in 1982. From 1985
to 1987, the King Jack claim was surveyed and drilled as part of the
Chapleau Creek property by King Jack Resources Ltd. The King Jack
adit was rehabilitated in 1985. Resources are reported as 99,800
tonnes grading 12 grams per tonne gold and 392 grams per tonne silver
(CMH 1989-90, page 259). Indicated and possible ore for the King
Jack vein are reported in 1989 as 37,200 tonnes grading 7.85 grams
per tonne gold and 79.9 grams per tonne silver (Assessment Report

CAPSULE GEOLOGY

22085). Total reserves for the Chapleau properties are reported as 505,200 tonnes grading 8 grams per tonne gold and 238 grams per tonne silver (CMH 1989-90, page 259). In July 1990, King Jack became International King Jack Resources Ltd., who became Petromin Resources Ltd. in April 1996.

BIBLIOGRAPHY

EMPR AR 1898-1078; 1900-831; 1901-1028; 1902-151; 1904-168,
*1922-203-204
EMPR ASS RPT 10805, *17367, 22085
EMPR BULL 7, p. 2
EMPR EXPL 1987-A21; 1988-C38
EMPR INF CIRC 1988-1, pp. 19, 58
EMPR P 1989-5
EMPR PF (Mackenzie, R.M. (1982): Note; *Santos, P.J. (1986):
Consolidated Report on the Chapleau Creek Property for King Jack
Resources Ltd.; Siems, P.L. (1989): Wallrock Alteration in Drill
Core from the King Jack Resources Ltd. Property
GSC MAP 1090A
GSC MEM 308
CMH 1988-89, p. 278; 1989-90, p. 259

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW136**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOWARD FRACTION (L.3578)**, KING JACK, BLEND,
TIGER FR., GLORIA, TEDDY,
FULL HOUSE, CHAPLEAU CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 45 14 N
LONGITUDE: 117 21 35 W
ELEVATION: 1981 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Adits, on a ridge above the headwaters of Tobin Creek, 500 metres south of the Meteor mine (082FNW137), 8 kilometres east of Slocan (Assessment Report 10804). See also 082FNW130-135.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5511330
EASTING: 474088

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Argentite Pyrite
ASSOCIATED: Quartz
ALTERATION: Hematite Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I01 Au-quartz veins
DIMENSION:
COMMENTS: Quartz vein.
STRIKE/DIP: 270/10N
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Nelson Intrusions

LITHOLOGY: K-Feldspar Porphyritic Granite
Porphyritic Dike
Aplitic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY
Silver 66.0000 Grams per tonne
Gold 1.9000 Grams per tonne
COMMENTS: Chip across vein, JL-108.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The area is dominated by granitic rocks of the Middle to Late Jurassic Nelson Intrusions.

At the Howard Fraction occurrence, a quartz vein striking east-west and dipping 10 to 30 degrees north is hosted in coarse-grained potassium feldspar porphyritic granite of the Nelson Intrusions. The granite is crosscut by numerous porphyritic and aplitic dykes which are spatially related to quartz veining. The main vein is from 30 to 55 centimetres wide and composed of honeycombed quartz mineralized with disseminated crystalline argentite and pyrite. Hematite and limonite oxidation products are also prevalent in the veining. At intervals along the dip of the vein, faulting has displaced it 0.9 to 2.4 metres.

A chip sample across the vein in 1987 assayed 66.0 grams per tonne silver and 1.9 grams per tonne gold (Open File 1988-11).

Past development consisted of three adits and an incline shaft. Small shipments of sorted ore were intermittently made, beginning in 1895 and ending in 1950, for a total of seven years. Production

CAPSULE GEOLOGY

totalled 162 tonnes, resulting in 166,184 grams of silver and 902 grams of gold.

Albury Resources Ltd. prospected on the claim in 1982. King Jack Resources Ltd. conducted surveys on the Chapleau Creek property between 1985 to 1987. See also 082FNW130-135.

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EMPR AR 1895-678; 1896-Bulletin 2, pp. 37,48,71,72; 1897-535; 1898-1078; 1900-831; 1901-1028; 1903-H139; 1904-G168; 1908-J100; 1909-K115; 1911-K290; *1919-N127; 1922-N203-N204; 1938-A37; 1939-A39, A78; 1940-A64; 1941-A27,A62,A63; 1950-A150
EMPR ASS RPT *10804, 17367
EMPR BC METAL MM01258
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-200
EMPR MAP 65 (1989)
EMPR OF 1988-11; 1990-18
EMPR P 1989-5
EMPR PF (Santos, P.J. (1986): Consolidated Report on the Chapleau Creek Property for King Jack Resources Ltd. in 082FNW135)
GSC ANN RPT 11
GSC BULL 129; 161
GSC MAP 3-1956
GSC MEM *184, p. 177; 308, p. 154
GSC OF 481; 1195
GSC P 84-1A
GSC SUM RPT 1916

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/04

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW137**

NATIONAL MINERAL INVENTORY: 082F14 Ag67

NAME(S): **METEOR (L.2893)**, METEOR MINE, OTTAWA NO. 5 (L.2892),
CULTUS (L.2891), DEADWOOD (L.3576), PAYDAY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 45 33 N
LONGITUDE: 117 21 19 W
ELEVATION: 2115 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5511915
EASTING: 474411

LOCATION ACCURACY: Within 500M

COMMENTS: The Meteor property, comprising the Meteor (Lot 2893), Ottawa No. 5 (Lot 2892) and Cultus (Lot 2891) claims and fractions, is situated at the head of Tobin Creek on the northwesterly slope of the divide between Lemon and Springer creeks, 8 kilometres east of Slocan. Access to the property from the Slocan highway is via the Lemon Creek and Chapeau Creek roads. Adits are shown on the ridge above the headwaters of Tobin Creek, 8 kilometres east of Slocan (Assessment Report 9607).

COMMODITIES: Silver Gold Zinc Lead Tungsten
Copper Molybdenum

MINERALS

SIGNIFICANT: Sphalerite Galena Tetrahedrite Stephanite Argentite
Silver Scheelite Chalcopyrite Molybdenite
ASSOCIATED: Quartz
ALTERATION: Sericite
ALTERATION TYPE: Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
I12 W veins
SHAPE: Bladed
MODIFIER: Faulted Fractured
DIMENSION: Metres STRIKE/DIP: 105/35N TREND/PLUNGE:
COMMENTS: Meteor vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic Nelson Intrusions

LITHOLOGY: K-Feldspar Porphyritic Granite
Biotite Diorite Dike
Pegmatitic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY

YEAR: 1987

COMMODITY	GRADE	
Silver	2300.0000	Grams per tonne
Gold	4.3000	Grams per tonne
Lead	0.1350	Per cent
Copper	0.0317	Per cent
Zinc	0.0830	Per cent

COMMENTS: Sample of dump material, JL-102.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Meteor property, comprising the Meteor (Lot 2893), Ottawa No. 5 (Lot 2892) and Cultus (Lot 2891) claims and fractions, is situated at the head of Tobin Creek on the northwesterly slope of the divide between Lemon and Springer creeks, 8 kilometres east of Slocan. Access to the property from the Slocan highway is via the

CAPSULE GEOLOGY

Lemon Creek and Chapleau Creek roads.

The Meteor (Lot 2893) Crown-granted claim was staked in 1895. J.A. Finch & associates optioned the property in 1896 and the initial production of ore, amounting to about 70 tonnes, was shipped in 1897, yielding 1182 grams of gold and 466,545 grams of silver. Since this time mining continued intermittently, until 1985, achieving greatest production of 1,715 tonnes of ore in 1964. Total production from the Meteor mine is 2,659 tonnes of ore yielding 4,724,994 grams of silver, 13,177 grams of gold and a small amount of lead and zinc.

Three claims, the Cultus, Ottawa No. 5, and Meteor (Lots 2891-2893 respectively) were Crown-granted to Finch & associates in 1899. The vein was apparently not found in the lower adit and work ceased in about 1900. Lessees carried out intermittent exploration and development during the period 1905 to 1917. J.C. Buchanan acquired the property in 1919 and began driving No. 6 level adit; he continued the project in 1922 and 1923. Lessees worked the property in 1928 and intermittently from 1932 to 1940. Some ore shipments were made under the name Meteor Mining Company, which may have been an American incorporation. In the early 1930's the owners of the property were reported to be E. Murphy and M.S. Mayfield. Development work to that date comprised 6 adits, of which the three lower ones totalled over 426.7 metres of drifts and crosscuts.

Cultus Explorations Ltd. was incorporated in May 1963 to acquire the above Crown-grants, and the Deadwood claim (Lot 3576). No. 6 level was rehabilitated for 244 metres and stoping and underground diamond drilling carried out. A 50 ton-per-day mill, installed near No. 6 adit, was put into operation in 1964. Drifting, crosscutting and raising during the year totalled 123.4 metres. The mine closed in November 1964. Lessees carried out some underground exploration work in 1967 and 1970.

The area is dominated by granitic rocks of the Middle to Late Jurassic Nelson Intrusions. Host rock at the Meteor occurrence is a medium-grained potassium feldspar porphyritic granite, commonly crosscut by dykes of biotite diorite and pegmatitic granite phases. The dykes range from 10 centimetres to 3 metres in width, strike north-northeast and north-northwest with moderate to steep dips. Contacts with the granite country rock are sharp and shearing is common along these zones.

Faults, shear zones and joints are oriented predominantly in north and north-northeast directions with generally near vertical dips. North trending faults and shears commonly display strike-slip displacements, while north-northeast trending structures commonly display dip-slip displacements.

The workings of the Meteor mine consist of six adits that intersect a 5 to 50-centimetre wide vein that strikes 105 degrees and dips 35 degrees north. Vein mineralization is associated with the sheared upper contact of a 3-metre wide dike and narrow off-shoot fissures. Quartz veining is localized mainly at the sheared dyke contact but also occurs as narrow (1-2 centimetre) veinlets adjacent to the main vein. These veinlets constitute stockwork mineralization in the dyke up to 1 metre from the main vein. The dyke rock is pervasively sericitized in the zones of quartz veining and contains up to 2 per cent disseminated crystalline pyrite. Both the dyke and the quartz veining are dislocated by a series of nearly parallel vertical post-mineralization faults. Displacement along the faults is of a dip-slip nature with the southeastern side of the faulting being downdropped.

The vein is largely quartz carrying some sphalerite, galena, tetrahedrite, stephanite, argentite and native silver. Pyrite and chalcopyrite are also present and associated with significant gold values. Scheelite was discovered in the Meteor vein on No. 2 level as a wedge-shaped body approximately 3.6 metres long and 10 centimetres thick at the base. A small amount was also found on No. 4 level. Scheelite also occurs in the No. 6 level adit as disseminated grains along a moderately well-developed fracture striking 320 degrees and dipping 80 degrees northeast in the granite country rock (Assessment Report 9607). Examination of material from the Meteor dump in 1980 revealed molybdenite occurring locally within quartz stockwork hosted by sericitic granite, but was not found in the workings.

A sample of dump material taken in 1987 assayed 2300 grams per tonne silver, 4.3 grams per tonne gold, 0.135 per cent lead, 0.0317 per cent copper and 0.083 per cent zinc (Open File 1988-11). Yukon Minerals Corporation worked the property in 1987.

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EMPR AR 1896-Bulletin 1, p. 72; 1897-535; 1899-845; 1902-H150; 1904-G168; 1905-J162; 1906-H146,H249; 1909-K115; 1910-K100; 1911-K154, K284; 1912-K150,K323; 1913-K126,K420; 1914-K289; 1915-K133; 1916-

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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PAGE: 541
REPORT: RGEN0100

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K199,K516; 1917-F190,F448; 1918-K171; 1919-N126,N127,N155; 1922-N203; 1923-A229; 1928-C297; 1932-A26,A160,A178; 1934-A26; 1935-A27,E32,G51; 1936-E49; 1938-A37; 1939-A40,A96; 1940-A26,A81; 1963-A50,79,80; 1964-A55,129,133; 1967-A55,249
EMPR ASS RPT *9607
EMPR BC METAL MM01305
EMPR BULL 10 (Revised), pp. 155,156
EMPR EXPL 1987-A21
EMPR FIELDWORK 1987, pp. 31-48
EMPR GEM 1970-447
EMPR INDEX 3-205; 4-123
EMPR INF CIRC 1988-1, p. 58
EMPR IR 1984-2, p. 102; 1986-1, p. 111
EMPR MAP 65 (1989)
EMPR MIN STATS 1985, p. 50
EMPR MINING 1975-1980, Vol. 1, pp. 32, 74
EMPR OF 1988-11; 1990-18; 1991-17
EMPR P 1989-5
EMPR PF (*Lakes, A. (1924): Report on the Meteor Mines)
EMR MP CORPFILE (Cultus Explorations Ltd.)
GSC ANN RPT 11
GSC BULL 129; 161
GSC MAP 3-1956, 1090A, 1091A
GSC MEM *184, pp. 179-180; 308
GSC OF 481; 1195
GSC P 84-1A
GSC SUM RPT 1916

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: Y

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 542
REPORT: RGEN0100

MINFILE NUMBER: **082FNW138**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELK (L.5503)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 45 54 N
LONGITUDE: 117 21 10 W

NORTHING: 5512563
EASTING: 474594

ELEVATION: 2120 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: The Elk claim is located on the crest of the ridge south of Speculator Creek, 8 kilometres east of Slocan City. Access is from the Slocan highway via the Springer Creek and Tobin Creek roads.

COMMODITIES: Silver

Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres

101 Au-quartz veins
STRIKE/DIP: 115/30S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP
Jurassic-Cretaceous

FORMATION

IGNEOUS/METAMORPHIC/OTHER
Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Elk claim is located on the crest of the ridge south of Speculator Creek, 8 kilometres east of Slocan City. Access is from the Slocan highway via the Springer Creek and Tobin Creek roads. The Elk claim (Lot 5503) was Crown granted in 1902. Development work consists mainly of several open cuts along the ridge and a short adit at 2200 metres elevation. The target of exploration is a narrow oxidized quartz vein hosted by a porphyritic feldspar phase of the Nelson granitic batholith. The vein strikes 115 degrees, dips 30 degrees southwest, and varies from 20 to 30 centimetre in width. The tunnel at 9 metres from the portal encountered a fault, and a 6-metre crosscut to the southwest picked up the continuation of the vein. Assay results on a composite sample of the ore, which is oxidized quartz with sparse pyrite, show 6.9 grams per tonne gold and 340 grams per tonne silver.

BIBLIOGRAPHY

EMPR AR 1902-298; 1928-297; 1932-178
EMPR P 1989-5
GSC MAP 1090A

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW138**

MINFILE NUMBER: **082FNW139**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALICE S. (L.12068)**, PATERSON (L.12069)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 24 N
LONGITUDE: 117 21 10 W
ELEVATION: 1830 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5513489
EASTING: 474599

LOCATION ACCURACY: Within 500M

COMMENTS: The Alice S (Lot 12068) and Paterson (Lot 12069) Crown granted claims are located towards the head of Bettina Creek, 8 kilometres east of Slocan City. Access to the property from the Slocan highway is via the Springer and Bettina Creek roads.

COMMODITIES: Silver Lead

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz Siderite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres

STRIKE/DIP: 095/70S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Alice S (Lot 12068) and Paterson (Lot 12069) Crown granted claims are located towards the head of Bettina Creek, 8 kilometres east of Slocan City. Access to the property from the Slocan highway is via the Springer and Bettina Creek roads.

The mine workings include four adits, a few small stopes, and one shallow shaft. These explore a quartz-carbonate vein in a fault zone to a depth of about 50 metres. The host rocks consist of coarse grained, porphyritic granite of the Nelson batholith.. The vein is well mineralized and strikes 095 degrees, dips 70 degrees south and varies in thickness from 0.6 to 1.5 metres. The chief vein minerals are quartz, siderite and some galena and sphalerite.

The only shipment on record was made in 1915 when 14.5 tonnes of ore yielded an average return of 2850 grams per tonne silver and 15 per cent lead.

BIBLIOGRAPHY

EMPR AR 1915-132,445; 1916-198; 1917-190,452
EMPR ASS RPT 10468
EMPR BC METAL MM01105
EMPR INDEX 3-187
EMPR P 1989-5
GSC MAP 272A, 1090A, 1091A
GSC MEM 184, p. 166; 308, p. 149

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW140**

NATIONAL MINERAL INVENTORY:

NAME(S): **SLOCAN PRINCE (L.582)**, BLACK PRINCE (L.584), TWO FRIENDS (L.1020),
 BANK OF ENGLAND (L.2214), MOONRAKER (L.8939), MONTREAL (L.3328),
 MOEN, EARLY

STATUS: Past Producer	Underground	MINING DIVISION: Slocan
REGIONS: British Columbia		
NTS MAP: 082F14W		UTM ZONE: 11 (NAD 83)
BC MAP:		
LATITUDE: 49 46 42 N		NORTHING: 5514038
LONGITUDE: 117 19 52 W		EASTING: 476161
ELEVATION: 1980 Metres		
LOCATION ACCURACY: Within 500M		

COMMENTS: The Slocan Prince property, comprising the Slocan Prince (Lot 582), Two Friends (Lot 1020), Black Prince (Lot 584), Bank of England (Lot 2214) and Moonraker (Lot 8939) Crown granted claims and fractions, is situated at the head of Crusader Creek, 10 kilometres east of Slocan. Access to the property from the Slocan highway is via the Lemon Creek and Crusader Creek roads.

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Galena	Sphalerite	Tetrahedrite	Pyrite	Silver
ASSOCIATED: Quartz	Calcite	Siderite		
MINERALIZATION AGE: Unknown				

DEPOSIT

CHARACTER: Vein	Stockwork	Disseminated
CLASSIFICATION: Epigenetic	Hydrothermal	Mesothermal
TYPE: I05 Polymetallic veins	Ag-Pb-Zn±Au	
SHAPE: Irregular		
MODIFIER: Faulted	Fractured	
DIMENSION: 450 x 2	Metres	STRIKE/DIP: 065/80N
COMMENTS: North lode; South lode is 120 by 6 metres, striking 020 to 030 and dipping 60 degrees northwest.		TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 165 - 169 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: K-Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Pre-mineralization
	GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1987
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	3100.0000 Grams per tonne
Gold	0.1100 Grams per tonne
Copper	0.1100 Per cent
Lead	0.8200 Per cent
Zinc	10.4000 Per cent
COMMENTS: Grab sample MA-302.	
REFERENCE: Open File 1988-11.	

CAPSULE GEOLOGY

The Slocan Prince property, comprising the Slocan Prince (Lot 582), Two Friends (Lot 1020), Black Prince (Lot 584), Bank of England (Lot 2214) and Moonraker (Lot 8939) Crown granted claims and fractions, is situated at the head of Crusader Creek, 10 kilometres east of Slocan. Access to the property from the Slocan highway is via the Lemon Creek and Crusader Creek roads.

This property was among the first staked in the Slocan City mining division and much work was done on it prior to 1900. The

CAPSULE GEOLOGY

first production recorded was in 1896 from the Two Friends claim and this consisted of 36 tonnes of ore averaging 10,000 grams per tonne silver and 50 per cent lead. The Slocan Prince and Black Prince had greater output, especially in the years 1901, 1905 and 1906 when ore shipments from these claims ranged to several hundred tonnes. Total ore production from the property up to 1970, amounts to 1906 tonnes containing 7,045,304 grams of silver, 128,781 kilograms of lead and 11,852 kilograms of zinc.

The property is underlain by coarse-grained, porphyritic phases of the Nelson batholith. Granite and monzonite are the most common rock but locally more basic phases of this intrusion are present. These granitic rocks are traversed by a few acid and basic dikes and many faults and shear zones, along which mineralization has occurred.

The workings comprise seven or more crosscut adits driven northerly to northwesterly and distributed from west to east across the claim group. The workings develop, principally, two fissure-vein systems referred to as the North and South lodes. The North lode outcrops on both the Bank of England and the Two Friends claims and has been traced for about 450 metres in an easterly direction, almost parallel with the north and south boundaries of these claims. The north lode is intercepted by two adits on the Bank of England claim and, farther east, by two or three adits on the Two Friends claim. The lode strikes 060 to 070 degrees and dips steeply northwest. In the Bank of England workings, the mineralization is about 0.5 metre wide, nearly continuous for about a hundred metres, and consists of quartz with some calcite carrying galena, sphalerite and probably high-grade silver minerals. The lode intersects and slightly displaces a small basic dike. The Two Friends adits are situated about 135 metres to the east of the Bank of England workings by the west boundary of the claim. These adits are crosscuts to the North lode that is 1 to 3 metres wide, containing a well defined galena-sphalerite rich ore body, varying in width from a narrow streak to 35 centimetres.

The South lode is exposed in the workings on the easterly claims of the group. A crosscut adit driven 130 metres on the Slocan Prince claim intercepts this lode which strikes 020 to 030 degrees and dips 60 degrees northwest. The lode, which is about 6 metres wide, has been drifted on for more than 120 metres. The ore occurs on both walls, but mainly along the footwall. A second adit on Black Prince ground is a crosscut for 39 metres, beyond which it follows the lode for about 120 metres. The lode is a strongly crushed zone as much as 10 metres wide. Abundant quartz partly cements and replaces the crushed rock and forms veins in places. Ore minerals occur both as disseminations and concentrations included in and associated with quartz, some siderite, and a little calcite. They comprise argentiferous galena, sphalerite, tetrahedrite, pyrite, some native silver and possibly other silver-rich minerals. No appreciable gold occurs in the ore.

In 1994, Pacific Golden Spike Resources Ltd. conducted drilling and sampling.

BIBLIOGRAPHY

- EMPR AR 1896-37,47,71; 1897-535; 1898-1076,1188; 1899-599,689;
1900-829; 1901-1027; 1902-150,302; 1903-138,241,243; 1904-166,203;
1905-162,250,253; 1906-146,248; 1911-154; 1912-150,323; 1913-127;
1914-289; 1915-132,445; 1916-198,516; 1917-190,448; 1918-171;
1919-127,155; 1920-146; 1921-142; 1922-203; 1928-297; 1929-285;
1951-39; 1961-A50; 1962-A50,84; 1970-A55
EMPR ASS RPT 18966, 23054
EMPR BC METAL MM01410
EMPR EXPL 1994-59
EMPR FIELDWORK 1987, pp. 31-48,535-541
EMPR GEM 1970-447
EMPR INDEX 3-189,214; 4-125
EMPR OF 1988-11
EMPR P 1989-5
EMPR PF (Map of Veins and Workings (circa 1920's); Taylor, D.P.
(1992): Geological Report on the Black Prince Group of Claims for
Pacific Golden Spike Resources Ltd.)
GSC MAP *272A; 1091A
GSC MEM *184, p. 187; 308, p. 149

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW141**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARMION (L.4975)**, MARYLAND (L.4976)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W 082F11W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 45 09 N
LONGITUDE: 117 18 05 W
ELEVATION: 1785 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5511157
EASTING: 478290

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Pyrrhotite Gold Silver
ASSOCIATED: Quartz Chlorite Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I01 Au-quartz veins
SHAPE: Tabular
MODIFIER: Faulted Fractured

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Nelson Intrusions

ISOTOPIC AGE: 165 - 169 Ma

DATING METHOD: Zircon
MATERIAL DATED: Zircon

LITHOLOGY: K-Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Pre-mineralization GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 104.0000 Grams per tonne
Gold 64.4000 Grams per tonne
Lead 0.2800 Per cent
Zinc 0.1800 Per cent

COMMENTS: Grab sample of vein material, DB-71.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

Narrow mineralized quartz vein 2.5 to 20 centimetres wide, in porphyritic granite of the Nelson Plutonic rocks contains gold, silver, lead, and zinc.

Gold and silver ores were produced for a short period (1938-1940 and 1973). A grab sample of vein material assayed 104 grams per tonne silver, 64.4 grams per tonne gold, 0.28 per cent lead and 0.18 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EMPR AR 1909-276; 1938-A37; 1939-40; 1941-27,63
EMPR BC METAL MM01294
EMPR BULL 7, p. 3
EMPR FIELDWORK 1987, pp. 31-48,535-541
EMPR GEM 1973-73
EMPR INDEX 3-205
EMPR OF 1988-11
EMPR P 1989-5

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 547
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 1091A

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/28

CODED BY: GSB
REVISED BY: DAB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW142**

NATIONAL MINERAL INVENTORY:

NAME(S): **B AND R (L.4026)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 47 18 N
LONGITUDE: 117 19 40 W
ELEVATION: 2050 Metres

NORTHING: 5515149
EASTING: 476406

LOCATION ACCURACY: Within 500M

COMMENTS: The B and R property is at the head of Arlington Basin, 10.5 kilometres east-northeast of Slocan. Access is from the Slocan highway via the Springer Creek road.

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
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>
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The B and R property is at the head of Arlington Basin, 10.5 kilometres east-northeast of Slocan. Access is from the Slocan highway via the Springer Creek road.

On this property quartz veins cut coarse grained, porphyritic Nelson granite. One of these veins has been explored by two adits. The lower adit, reportedly, intersects the vein at 46 metres from the portal and from there follows it for 120 metres, in which distance the vein averaged 0.6 metre in width and consisted of quartz carrying galena and sphalerite. In the upper adit the vein is 5 centimetres wide and lies between well-defined walls striking 065 degrees and dipping 45 degrees northwest. In this tunnel the vein has been drifted on for 30 metres and a small body of ore has been stoped out.

BIBLIOGRAPHY

EMPR P 1989-5
GSC MAP 272A
GSC MEM *184, p. 169

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 549
REPORT: RGEN0100

MINFILE NUMBER: **082FNW143**

NATIONAL MINERAL INVENTORY:

NAME(S): **HAMPTON (L.4027)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 47 24 N
LONGITUDE: 117 20 04 W
ELEVATION: 1675 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5515336
EASTING: 475927

LOCATION ACCURACY: Within 500M

COMMENTS: The Hampton property is located in the headwater area of Springer Creek, 10 kilometres east-northeast of Slocan. Access to the property is from the Slocan highway via the Springer Creek road.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Silver
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Hampton property is located at the elevation of about 1675 metres in the headwater area of Springer Creek, 10 kilometres east-northeast of Slocan. Access to the property is from the Slocan highway via the Springer Creek road.

Four main adits explore a mineralized shear zone in porphyritic Nelson granite. The shear zone has a northeasterly strike, dips steeply southeast and varies from 0.3 to a few metres wide. The zone contains streaks and lenses, up to 0.6 metre thick, composed of quartz and some calcite, galena, sphalerite and high grade silver minerals including native silver.

Intermittent production from 1900 to 1940 amounts to a total of 90 tonnes of ore grading 16,817 grams per tonne silver, 2 per cent lead and ancillary zinc.

BIBLIOGRAPHY

EMPR AR 1896-54; 1900-830; 1901-1027; 1902-150; 1903-139; 1904-296; 1905-162; 1906-249; 1911-154; 1921-142,170; 1922-203; 1940-26
EMPR BC METAL MM01219
EMPR INDEX 3-199
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM 184, p. 176

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW143**

MINFILE NUMBER: **082FNW144**

NATIONAL MINERAL INVENTORY:

NAME(S): **RIVERSIDE (L.8394)**, ALMEDA, AUTUMN,
LAILEY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 06 N
LONGITUDE: 117 18 10 W
ELEVATION: 2066 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5516623
EASTING: 478212

LOCATION ACCURACY: Within 500M

COMMENTS: The Riverside property, comprising the Riverside, Almeda, Autumn and Lailey fraction Crown Granted claims, is situated on the ridge between Enterprise Creek and Arlington basin, 12 kilometres northeast of Slocan. Access is by trail from the Arlington and Springer Creek roads.

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
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>
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Riverside property, comprising the Riverside, Almeda, Autumn and Lailey fraction Crown Granted claims, is situated on the ridge between Enterprise Creek and Arlington basin, 12 kilometres northeast of Slocan. Access is by trail from the Arlington and Springer Creek roads.

On this property three adits spaced about 60 metres vertically apart explore a quartz vein cutting coarse grained, porphyritic Nelson granite. The vein strikes northeast and dips steeply southeast. Underground work on the vein consists of about 120 metres of drifting which has exposed small pockets enriched with pyrite, sphalerite and galena associated with high silver values. A sample from a pile of 2 tonnes of ore extracted from the upper adit in 1919, assayed 3000 grams per tonne silver and 7.5 per cent zinc. In the period 1935 to 1937, production totalled 18 tonnes, yielding 27,619 grams of silver, 453 kilograms of lead and 419 kilograms of zinc.

BIBLIOGRAPHY

EMPR AR 1904-204; 1905-164; 1908-250; *1919-130; 1935-A27,E33;
1937-A38,E50
EMPR BC METAL MM01377
EMPR INDEX 3-211
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM 184, p. 185; 308, p. 149

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW145**

NATIONAL MINERAL INVENTORY: 082F14 Ag74

NAME(S): **WESTMONT (L.8929)**, EASTMONT (L.8924), ODDFELLOW (L.8926),
 WHITE CLOUD (L. 8925), LILY G. (L. 8930), YANKEE GIRL FR. (L.8935),
 CLIPPER (L.8928), EASTMONT FR. (L.8927), WHITE CLOUD FR. (L.8931)

STATUS: Past Producer	Underground	MINING DIVISION: Slocan
REGIONS: British Columbia		
NTS MAP: 082F14W		UTM ZONE: 11 (NAD 83)
BC MAP:		
LATITUDE: 49 49 42 N		NORTHING: 5519596
LONGITUDE: 117 19 40 W		EASTING: 476426
ELEVATION: 1375 Metres		
LOCATION ACCURACY: Within 500M		

COMMENTS: The Westmont property, comprising the Westmont (Lot 8929), Eastmont (Lot 8924), Oddfellow, White Cloud, Lily G., Yankee Girl and Clipper Crown granted claims and fractions, is situated on the north slope of the valley of Enterprise Creek, 12.5 kilometres northeast of Slocan. Access to the property is from the Slocan highway via the main Enterprise Creek road. The 0.8 kilometre of old road between the main road and the mine was reopened in 1958 and a 9-metre bridge was constructed over Westmont Creek.

COMMODITIES: Silver	Lead	Zinc	Gold	Cadmium
Copper				

MINERALS

SIGNIFICANT: Galena	Pyrite	Tetrahedrite	Silver	Ruby Silver
Pyrargyrite	Sphalerite			
ASSOCIATED: Quartz				
MINERALIZATION AGE: Unknown				

DEPOSIT

CHARACTER: Vein	Disseminated		
CLASSIFICATION: Epigenetic	Hydrothermal	Mesothermal	
TYPE: I05	Polymetallic veins	Ag-Pb-Zn±Au	
SHAPE: Tabular			
MODIFIER: Faulted	Fractured		
DIMENSION: 250 x 150 x 2	Metres	STRIKE/DIP: 060/75S	TREND/PLUNGE:
COMMENTS: 1 to 3 metres dimension; dips southeast.			

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

ISOTOPIC AGE: 165 - 169 Ma
 DATING METHOD: Zircon
 MATERIAL DATED: Zircon

LITHOLOGY: Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel	

INVENTORY

ORE ZONE: VEIN	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1987
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	2300.0000 Grams per tonne
Gold	0.9740 Grams per tonne
Copper	0.2470 Per cent
Lead	7.8000 Per cent
Zinc	12.9700 Per cent
COMMENTS: Sample JL-125.	
REFERENCE: Open File 1988-11.	

CAPSULE GEOLOGY

The Westmont property, comprising the Westmont (Lot 8929), Eastmont (Lot 8924), Oddfellow, White Cloud, Lily G., Yankee Girl and Clipper Crown granted claims and fractions, is situated on the north slope of the valley of Enterprise Creek, 12.5 kilometres northeast of Slocan. Access to the property is from the Slocan highway via the main Enterprise Creek road. The 0.8 kilometre of

CAPSULE GEOLOGY

old road between the main road and the mine was reopened in 1958 and a 9-metre bridge was constructed over Westmont Creek.

Development work on the Westmont property began in the 1890's, although production started 1907 until 1914. Subsequent mining, until 1971, mainly by lessees, was intermittent. The mine workings consist of at least four adits, located east of Westmont Creek, ranging in elevation from 150 to 400 metres above the main road along Enterprise Creek. In 1958, the No. 4 adit was retimbered from the entry to the intersection of the main vein, a distance of 60 metres. At this time caved ground was cleared west of the intersection, for about 300 metres, to provide sufficient access to the bottom of the old stope area to re-establish natural ventilation. East of the intersection, 30 metres of drifting was done on the main vein and about 400 tonnes of ore was removed from the stope above the drift. Production from the mine to 1980 totals 3211 tonnes of ore that yielded 11,084,830 grams of silver, 2058 grams of gold, 199,781 kilograms of lead, 65,920 kilograms zinc, 54 kilograms of copper and 68 kilograms of cadmium.

The property is underlain chiefly by coarse-grained, porphyritic Nelson monzonite. The granite is traversed by basic dikes along which some renewed faulting has occurred. Faulting follows two principal directions, one striking northeast and steeply dipping, the other striking northwest and dipping steeply northeast.

The main lode, as exposed in the lower No. 3 and No. 4 adits, is mostly a steeply dipping fault-fissure zone that strikes northeast, however, at about 120 metres from the portal of these two adits the lode swings to a more easterly strike and dips 70 degrees north. It varies up to 2.4 metres in width and averages 1.2 metres wide. The lode is composed of broken and crushed rock, partly cemented by quartz which also forms veins and lenses 0.5 metre or more thick. The quartz is banded and also shows some comb structure. It carries disseminations, pockets and streaks of galena, sphalerite, pyrite, tetrahedrite, ruby silver, and native silver, intimately associated with one another in varying proportions. The richest ore was found between No. 2 and No. 3 levels. In some places high silver is associated with galena but elsewhere combinations of tetrahedrite, sphalerite and native silver yield the best silver values.

A sample taken in 1989 assayed 2300 grams per tonne silver, 0.974 grams per tonne gold, 0.247 per cent copper, 7.8 per cent lead, and 12.97 per cent zinc (Open File 1988-11).

The showings were discovered in about 1895 by F. Griffith, who in subsequent years carried out development in open cuts and an exploration adit, however, no significant amount of mineralization was discovered until 1906. In 1907 the Westmont Silver Mining Company, Limited was incorporated in Ontario to develop the property. In 1909 the Eastmont, White Cloud, Oddfellow, Eastmont Fr., Clipper, Westmont, Lily G, White Cloud Fr., and Yankee Girl Fr. claims (Lots 8924-8931 & 8935 respectively), were Crown-granted to the company. The property was acquired by The Ellis Silver Mining Company, Limited, which was incorporated in Ontario in March 1909. Development work was carried out each year from 1907 until 1914 and included over 457 metres of crosscuts and drifts in adit Nos. 3, 4 and 5. H.D. Lea & associates held a lease on the property during 1918-19 and carried out stoping between 3 & 4 levels. Further work was reported in 1927 and 1929.

No further activity was reported until 1956 when the property was owned by J.A. Cullinane & associates, of Nelson, under the name Ellis Mining Syndicate. Lessors Myers and Thickett shipped ore from No. 4 dump to the Van Roi mill at Silverton. Further shipments from No. 4 dump in 1957 were under the name Chexdeco Mining Limited, which was incorporated in July of that year.

Silver King Mines Limited was incorporated in September 1958 to acquire an option on the property. No. 4 adit was reopened and some stoping carried out; the option was abandoned in the summer of 1959. Sterling Silver Mines Ltd. held an option on the property during 1963. A new crosscut adit was driven and some 152.4 metres of diamond drilling carried out.

The 9 Crown-granted claims were optioned in October 1967 by G. Bandeen and W. Wingert, who incorporated Eastmont Silver Mines Ltd. in March 1968. Development work and stoping between Nos. 4 and 5 levels continued into 1971.

Hoko Exploration Ltd. optioned the property from J.A. Cullinane in July 1978. In October a 50-50 joint exploration agreement was reached with Alto Exploration Ltd. The purchase was completed and the title transferred to Hoko. Work during 1979 included 217 metres of diamond drilling in 4 holes.

BIBLIOGRAPHY

EMPR AR 1896-73; 1903-139; 1904-204; 1905-163; 1906-147; 1907-101,
214; 1908-100,247; 1909-115,273,276; 1910-100,243; 1911-153,287;
1912-150,323; 1913-126,420; 1914-289,510; 1918-171,195; 1919-128,
155; 1927-281; 1929-285; 1956-A51,97; 1957-A47,56; 1958-A47,48;
1959-A49,70; 1963-78; 1968-A55,250; 1969-A56; 1971-A55;; 1975-A95
EMPR BC METAL MM01458
EMPR EXPL 1978-E63
EMPR FIELDWORK 1987, pp. 31-48
EMPR GEM 1969-326; 1971-410
EMPR INDEX 3-195,218; 4-126
EMPR IR 1984-2, p. 103
EMPR OF 1988-11; 1998-10
EMPR P 1989-5, pp. 25-26
EMPR PF (Starr, C.C. (1930): Notes on Mines on Springer and Ten-Mile
Creeks, in 082FNW152; *Lamb, J. (1968): Report on the Property of
Eastmont Silver Mines Ltd., 1971 Prospectus)
EMR MP CORPFILE (Sterling Silver Mines Ltd.; Eastmont Silver Mines
Ltd.; Hoko Exploration Ltd.; Alto Exploration Ltd.)
GSC MAP 272A; 1091A
GSC MEM 184, p. 189; 308, p. 149
GCNL Dec.8, 1978; #224, 1979; #14,#165, 1980; #59, 1981
N MINER Jan.4, 1979; Apr.9, 1981

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW146**

NATIONAL MINERAL INVENTORY:

NAME(S): **DALHOUSIE**, SILVER-JOE, GLAD TIDINGS,
SAYGER, IACCAMOCK, PEDRO,
EO, JJ

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 49 20 N
LONGITUDE: 117 21 20 W
ELEVATION: 2066 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS: The Dalhousie property is on the southern slope of the valley of Enterprise Creek, 11 kilometres northeast of Slocan. The claims are 600 to 750 metres above the Enterprise Creek road which is the main access to the area.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5518925

EASTING: 474425

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres
STRIKE/DIP: 070/45S
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Dalhousie property is on the southern slope of the valley of Enterprise Creek, 11 kilometres northeast of Slocan. The claims are 600 to 750 metres above the Enterprise Creek road which is the main access to the area.

The workings comprise two adits, 150 metres apart vertically. The upper adit was driven on a quartz-carbonate vein striking 070 degrees, dipping 45 degrees southeast, and 20 centimetres wide by the portal. The vein contains scattered sphalerite and galena and widens to 0.75 metre at a lead enriched section. The 180-metre long lower adit is reported to have been driven as a crosscut to intersect the same vein. The vein occurs within Nelson granite.

Casco Industries Ltd. operated the Pedro, EO, JJ, Read and Wayland claims in 1972.

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EMPR ASS RPT 4388
EMPR GEM 1973-75
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM 184, p. 172

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW147**

NATIONAL MINERAL INVENTORY: 082F14 Ag49

NAME(S): **NEEPAWA (L.1260)**, ROYAL, PEG LEG,
BOISEVAN (L.1261), EDITH (L.13031), MERVIN (L. 13030),
TRIO, ARGENTA, BAKER FR.,
PANCHO, PEDRO

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 49 18 N
LONGITUDE: 117 19 58 W
ELEVATION: 1430 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5518856
EASTING: 476063

LOCATION ACCURACY: Within 500M

COMMENTS: The Neepawa property comprises the Neepawa (Lot 1260),
Boisevan, Edith, Mervin and Trio claims on the lower southern slope
of Enterprise Creek valley, 11 kilometres northeast of Slocan.
Access to the property is from the Slocan highway via the Enterprise
and Neepawa Creek roads.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT:	Pyrite	Sphalerite	Galena	Tetrahedrite	Argentite
ASSOCIATED:	Quartz	Siderite			
ALTERATION TYPE:	Propylitic		Argillic	Silicific'n	
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Vein	Disseminated			
CLASSIFICATION:	Epigenetic	Mesothermal			
TYPE:	105 Polymetallic veins	Ag-Pb-Zn±Au			
DIMENSION:		Metres	STRIKE/DIP:	030/65E	TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT:	Omineca	PHYSIOGRAPHIC AREA:	Selkirk Mountains
TERRANE:	Plutonic Rocks		

CAPSULE GEOLOGY

The Neepawa property comprises the Neepawa (Lot 1260), Boisevan, Edith, Mervin and Trio claims on the lower southern slope of Enterprise Creek valley, 11 kilometres northeast of Slocan. Access to the property is from the Slocan highway via the Enterprise and Neepawa Creek roads.

The Neepawa claim was located in 1895. The following year the Neepawa group, consisting of the Neepawa, Argenta, Boisevan, and Baker Fr. claims, was acquired by Messrs. Shannon and McGillvary. The property was worked intermittently either by leasers or by the owners until 1913. In 1919 Delia Mines Ltd. of Vancouver acquired the Neepawa group of 5 claims, the Trio, Biosevan, Neepawa, Edith, and Mervin Fraction. The property was worked intermittently until 1928. The name "Neepawa" was changed to "Peg Leg" in about 1923. In 1928 the property was held under option by Glasord Mining Corp. Ltd.

Terley Mining, Milling and Smelting Co. acquired the Neepawa, Mabou and Ohio claims (082FNW149) in 1946. They built a road from the Enterprise road to a camp on the Ohio claim. A crosscut was driven 12 metres toward what is considered to be the extension of the Enterprise vein, which is exposed in an adit some 40 metres higher. The Company did some diamond drilling on the Svanhild claim, which apparently was acquired in 1948. A 96-metre hole drilled in the Neepawa claim in 1949 is reported to have intersected the vein but the results have not been reported.

In 1986, Trac Resources Inc. drilled 6 holes totalling 306.2 metres on the property.

Intermittent production from 1904 to 1925 amounted to 461 tonnes of ore that averaged 4100 grams per tonne silver and about 5 per cent lead. Developments comprised extensive surface and underground work that included more than 400 metres of drifting from four adits levels

CAPSULE GEOLOGY

between 1280 to 1460 metres elevation.

The property is underlain by coarse grained, porphyritic granite and granodiorite of the Nelson batholith, cut by a few small dark coloured dikes. The claims are crossed by two or more shear zones in a belt 0.8 kilometre wide extending through the Neepawa and Enterprise mines and beyond to the northeast and southwest. On the Neepawa, the two shear zones occur on the lower two levels, separated by about 24 metres of massive granite. Each zone averages a few metres in width and consists of crushed rock, impregnated with, and partly replaced by, vein minerals. The zone strikes about 030 degrees and dip southeasterly at about 65 degrees.

The chief vein mineral is quartz that cements crushed rock and forms lenses and veins of irregular dimensions. Some siderite also occurs together with slightly visible impregnations of sulphides, chiefly pyrite and sphalerite and more rarely galena. In No. 4 adit several centimetres of banded sphalerite, galena and gangue minerals are found over lengths of less than a metre. Early operations are reported to have encountered as much as 40 centimetres of solid fine grained galena and sphalerite with from 0.9 to 1.2 metres of ancillary ore grade alongside.

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EMPR ASS RPT *15299
EMPR BC METAL MM01326
EMPR EXPL 1986-C73
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-208
EMPR OF 1988-11
EMPR P 1989-5
EMPR PF (Starr, C.C. (1930): Notes on Mines on Springer and Ten-Mile Creeks, in 082FNW152)
GSC MAP 272A, 1091A
GSC MEM 173, pp. 85, 87, 88; 184, p. 180; 308, p. 148

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW148**

NATIONAL MINERAL INVENTORY: 082F14 Ag38

NAME(S): **ENTERPRISE (L.1014)**, SLOCAN QUEEN (L.1015), RAINBOW FR. (L.14543),
IRON HORSE NO. 2(L.5663), SUNSET FR. (L.14541), MILLSITE,
MONTEZUMA (L.5405), SUNRISE CROWN, ENTERPRISE FR. (L.4522),
SUNRISE FR. (L.14542)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 49 18 N
LONGITUDE: 117 19 34 W
ELEVATION: 1325 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5518854
EASTING: 476542

LOCATION ACCURACY: Within 500M

COMMENTS: The Enterprise mine on the south side of the valley near the
confluence of Enterprise and Neepawa creeks, 11 kilometres northeast
of Slocan. Access to the mine from the Slocan highway is via the
Enterprise Creek road.

COMMODITIES: Silver Lead Zinc Gold Cadmium
Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Tetrahedrite Pyrargyrite
ASSOCIATED: Quartz Siderite Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: 680 x 300 Metres STRIKE/DIP: 056/72S TREND/PLUNGE:
COMMENTS: Dips southeast.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic Nelson Intrusions

ISOTOPIC AGE: 165 - 169 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

LITHOLOGY: K-Feldspar Porphyritic Granite
Lamprophyre

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

CAPSULE GEOLOGY

The Enterprise mine is second only to the Ottawa mine in the quantity and total value of ore produced in the Slocan City mining camp. The property consists of the Enterprise (Lot 1014), Slocan Queen, Rainbow, Iron Horse, Sunset, Millsite, Montezuma and Sunrise Crown granted claims and fractions. The mine is on the south side of the valley near the confluence of Enterprise and Neepawa creeks, 11 kilometres northeast of Slocan. Access to the mine from the Slocan highway is via the Enterprise Creek road.

The main vein was discovered in 1894 and mined by Enterprise (B.C.) Mines Co. Ltd. until 1901 and then by lessees. In 1928 the property was purchased by Yankee Girl Consolidated Mines Ltd. which was obliged to close operations in 1930. From 1941 to 1943, the property was leased, during which time the mine tailings and dump were re-worked. In 1944 Western Exploration Co. Ltd. purchased the property and operated it until 1953. Subsequently, until 1977, there has been intermittent production from a number of mining and salvage operations. Production from the property began in 1896 and 11,067 tonnes of ore were mined by 1977 yielding 32,676,718 grams of silver, 1674 tonnes of lead, 1068 tonnes of zinc, 2041 grams of gold, 445 kilograms of cadmium and 149 kilograms of copper.

The Enterprise lode has been developed by nine adits, several intermediate levels and two shafts. One shaft was sunk on the lode about 15 metres above and 90 metres southwest of the uppermost adit,

CAPSULE GEOLOGY

and the other shaft from a point about 10 metres below and a short distance northeast of the lowest adit - the difference in elevation between the collar of the upper shaft and the bottom of the lower shaft being about 335 metres.

The rock underlying the property is a light coloured, coarse-grained porphyritic granite of the Nelson batholith. More basic phases of the batholith, found locally in the mine workings, form irregular bodies of varying size that appear to be either digested inclusions or differentiates of the granitic magma. The Nelson rocks are intruded by a few small, hornblende porphyry and olivine-pyroxene lamprophyre dikes. Some of these dikes cut across the Enterprise lode whereas others are pre-mineral and disrupted by the same faults that cut the vein.

The main vein, averaging less than 0.3 metre wide, is continuous for more than 600 metres, striking 050 degrees, dipping 60 to 85 degrees southeast. On the upper levels of the mine, the vein is filled with varying proportions of quartz and ore minerals, especially galena and tetrahedrite. On the lower levels, siderite and other carbonate gangue minerals are more abundant than quartz and sphalerite is the predominant ore mineral. Most of the silver is believed to be contained in tetrahedrite and ruby silver.

The vein is interrupted by a major fault, or fault zone, and several minor faults and slips. The major fault intercepts the vein nearly at right angles about midway between the two shafts. The zone of faulting is 6 to 9 metres wide, strikes 160 degrees and dips 90 to 75 degrees northeast. The apparent displacement of the vein is about 30 metres to the left.

Aside from the extensive developments on the main Enterprise lode, some work has been done on a second lode outcropping 115 metres to the west. In 1927, it had been drifted on for about 45 metres. It is a wide shear zone composed mostly of crushed granitic rock partly cemented by quartz gangue with some calcite. It strikes 040 degrees and dips 70 southeast. In character and width, this lode bears some resemblance to a vein at the Arlington mine (082FNW152) which may be on part of a continuous structure. It seems that both lodes at the Enterprise mine and those on adjoining properties are within a single, wide zone of fissuring, shearing and brecciation, and that to the southwest this zone passes through the Arlington, Speculator (082FNW151) and intervening properties.

The showings were discovered and staked by R. Kirkwood of New Denver and J. McKinnon of Revelstoke in 1894. The property was optioned to J.A. Finch in 1895 and development work was carried out in several adits. The Enterprise (Lot 1014) and Slocan Queen (Lot 1015) were Crown-granted to J.A. Finch in 1897. Additional claims were subsequently Crown-granted, including the Enterprise Fr. (Lot 4522), Montezuma (Lot 5405), Iron Horse No. 2 (Lot 5663), and Sunset, Sunrise and Rainbow Fractions (Lots 14541-14543).

The London and British Columbia Goldfields, Limited acquired the property and incorporated The Enterprise (British Columbia) Mines, Limited as operator in about 1899. A 50 ton-per-day gravity mill was installed, and apparently operated for a period in 1902 with unsatisfactory results. The company ceased operations and lessees worked the property intermittently from 1903 into 1918. Further work was carried out from 1924 until 1927 by Messrs. Pilcher, McGuire, and Wragge under an option agreement.

The property was acquired by Stobie, Forlong & Company, of Toronto, who incorporated Enterprise Consolidated Mining Company, Limited in February 1928; the company name was changed in September 1928 to Yankee Girl Consolidated Mines, Limited. Development work, mainly on No. 7 level, continued until June 1929 when a fire destroyed equipment housed in the old mill building and operations ceased. No further activity was reported until 1941 when S.N. Ross leased the property and installed a small flotation mill to treat dump material on a seasonal basis.

Western Exploration Company, Limited purchased the property in 1944 and disposed of the mill. Development work during 1945 to 1950 was carried out mainly between Nos. 5 and 8 levels. The No. 9 level was driven from the Iron Horse shaft in 1951-52. The company ceased operations in November 1952. At that time the workings comprised an estimated 3658 metres of drifts, crosscuts, raises and two shafts about 670 metres apart horizontally. Eight adits and several intermediate levels were driven. The lowest level (No. 9) was driven from the 18.2 metre level of the Iron Horse shaft, which was sunk on an incline to a depth of 96 metres. The mine was reopened in 1967 by J. Gates, and R.J. Forgie, who purchased the property from Western Exploration. In May 1968 Enterprise Silver Mines Ltd. was incorporated to operate the mine; some ore was shipped during the year. Lessees worked the property during 1971-77. The property was held by Enterprise Resources Inc. in 1981. Arctex Engineering Ltd.

CAPSULE GEOLOGY

carried out exploration since 1983; diamond drilling was done in 1986 and 1987.

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1898-1075,1078,1161; 1899-689,690; 1900-830; 1901-1027; 1902-
300; 1903-139; 1904-168,171; 1905-163; 1909-272; 1910-243;
1911-154,284; 1912-323; 1914-289,510; 1915-133,445; 1916-199,516;
1917-190,448; 1918-171; 1924-200; 1925-246,248; 1926-288;
1927-277; 1928-295,327; 1929-317,349; 1930-251; 1941-27,75;
1942-27,73; 1943-73; 1944-71; 1945-106,107; 1946-153,167; 1947-
171; 1948-146; 1949-191; 1950-148; 1951-43,175; 1952-44,178,180;
1953-46,141; 1954-51,141; 1955-A49,63; 1956-A51,96,98; 1957-34,54,
56; 1958-47; 1959-69; 1962-A50,82,83; 1964-126; 1968-250; 1969-A55;
1971-A55; 1972-A54; 1973-A55; 1974-121; 1975-A95; 1976-A104;
1977-116
EMPR ASS RPT *7712, 8513, 8953, *14962
EMPR BC METAL MM01184
EMPR BULL 29, p. 122
EMPR EXPL 1979-70; 1986-C71; 1989-5,11
EMPR FIELDWORK 1987, pp. 31-48, 535-541
EMPR GEM 1969-325; 1971-410; 1972-57; 1973-75; 1974-24
EMPR INDEX 3-195; 4-121
EMPR MINING 1975-1980, Vol. 1, pp. 32, 56, 60, 64
EMPR OF 1988-11; 1998-10
EMPR P 1989-5, pp. 11,25
EMPR PF (*Starr, C.C. (1944): Report on the Enterprise Mine; *Lakes,
Arthur (1924): Sketch Plan of the Enterprise Mine; Tully, D.W.
(1985): Report on Enterprise Group for Enterprise Resources Inc.;
Starr, C.C. (1930): Notes on Mines on Springer and Ten-Mile Creeks,
in 082FNW152); Western Exploration Company, Limited (1947-1959):
19 reports and correspondence on Enterprise Mine, in 082FNW060)
EMR MINES BR OTTAWA RPT 12(1906), p. 225; IR 670(1925), pp. 23-28
(No.223)
EMR MP CORPFILE (Yankee Girl Consolidated Mines, Limited; Western
Exploration Company, Limited)
EMR MRD RES- FILE 167-Z1-2-13
GSC MAP 272A; 1091A
GSC MEM *184, p. 172; 308, pp. 133,142

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW149**

NATIONAL MINERAL INVENTORY: 082F14 Ag50

NAME(S): **MABOU (L.8399)**, OHIO (L.8769), EMPRESS FR. (L.8400),
SUMMIT CROWN, SVANHILD, RIVERSIDE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 54 N
LONGITUDE: 117 20 25 W
ELEVATION: 1800 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5518117
EASTING: 475520

LOCATION ACCURACY: Within 500M

COMMENTS: The Mabou property comprises the Mabou (Lot 8399), Ohio (Lot 8769), Empress (Lot 8400) and Summit Crown granted claims and fractions on the south slope of the valley of Enterprise Creek, 10.5 kilometres northeast of Slocan. Access to the property is from the Slocan highway via the Enterprise and Neepawa Creek roads. This property is the southwest extension of Neepawa (082FNW147) and Enterprise (082FNW148).

COMMODITIES: Silver Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Galena Tetrahedrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
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>
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Mabou property comprises the Mabou (Lot 8399), Ohio (Lot 8769), Empress and Summit Crown granted claims and fractions on the south slope of the valley of Enterprise Creek, 10.5 kilometres northeast of Slocan. Access to the property is from the Slocan highway via the Enterprise and Neepawa Creek roads.

The Mabou property has been explored by several short adits and many open cuts on what is believed to be the southwestern extension of the Neepawa - Enterprise (082FNW147,148) vein-shear system hosted by porphyritic granite of the Nelson batholith. The largest development is a 25-metre drift from the uppermost adit. This explores the Enterprise vein which strikes 055 degrees and dips 70 to 80 degrees southeast. The ore consists of fairly coarse grained galena mixed with varying quantities of sphalerite. Assay results on a grab sample of the cleanest looking ore yielded trace of gold, 9100 grams per tonne silver, 18.5 per cent lead and 17 per cent zinc.

The Ohio claim was owned and worked by Messrs. Kirkwood & Wells in 1898. They apparently acquired the Mabou claim in about 1902 and development work was carried out intermittently on both claims through 1904. The Mabou and Riverside claims were owned and worked by Mr. R. Kirkwood in 1905.

The property lay idle until 1919 when Mr. Kirkwood and associates acquired the Mabou, Ohio, Empress Fr. and Summit Fr. claims and resumed development work. The workings at this time consisted of 3 adits, 23, 15 and 4.5 metres.

In 1946 the Mabou, Ohio and Neepawa claims were acquired by the Terley Mining, Milling and Smelting Co. Six adits on the Mabou and Ohio claims were cleaned out but apparently very little development work was done at this time.

BIBLIOGRAPHY

EMPR AR 1898-1078; 1900-830; 1902-150; 1903-139; 1904-204; 1905-

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 561
REPORT: RGEN0100

BIBLIOGRAPHY

163; 1908-250; 1919-130; 1946-167; 1947-A38,172; 1948-147; 1949-191
EMPR BC METAL MM01285
EMPR INDEX 3-204
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM 184, p. 179; 308, p. 148

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

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW150**

NATIONAL MINERAL INVENTORY: 082F14 Ag70

NAME(S): **BONDHOLDER (L.1257), PINE LOG, LITTLE TIM, GRAPHIC, ROSEBUD, LONE STAR**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 42 N
LONGITUDE: 117 21 28 W
ELEVATION: 2213 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5517753
EASTING: 474259

LOCATION ACCURACY: Within 500M

COMMENTS: The property consists of the Bondholder (Lot 1257) and Pine Log Crown granted claims, located on the ridge above the Bondholder basin, 9.5 kilometres northeast of Slocan. The property may be reached by the Little Tim mine road via the Springer Creek or Ottawa Mountain roads. See Little Tim (082FNW157).

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Silver Tetrahedrite
ASSOCIATED: Quartz Calcite Siderite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres STRIKE/DIP: 065/58S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The property consists of the Bondholder (Lot 1257) and Pine Log Crown granted claims, located on the ridge above the Bondholder basin, 9.5 kilometres northeast of Slocan. The property may be reached by the Little Tim mine road via the Springer Creek or Ottawa Mountain roads. The claims lie on the northeast side and the Little Tim (Graphic & Rosebud) (082FNW157) claims lie on the southwest side of the divide. Most of the workings are on the Little Tim claims at the head of Little Tim Creek.

The claims were located in 1894. The Bondholder, Pine Log, Lone Star, and Rosebud claims were under bond to the Bondholder Mining Co. of Vancouver in 1896 and development work was carried out on the east side of the divide. The Lone Star claim was Crown-granted to J.W. Swords in 1897; the Bondholder and Pine Log claims were Crown-granted to A.M. Johnson in 1899. The Bondholder was worked under lease until 1904. The Graphic and Rosebud claims were worked by the Graphic and Rosebud Mining Co. during 1905-1906. No further work was done on any of the claims for a number of years and the Crown-grants were cancelled.

In 1917 the Bondholder and Pine Log claims were Crown-granted to Ainslie and Bartlett. The following year the Little Tim group, consisting of the Little Tim, Mammoth, White Heather, and Purple Heather claims, was staked by D.B. O'Neill who worked the veins intermittently until 1947. The claims subsequently lapsed and the Victory V, V-day, Ute fraction, Radar No. 1, and Radar No. 2 claims were staked on the veins. In 1951 and 1952 the property was held under option by Harrison Drilling and Exploration Company Limited. Most of the work by the company was done on the V-day and Victory V claims, corresponding to the cancelled Graphic and Rosebud claims, respectively. The workings include three adits and a winze, giving a total depth of the mine of about 50 metres. These workings develop two nearly parallel veins about 90 metres apart, hosted by coarse grained, porphyritic Nelson granite. The veins strike 065 degrees, dip 58 degrees southeast, range from 0.3 to 1.2 metres wide and are

CAPSULE GEOLOGY

composed chiefly of quartz with paystreaks of galena or mixed galena and sphalerite with high-grade silver minerals. The galena varies from coarse to fine cubes and the sphalerite is resinous. The silver minerals are grey copper and a little native silver. The ore minerals are accompanied by some chalcedonic quartz and calcite.

During the years 1900 to 1904 inclusive, 65 tonnes of ore were shipped from this property. This averaged about 3400 grams per tonne silver and some lead.

The veins have been traced southwesterly over the divide onto the Graphic and Rosebud claims of the Little Tim mine (082FNW157).

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EMPR AR 1896-37,70; 1899-842; 1900-830; 1901-1027; 1902-150; 1903-139; 1917-452; 1918-195; 1919-126; 1921-142; 1922-203; 1923-229; 1924-201; 1925-246,248; 1926-288; 1928-297; 1935-A27,E33; 1941-45,75; 1947-173; 1951-177; 1952-43,180
EMPR BC METAL MM01137
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-190
EMPR OF 1988-11
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM *184, p. 169-170; 308, pp. 133, 148

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW151**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPECULATOR (L.2360)**, MINERAL MOUNTAIN (L.2362), EDA FR. (L.2363),
NANCY (L.5259), ARLINGTON, GAM

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 00 N
LONGITUDE: 117 21 16 W
ELEVATION: 1983 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5516454
EASTING: 474493

LOCATION ACCURACY: Within 500M

COMMENTS: The Speculator property, consisting of the Speculator (Lot 2360), Mineral Mountain (Lot 2362), Eda Fr. (Lot 2363) and Nancy (Lot 5259) Crown granted claims and fractions, is located 8.5 kilometres east-northeast of Slocan. Access from the Slocan highway is via the Springer and Speculator creek roads. See also Arlington (082FNW152).

COMMODITIES: Lead Silver Zinc Gold Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Stephanite Tetrahedrite Silver
ASSOCIATED: Quartz Barite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres STRIKE/DIP: 034/65E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Hornblende Granite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 119.0000 Grams per tonne
Lead 1.5500 Per cent
Zinc 0.4600 Per cent

COMMENTS: Vein sample, JL-102.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Speculator property, consisting of the Speculator (Lot 2360), Mineral Mountain (Lot 2362), Eda Fr. (Lot 2363) and Nancy (Lot 5259) Crown granted claims and fractions, is located 8.5 kilometres east-northeast of Slocan. Access from the Slocan highway is via the Springer and Speculator creek roads.

The workings consist of three adits that explore the northeast extension of the Arlington mine zone (082FNW152), which on the Speculator is crushed hornblende granite or granodiorite about 50 metres wide, within which mineralization occurs chiefly in a series of parallel fissures striking 034 degrees and dipping 65 to 70 southeast.

The ore is largely replacement of the crushed Nelson granite. The chief ore minerals are galena and lesser sphalerite, associated with disseminated stephanite, grey copper and native silver. The recorded shipments of ore in 1901, 1941 and 1951, totalled 26 tonnes that yielded 25,661 grams of silver, 5947 kilograms of lead and 413 kilograms of zinc.

A sample taken in 1987 assayed 119 grams per tonne silver, 1.55 per cent lead and 0.46 per cent zinc (Open File 1988-11). Another

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CAPSULE GEOLOGY

sample returned 4.3 grams per tonne gold, 2300 grams per tonne silver, 0.03 per cent copper, 0.135 per cent lead and 0.08 per cent zinc (Open File 1988-11).

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EMPR BC METAL MM01415
EMPR EXPL 1987-C62
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-214
EMPR OF 1988-11
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM 184, p. 185; 308, pp. 119, 132

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

and Stephanite Crown granted claims and fractions situated on the north slope of the valley, near the confluence of Speculator and Springer creeks, 8 kilometres east-northeast of Slocan. Access to the property from the Slocan highway is via the Springer Creek road.

The mine was developed by eight adits over a vertical range of about 200 metres. In the early years, the bulk of the ore was taken from the fifth to seventh levels and from the original discovery at surface near the shaft. In the latter years, underground work was confined to the lowest two levels.

Production between 1897 and 1979 totalled 20,592 tonnes, yielding 31,429,872 grams of silver, 861,487 kilograms of lead, 118,863 kilograms of zinc, 743 grams of gold, 834 kilograms of copper and 46 kilograms of cadmium. In 1962, 576 tonnes was used as a silica flux.

The Arlington lode is a mineralized crushed zone, about 20 metres wide, in coarse-grained hornblende granite or granodiorite of the Nelson batholith; the zone contains basic monzonite inclusions. The zone includes a number of parallel fissures and maintains a uniform strike of 040 degrees, dipping 60 to 70 degrees southeast. The sear zone is chloritic to talcose altered.

The ore is largely replacement of the country rock, occurring as scattered breccia lenses on continuous fractures. The chief ore minerals are galena and sphalerite, with associated disseminated pyrite, chalcopyrite, stephanite, tetrahedrite and native silver. A sample of the dump taken in 1987 assayed 1280 grams per tonne silver, 0.03 grams per tonne gold, 0.0215 per cent copper, 5.7 per cent lead and 11.47 per cent zinc (Open File 1988-11).

The Arlington mine was worked extensively from 1899 through 1903, then intermittently until 1979. In 1969 and 1970, Arlington Silver Mines Ltd. stopped and shipped ore, which was mainly salvages from the old workings; they also explored, by diamond drilling, what appears to be the northern extension of the vein system.

The property was staked in about 1894 and comprises the Stephanite fraction, Burlington No. 2, Arlington No. 1 fraction, and Arlington No. 2 Crown-granted claims.

The first shipment of ore was made in 1897. The property was worked extensively from 1899 to 1903, production reaching a maximum in 1901. During this period the property was developed by three tunnels over a vertical range of 46 metres. Most of the stoping was done in the upper 15 metres. In 1919 the property was owned by the Rithet Estate and leasers began shipping ore from the dump.

During 1928 the Bayview Mining Co. held an option on the property and began driving a 4th level, the direction of the tunnel being determined by a Radiore survey. In 1937 the Slocan-Arlington Mines Development Co. of Penticton made a shipment of ore from the dump. Leasers shipped from the dump in 1939 and 1948. In 1951 the Ottawa Silver Mining & Milling Co. made a small shipment from the dump.

Amaque Gold Mines Ltd. obtained an option on the property in 1961 from B.I. Nesbitt of Vancouver. The old "A" level was rehabilitated by stripping the first 24 metres, which was caved, and retimbering 73 metres of drift. The level was reopened for a length of 213 metres. The portal of "D" level was opened up and some surface stripping was done. On "A" level eight diamond drill holes were completed, with a total length of 182.8 metres. The holes were drilled along the drift at intervals to explore the shear from footwall to hanging wall. In 1962 B.I. Nesbitt made a shipment of ore from the dump.

Arlington Silver Mines purchased 16 claims including the Arlington mine in 1964. The road and two adits were reopened. In 1969, Arlington became Western Arlington Resources Ltd. and in 1986 changed its name to Lightning Creek Mines Ltd. In 1981, Svienson Way Mineral Services Ltd. purchased 50 per cent interest in the property. From previous work there were blocked out 43,114 tonnes of proven surface dump ore at 487.8 grams per tonne silver, 0.49 per cent lead and 0.39 per cent zinc; 17,470 tonnes of indicated underground at 699.4 grams per tonne silver, 1.04 per cent lead and 0.85 per cent zinc (Vancouver Stock Exchange Statement of Material Facts (#108/90, 1990). In 1988, Lightning Creek Mines Ltd. listed proven, probable and indicated resources at 62,252 tonnes averaging 396 grams per tonne silver and 0.54 per cent zinc (CMH 1988-89, page 290). During 1989 and 1990, Cazador Explorations limited purchased the property. Cazador amalgamated in 1993 to become Granduc Mining Corporation, which amalgamated in 1996 with Black Hawk Mining Inc.

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1948-148; 1951-178; 1961-79; 1962-A49; 1963-A50,79; 1964-A55,129;
1965-196; 1966-219; 1967-250; 1968-A54,249; 1969-A55, 1970-A55;
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EMPR ASS RPT *10172, 15053, 16218, 20384
EMPR BC METAL MM01115
EMPR FIELDWORK 1987, pp. 31-48
EMPR GEM 1969-324; 1970-448; 1971-410
EMPR INDEX 3-188; 4-119
EMPR MINING 1975-1980, Vol. 1, pp. 33, 56, 60, 67, 71
EMPR OF 1988-11; 1998-10
EMPR P 1989-5
EMPR PF (Starr, C.C. (1930): Notes on Mines on Springer and Ten-Mile
Creeks; Cross Section, 1"=100'; Dujardin, R.A. (1970): Progress
Report)
EMR MP CORPFILE (Arlington Mining Co.; Lightning Creek Mines Ltd.;
Cazador Explorations Ltd.)
GSC MAP 272A; 1091A
GSC MEM 184, p. 168; 308, p. 149
CMH 1988-89, p. 289-290
GCNL Dec.29, 1986
V STOCKWATCH Apr.13, 1987
N MINER May 21, 1964; Apr.27, 1992

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW153**

NATIONAL MINERAL INVENTORY:

NAME(S): **LILY B**, RAINBOW, PORTLAND,
LILLY B

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 51 N
LONGITUDE: 117 21 39 W
ELEVATION: 1600 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5514326
EASTING: 474023

LOCATION ACCURACY: Within 500M

COMMENTS: The Lily B claim is located on the south slope of the valley of Springer Creek, 7.5 kilometres east-northeast of Slocan. Access is via the Springer Creek and Bettina Creek roads from the Slocan highway.

COMMODITIES: Silver Lead Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres

STRIKE/DIP: 090/55S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Lily B claim is located at about 1600 metres elevation on the south slope of the valley of Springer Creek, 7.5 kilometres east-northeast of Slocan. Access is via the Springer Creek and Bettina Creek roads from the Slocan highway.

The workings, consisting of a shaft and adit, explore a fault fissure lode cutting coarse grained Nelson granite, on a strike that varies from 075 to 105 degrees, dipping 55 degrees south. The mineralized zone consists of crushed country rock and gouge, up to 1.5 metres wide, containing small lenses of ore, up to 1 metre wide. The ore consists of galena and sphalerite accompanied by a small amount of pyrite and chalcopyrite in a quartz gangue. Some native silver occurs along the fissure planes in the ore.

Shipments of ore from this mine were intermittent beginning in 1913. Altogether up to and including 1922, this mine has produced 41 tonnes of ore yielding an average of 2748 grams per tonne silver and 5.6 per cent lead.

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1918-171; 1921-170; 1922-204
EMPR BC METAL MM01271
EMPR INDEX 3-203
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM 184, p. 178; 308, p. 149

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FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

along the east shear zone for about 73 metres, at which point a crosscut 15 metres long runs to the west shear where this zone has been drifted on northerly. At about 55 metres along this drift a winze was sunk intercepting a 7-centimetre paystreak carrying tetrahedrite and native silver. Subsequently, numerous ore shoots have been encountered along the west shear zone and much stoping has been done above the level south of the winze. The ore shoots tend to cut across the shear zone from wall to wall in a northeasterly direction and en echelon style, averaging 15 metres in length, and up to 0.6 metre in width. The principal ore minerals are native silver, stephanite, tetrahedrite, some galena and sphalerite, and locally considerable chalcopyrite. Quartz is the abundant gangue mineral and occurs with some barite.

The initial shipment of ore from this mine was about 4 tonnes in 1912. Production was intermittent until 1928 then again between 1960 and 1964, when the total ore shipped amounted to 177 tonnes, averaging 5153 grams per tonne silver plus ancillary amounts of copper, lead and zinc. In 1962, 45 tonnes was used as a silica flux.

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- EMPR BC METAL MM01111
- EMPR FIELDWORK 1987, pp. 31-48
- EMPR GEM 1973-74
- EMPR INDEX 3-188, 4-119
- EMPR OF 1988-11
- EMPR P 1989-5
- EMPR PF (Plan of the Anna Mine (1925); *Lorimer, M.K. (1967): Report on the Anna Mine for Silver Benn Mines Ltd; Lorimer, M.K. (1969): Report on the Anna Mine for Silver Benn Mines Ltd.; Starr, C.C. (1930): Notes on Mines on Springer and Ten-Mile creeks, in 082FNW152)
- GSC MAP 272A, 1090A, 1091A
- GSC MEM 184, p. 167; 308, pp. 133, 148

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

following year Harrison Drilling and Exploration Co. Ltd. of Vancouver held operating control under an agreement with Violamac Mines. Harrison Drilling and Exploration Co. Ltd. was reorganized in 1953 under the name of Hardex Mines Ltd. and a diamond drilling program was carried out. In 1956 the owners resumed operations. An option on the property was given to the Yukon Western Mining & Prospecting Co. Ltd. of Slocan City in 1958. In 1960 the name of this company was changed to Skylane Mines Ltd. Most of the work done at this time was confined to stoping in the West vein on No. 8 level. In 1960 Ottawa Silver Mines Ltd. bought the option from Skylane Mines Ltd. Later in the year an option was given to the Silver Buckle Mining Co. of Wallace, Idaho. This option was dropped in December after a geological examination of the property had been made. A 9th level was started at this time. In 1962 a ventilation raise was driven from No. 8 level to No. 6 level, a distance of approximately 143 metres, following the dip of the vein. In driving the raise, several lenses of very high-grade ore were opened up and subsequently stoped out. The No. 9 level drift was extended to a length of 152 metres. During 1963 and 1964 exploration and development work was carried out on No. 9 level. A 75-ton mill was built in 1963 and put into part time operation in 1964. In 1963 the company was reorganized under the name Slocan Ottawa Mines Ltd. In 1980 the mine was owned by the Slocan Development Corporation Limited and leased to C. Thickett and Memphis Mines Ltd. between 1976 and 1982.

Total recorded production between 1903 and 1984 amounts to 26,476 tonnes mined, yielding 55,940,682 grams of silver, 982 grams of gold, 360,085 kilograms of lead, 12,774 kilograms of zinc and 793 kilograms of copper.

The property is developed on nine levels, 5 of which are serviced by adits driven at vertical intervals of about 30 metres. These workings explore a broad shear/breccia zone in coarse grained, porphyritic Nelson quartz monzonite cut by felsite and lamprophyre dikes. The zone trends nearly north and dips easterly from 25 to 45 degrees. The zone comprises two rather well-defined lodes known as the West or Noble and East or Ottawa veins, respectively. Mining at the surface and underground indicates that these lodes are not exactly parallel, but approach each other towards the south and may join. On the No. 5 level the lodes are about 10 metres apart. Most of the work has been done on the East lode that is 0.6 to 6 metres wide, composed of crushed and broken granite, gouge and vein material - the latter having been stoped in places across a width of as much as 2.4 metres. The West lode is as much as 15 metres wide in places and it is reported to have produced some good ore in the uppermost workings. On No. 8 level, the stoped vein on the West lode, strikes 025 to 040 degrees and dips 20 degrees southeast. The vein is up to 0.3 metres wide - bounded by a sharply defined gouge-filled slip along the footwall and an irregular hanging wall. The East lode on the No. 8 level is strong and composed of about 1 metre of gouge and beccia cemented by quartz. It strikes 170 degrees and dips 30 to 40 degrees east.

The ore minerals consists mostly of mixture of galena, pyrite, sphalerite and a little chalcopyrite, native silver, argentite and tetrahedrite disseminations in quartz gangue. In some high grade ore, barite is reported to be predominant gangue mineral.

BIBLIOGRAPHY

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- EMPR ASS RPT 8311
- EMPR BC METAL MM01351
- EMPR EXPL 1975-36
- EMPR GEM 1969-324; 1970-448; 1971-411; 1972-56; 1973-73
- EMPR INDEX 3-208; 4-124
- EMPR IR 1984-2, p. 102; 1984-3, p. 108; 1984-4, p. 121; 1984-5, p. 115; 1986-1, p. 111
- EMPR MINING 1975-1980, Vol. 1, pp. 35, 56, 60, 64, 67, 71, 74
- EMPR OF 1998-10
- EMPR P 1989-5

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
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ENERGY AND MINERALS DIVISION

PAGE: 574
REPORT: RGEN0100

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082FNW152)
EMP MP CORPFILE (Ottawa Silver Mining & Milling Syndicate; Slocan
Ottawa Mines Ltd.)
GSC MAP 272A; 1091A; 1956-3
GSC MEM *184, p. 182-183; *308, pp. 133, 140-141, Fig. 10
GCNL #193 (Oct.5), 1984

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW156**

NATIONAL MINERAL INVENTORY:

NAME(S): **TAMARAC**, TAMARACK NO. 2 (L.6054), TAMARCK,
FALLS VIEW NO. 2 (L.6055), ESSIE FR., TAMARAK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 47 18 N
LONGITUDE: 117 24 34 W
ELEVATION: 1500 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5515177
EASTING: 470528

LOCATION ACCURACY: Within 500M

COMMENTS: The Tamarac group comprises the Tamarack No. 2 (Lot 6054), Falls View No. 2, and Essie claims and fractions located on the north slope of the valley of Springer Creek, west of the Ottawa mine (082FNW155), 4 kilometres northeast of Slocan. Access is east from the Slocan highway along an all weather Springer Creek logging road to the Ottawa mine road which turns north. A good logging road extends from the Ottawa mine road westward to Algiers Creek and the Tamarac property.

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite Pyrite Chalcopyrite

ASSOCIATED: Silver Silver Stephanite Calcite Barite

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Tamarac group comprises the Tamarack No. 2 (Lot 6054), Falls View No. 2, and Essie claims and fractions located on the north slope of the valley of Springer Creek, west of the Ottawa mine (082FNW155), 4 kilometres northeast of Slocan. Access is east from the Slocan highway along an all weather Springer Creek logging road to the Ottawa mine road which turns north. A good logging road extends from the Ottawa mine road westward to Algiers Creek and the Tamarac property.

The Tamarac mine workings are about 275 metres above Springer Creek and include three adits driven at vertical intervals of 24 metres on a shear zone cutting coarse grained, porphyritic Nelson granite following and easterly strike, dipping 25 to 35 degrees south. The principal mineralization is quartz, associated with minor amounts of calcite and barite, carrying galena, sphalerite, pyrite, chalcopyrite and tetrahedrite. Silver values in the ore are generally associated with tetrahedrite - the galena reportedly carries low silver.

The Tamarac property was worked extensively beginning in 1905. In the uppermost adit the lode was drifted on for more than 60 metres. On No. 2 level, lenses of mineralized quartz, up to 0.6 metre wide, are interspersed with barren intervals. Near the portal, the main ore shoot was followed for a length of 9 metres and was stoped to a point 14 metres above No. 1 adit. The No. 3 level is about 122 metres long where, at the face, an east dipping, metre-wide fault zone is intersected, cutting off the lode.

Although the ore zones on the Tamarac strike almost at right angles to the trend of mineralized at the Ottawa mine, the style of mineralization is similar on these adjoining properties. Total production from the Tamarac mine up to the end of 1907 amounts to 83 tonnes of ore grading 4436 grams per tonne silver and 10.2 per cent

CAPSULE GEOLOGY

lead.

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1904-203; 1905-162; 1906-146,249; 1907-101,214; *1921-139,170
EMPR ASS RPT 7151, 8311, 11469
EMPR BC METAL MM01431
EMPR EXPL 1978-E62
EMPR INDEX 3-215
EMPR P 1989-5
GSC MAP 272A, 1091A
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GCNL #22,1981
N MINER FEB 4, 1982

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Work on the property, as the Graphic and Rosebud claims, from 1905 to 1906 by the Graphic and Rosebud Mining Co. resulted in the production of 5 tonnes of ore, yielding 47,619 grams of silver and 636 kilograms of lead. The Little Tim group, consisting of the Little Tim, Mammoth, White Heather, and Purple Heather claims, was staked by D.B. O'Neill in 1918 who worked the veins intermittently until 1947. The claims subsequently lapsed and the Victory V, V-day, Ute fraction, Radar No. 1, and Radar No. 2 claims were staked on the veins. In 1951 and 1952 the property was held under option by Harrison Drilling and Exploration Company Limited (Hardex Mines Ltd.) during which time considerable drifting and diamond drilling was done. Most of the work by the company was done on the V-day and Victory V claims, corresponding to the cancelled Graphic and Rosebud claims, respectively. The Little Tim upper workings, comprising two adits and a shaft, explore the vein that is 91 metres northwest of the main vein. The main vein is developed by 4 adits that range in elevation from 2067 to 1987 metres. During 1952 No. 4 adit was extended to a total length of 134 and a raise driven to No. 3 level.

Several individuals have held leases since the early 1950's and all shipments from the property consist of hand sorted ore. Approximately 300 metres of drifts, crosscuts and raises were developed in the original mine and by 1981 a total of 339 metres of new drifts and crosscuts were added. Skagit Mining operated the property in 1984. A sample taken in 1987 assayed 4400 grams per tonne silver, 0.18 gram per tonne gold, 0.58 per cent copper, 11.3 per cent lead and 4.34 per cent zinc (Open File 1988-11).

Intermittent production from 1905 to 1984, resulted in 5116 tonnes, yielding 1,366,013 grams of silver, 26,339 kilograms of lead, 8536 kilograms of zinc, 11 grams of gold and 171 kilograms of copper.

The property is underlain by coarse-grained porphyritic granite (quartz monzonite) of the Nelson batholith. The granite is traversed by two, nearly parallel fissure vein lodes, on which considerable work has been done. The lodes are 90 metres apart and strike 055 to 070 degrees northeast, and dip 45 to 70 degrees southeast.

The mine, located just southwest and downslope from an unnamed summit, is comprised of a shaft and three adits on the northwest lode, and three adits and an intermediate level on the southeast lode - the shaft being the lowest working at an elevation of approximately 2040 metres. The shaft is reported to have followed a vein to a depth of about 15 metres. The vein, about 0.3 metre wide, consists of vuggy quartz containing disseminated galena, sphalerite, pyrite and tetrahedrite. The same vein is heavily stoped to a point about 90 metres above the shaft. On the southeast lode, the main adit is 75 metres long and follows a fissure which is strong at the face but not mineralized. The orebody on this level, about 8 metres long, was stoped through to an intermediate level 12 metres above, where the ore was exposed for a length of 15 metres and width ranging from 10 to 30 centimetres. This ore forms a streak of nearly solid galena, sphalerite, conspicuous tetrahedrite and a little chalcocopyrite. The gangue is principally quartz but some calcite and barite are also present. Some of the quartz appears to be chalcedonic. The veins are commonly flanked by a chloritic alteration envelope up to 1.2 metres wide grading into the granite. Other wallrock alteration includes argillic, silicification and hematitic-pyritic.

No further work was done on any of the claims for a number of years and the Crown-grants were cancelled.

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1921-142; 1922-203; 1923-229; 1924-201; 1925-246,248; 1926-288;
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1942-27,73; 1947-173; 1951-177; 1952-43,180; 1968-249; 1969-A55;
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EMPR ASS RPT 9574
EMPR BC METAL MM00032 (Little Tim), MM01301 (Metallic), MM01437 (Tiny Tim)
EMPR FIELDWORK 1987, pp. 31-48
EMPR GEM 1969-324; 1970-499; 1973-76
EMPR INDEX 3-190, 203
EMPR IR 1984-3, p. 109; 1984-4, p. 121; 1986-1, p. 111
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EMPR MIN REF MAP 1 (1927)
EMPR OF 1988-11
EMPR P 1989-5
EMPR PF (Letter by S. Holland (1973))
GSC MAP 272A; 1091A
GSC MEM 184, pp. 170, 178; 308, pp. 133,141

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DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW158**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOLLY, CUB**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 36 N
LONGITUDE: 117 23 10 W
ELEVATION: 2166 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5517577
EASTING: 472220

LOCATION ACCURACY: Within 500M

COMMENTS: The Molly claim is about 1 kilometre east of Ottawa Hill and 900 metres west of the Little Tim mine (082FNW157), 8 kilometres northeast of Slocan. Access to the area is by trail, west from the Little Tim mine road that connects with the Springer Creek road.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres

STRIKE/DIP: 050/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Molly claim is about 1 kilometre east of Ottawa Hill and 900 metres west of the Little Tim mine (082FNW157), 8 kilometres northeast of Slocan. Access to the area is by trail, west from the Little Tim mine road that connects with the Springer Creek road.

The workings of the Molly property one or two adits and a shaft. These explore a quartz vein cutting porphyritic Nelson granite. The vein strikes 050 degrees and dips steeply to the southeast. Samples of vuggy quartz are reported to contain considerable disseminated pyrite and silver-bearing sulphides (?) yielding good gold and silver assay results. In 1935, 8 tonnes of ore from a dump yielded 13,996 grams of silver, 160 kilograms of lead and 142 kilograms of zinc.

BIBLIOGRAPHY

EMPR AR 1935-A26,E33
EMPR BC METAL MM01159
EMPR INDEX 3-193
EMPR P 1989-5
GSC MAP 272A, 1090A
GSC MEM 184, p. 179; 308, p. 148

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW159**

NATIONAL MINERAL INVENTORY: 082F14 Ag68

NAME(S): **MYRTLE, ALMA (L.6516), MCBRIDE, HOWIE, SCOTCH THISTLE (L.2290), FLYETTE, KETA, MILDRED**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 48 54 N
LONGITUDE: 117 24 46 W
ELEVATION: 1650 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Myrtle group of claims, also known as the Alma (Lot 6516), is near the head of Memphis Creek, 6 kilometres northeast of Slocan City. Access is by the Memphis Creek road, 2.5 kilometres east of the Slocan highway.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5518144
EASTING: 470304

COMMODITIES: Silver Zinc Lead Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite Tetrahedrite Silver
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres
STRIKE/DIP: 040/35S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Plutonic Rocks

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 179.0000 Grams per tonne
Copper 0.0308 Per cent
Lead 1.5300 Per cent
Zinc 4.8000 Per cent

COMMENTS: Vein sample, JL-83.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Myrtle group of claims, consisting of the Alma (Lot 6516), McBride and Howie claims, is near the head of Memphis Creek, elevation 1650 metres, 6 kilometres northeast of Slocan City. Access is by the Memphis Creek road, 2.5 kilometres east of the Slocan highway.

The property was developed in the years 1901 to 1907, and intermittently from 1907 to 1966. Ore shipments made in 1907, 1935 and 1966 totalled 60 tonnes containing 75,425 grams of silver, 539 kilograms of lead and 907 kilograms of zinc.

The country rock is porphyritic Nelson granite that is bleached and silicified adjacent to the vein. The vein is in a sheared and brecciated zone that strikes 040 degrees and dips 35 to 40 degrees southeast. A crosscut adit driven easterly at 107 degrees on the 100 level encountered 160 metres of this zone. A small pegmatite dike, a felsic dike and several shears are also exposed in this crosscut. On the 50 level, small lenticular masses of quartz and calcite with pods of sulphides occur within a 26-metre section of the main shear. Galena, sphalerite, some chalcopyrite and a minor amount of tetrahedrite and native silver (?) are the principal ore

CAPSULE GEOLOGY

minerals.

The Alma and McBride claims were held by J.E. Tatersall in 1924; the property was held by R.F. Ainslie during the period 1935-41. Development work to this time consisted of: a 158-metre long crosscut adit and from the end of it 35 metres of drifting on the vein; a 30-metre deep shaft and from the 15-metre level a 21-metre long crosscut to the vein from which an 26-metre drift was run to the south.

Silver King Mines Ltd. began exploration work on the property in 1965. The company name was changed in November 1965 to Kirsch Silver Mines Ltd. A vein sample taken in 1987 assayed 179 grams per tonne silver, 0.0308 per cent copper, 1.53 per cent lead and 4.8 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EMPR AR 1901-1027; 1902-150; 1903-138; 1904-203; 1905-162; 1906-146,252; 1907-101,214; 1924-201; 1935-A26,E33; 1940-81; 1941-75; 1965-195; 1966-A52,219
EMPR BC METAL MM01323
EMPR INDEX 3-187,206
EMPR OF 1988-11
EMPR P 1989-5
EMPR PF (*Lorimer, M.K. (1967): Report on the Myrtle Mine for Silver Benn Mines Ltd., in 082FNW154; Tattersal, H. (1960): Report of the Alma Group of Mineral Claims; Lorimer, M.K. (1969): Report on the Myrtle Mine for Silver Benn Mines Ltd.)
GSC MAP 1090A, 1091A, 272A
GSC MEM 184, p. 166; 308, p. 139

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 583
REPORT: RGEN0100

MINFILE NUMBER: **082FNW160**

NATIONAL MINERAL INVENTORY:

NAME(S): **RADIO**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 49 06 N
LONGITUDE: 117 24 10 W
ELEVATION: 1766 Metres

NORTHING: 5518510
EASTING: 471026

LOCATION ACCURACY: Within 500M

COMMENTS: The Radio claims are located at the head of Memphis Creek, 7 kilometres northeast of Slocan. Access is via a network of logging roads on the west slope of Ottawa Hill.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Radio claims are located at the head of Memphis Creek, 7 kilometres northeast of Slocan. Access is via a network of logging roads on the west slope of Ottawa Hill.

The only exploration work reported on this property has focused on a mineralized shear zone cutting north to northeasterly across coarse-grained porphyritic Nelson granite. The zone is a few metres wide and includes some vein quartz accompanied by sulphide mineralization.

BIBLIOGRAPHY

EMPR P 1989-5
GSC MAP 272A
GSC MEM 184, p. 184

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW160**

MINFILE NUMBER: **082FNW161**

NATIONAL MINERAL INVENTORY:

NAME(S): **COLORADO (L.5308)**, SLOCAN BELLE (L.1921), RAIN,
MEMPHIS CREEK, WHITE HOPE 8, PAYDAY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 49 11 N
LONGITUDE: 117 25 23 W
ELEVATION: 1340 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5518673
EASTING: 469568

LOCATION ACCURACY: Within 500M

COMMENTS: The Colorado property is located on the northwest slope of
Ottawa Hill above Memphis Creek (Twelvemile Creek), 6.5 kilometres
north-northeast of Slocan. Access to the area is via 5 kilometres
of switchback logging road from the Slocan highway.

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Colorado property is located at the elevation of about 1400 metres, on the northwest slope of Ottawa Hill above Memphis Creek (Twelvemile Creek), 6.5 kilometres north-northeast of Slocan. Access to the area is via 5 kilometres of switchback logging road from the Slocan highway.

A quartz vein in Nelson porphyritic granite has been explored by several open cuts and underground mining consisting of two levels connected by a raise and stoping. Intermittent mining for the periods 1904 to 1915 and 1967 to 1969 produced a total of 67 tonnes, yielding 2188 grams per tonne silver, 2.5 per cent lead, and 5.6 per cent zinc. Western Standard Silver Mines and Hyperion Silver Mines Limited worked the property between 1966 and 1970.

In 1988, Yukon Minerals Corporation conducted soil and rock sampling, and geological mapping in the area. A sample from the Colorado adit assayed 228 grams per tonne silver, 0.27 per cent lead and 0.3 per cent zinc over 0.8 metre on a quartz-galena vein (Assessment Report 18603).

BIBLIOGRAPHY

EMPR AR 1900-988; 1904-204; 1905-162; 1915-445; 1926-248; 1965-195;
1966-218; 1967-A55,250; 1969-A55
EMPR ASS RPT 17168, *18603
EMPR BC METAL MM01149
EMPR GEM 1969-325,428; 1970-449
EMPR INDEX 3-192
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM 184, pp. 170-171; 308, p. 154

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW161**

MINFILE NUMBER: **082FNW162**

NATIONAL MINERAL INVENTORY:

NAME(S): **CORONATION**, MEMPHIS, RAIN,
PAYDAY

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 49 09 N
LONGITUDE: 117 25 35 W
ELEVATION: 1160 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5518612
EASTING: 469328

LOCATION ACCURACY: Within 500M

COMMENTS: The Coronation property is located on Memphis Creek at 6.5 kilometres north-northeast of Slocan. Access is about 2 kilometres by road up Memphis Creek from the Slocan highway.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT:	Galena	Sphalerite	Pyrite	Silver	Tetrahedrite
ASSOCIATED:	Quartz	Calcite	Siderite		
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
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>
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Coronation property is located on Memphis Creek, at the elevation of about 1100 metres, at 6.5 kilometres north-northeast of Slocan. Access is about 2 kilometres by road up Memphis Creek from the Slocan highway.

The property comprises the Coronation and Memphis claims staked in 1896. About 2 tonnes of ore are reported to have been shipped and to have carried between 19 and 20 per cent lead and as much as 13,000 grams per tonne silver. Development consists of a lower adit, 45 metres in length, and a shorter upper adit, 15 metres above, driven in easterly from the bank of the Memphis Creek. The lower tunnel is in sheared, coarse grained Nelson granite following a quartz vein, up to 0.3 metre wide, and stringers dipping 65 degrees north. The vein contains many fragments of wallrock and some galena, sphalerite, pyrite, native silver, calcite and siderite. A small basic dike forms part of the footwall. At 27 metres from the portal, two slips striking 008 degrees, dipping 80 degrees west, offset the course of the tunnel about 2 metres to the north. At this intersection of slips and quartz stringers, small clusters of highgrade ore were found. A sample of tetrahedrite-bearing ore from this location assayed 2.1 grams per tonne gold and 6000 grams per tonne silver.

In 1988, Yukon Minerals Corporation conducted soil and rock sampling, and geological mapping in the area. A sample from the Coronation dump assayed 0.4 gram per tonne gold, 2414 grams per tonne silver, 1.2 per cent lead and 10.9 per cent zinc (Assessment Report 18603).

BIBLIOGRAPHY

EMPR AR 1930-251
EMPR ASS RPT 17168, *18603
EMPR P 1989-5
GSC MAP 272A
GSC MEM *184, p. 171

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW162**

MINFILE NUMBER: **082FNW163**

NATIONAL MINERAL INVENTORY:

NAME(S): **HAPPY MEDIUM (L.5558)**, VELVEY, INTERNATIONAL,
ECLIPSE NO. 2

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 49 24 N
LONGITUDE: 117 25 46 W
ELEVATION: 1216 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5519077
EASTING: 469110

LOCATION ACCURACY: Within 500M

COMMENTS: The Happy Medium property is located near the head of Van Tuyl
Creek, 7 kilometres north-northeast of Slocan. Access is by road
1.5 kilometres east from the Slocan highway.

COMMODITIES: Silver Lead Gold

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Happy Medium property is located near the head of Van Tuyl
Creek, 7 kilometres north-northeast of Slocan. Access is by road
1.5 kilometres east from the Slocan highway.

The Happy Medium property consists of the Happy Medium (Lot
5558), Velvey, International and Eclipse No. 2 Crown granted claims.
Little is known about this property other than it is underlain by
Nelson granite or mineralized crushed compositionally equivalent
units.

Shipments of ore made in 1905 and 1906 amount to 12 tonnes
grading 10 grams per tonne gold, 5,588 grams per tonne silver and
8.4 per cent lead.

BIBLIOGRAPHY

EMPR AR 1905-163; 1906-146,249; 1907-218
EMPR BC METAL MM01220
EMPR P 1989-5
GSC MAP 272A
GSC MEM 184, p. 176

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW164**

NATIONAL MINERAL INVENTORY:

NAME(S): **SENATOR**, BACHELOR, MIDNIGHT,
BACHELOR, RAIN, PAYDAY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 49 09 N
LONGITUDE: 117 25 51 W
ELEVATION: 1066 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5518614
EASTING: 469008

LOCATION ACCURACY: Within 500M

COMMENTS: The Senator mine, previously known as the Batchelor and Midnight, is located on the south side of Memphis Creek (formerly Twelvemile Creek) about 1.0 kilometre east of the Slocan highway, 6 kilometres north of Slocan. The Senator claim (Lot 15828) lies immediately east of the Homestake claim (Lot 15283)(082FNW213) and south of the V. & M. (Lot 4260) and Get There Eli (Lot 4261) claims (082FNW191).

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres

STRIKE/DIP: 030/47E

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Senator mine, previously known as the Batchelor and Midnight, is located on the south side of Memphis Creek (formerly Twelvemile Creek) about 1.0 kilometre east of the Slocan highway, 6 kilometres north of Slocan. The Senator claim (Lot 15828) lies immediately east of the Homestake claim (Lot 15283)(082FNW213) and south of the V. & M. (Lot 4260) and Get There Eli (Lot 4261) claims (082FNW191).

The property is underlain by broken and foliated porphyritic Nelson granite. The workings consist of 2 adits, one 61 metres long, on a quartz vein averaging 1.2 metres in width. The vein strikes 030 and dips 47 degrees southeast. In 1906 and 1907, the Midnight produced 20 tonnes of ore, yielding 43,420 grams of silver and 436 grams of gold. In 1939 and 1940, the Senator produced 13 tonnes of ore, yielding 187 grams of gold and 17,947 grams of silver.

In 1948, the property was held by the Spokane Slocan Company. In 1988, Yukon Minerals Corporation conducted soil and rock sampling, and geological mapping in the area. A sample from the Senator adit assayed 6.1 grams per tonne gold and 1080 grams per tonne silver over 0.3 metre on a quartz-pyrite vein (Assessment Report 18603).

BIBLIOGRAPHY

EMPR AR 1900-830; 1901-1027; 1906-149,249; 1907-101,214; 1939-40;
1940-27,65; 1948-148; 1950-150; 1957-57
EMPR ASS RPT 17168, *18603
EMPR BC METAL MM01218 (Senator); MM01301 (Midnight)
EMPR EXPL 1988-C40
EMPR INDEX 3-205, 212
EMPR P 1989-5

MINFILE NUMBER: **082FNW164**

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 588
REPORT: RGEN0100

BIBLIOGRAPHY

EMR MP CORPFILE (McLeod Slocan Mining Syndicate Ltd.)
GSC MAP 272A, 1091A
GSC MEM *184, p. 169; 308-154

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/30

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Senator Crown-granted claims and 6 recorded claims.

The target of exploration on the property is a narrow, locally pyritized quartz vein in granite, striking 140 degrees and dipping 50 degrees southwest. The early development consists of three main adits and several open cuts. The principal showing is on No. 2 level which has a total of 150 metres of drifts and crosscuts. The lode here is about 30 metres in length and has an average width of 25 centimetres. Most of the original ore shipments came from the upper adit which is about 25 metres long, with a raise to surface. The best part of the vein shows 5 to 15 centimetres of zinc mineralization. The lower adit is 15 metres long and exposes a wider vein section but with minor mineralization. There is another adit at the elevation of the upper adit which was driven 40 metres as a crosscut to intersect a parallel vein exposed in an open cut above, but no vein was encountered. In 1957, a new adit site was chosen to explore the vein system from a horizon about 15 metres below the lowest workings, however no worthwhile mineralization was encountered. In 1964, the workings were reopened by Western Standard Silver Mines Ltd. In 1986, Manny Consultants Ltd. surveyed the property as the JR claims.

In 1897 and 1902, a total of 12 tonnes was shipped from the Paystreak; recovery was 19,128 grams of silver and 622 grams of gold. The total intermittent production from this property from 1935 to 1964 was 81 tonnes, yielding 155 grams of gold, 25,691 grams of silver, 11,424 kilograms of lead and 11,052 kilograms of zinc.

BIBLIOGRAPHY

- EMPR AR 1897-535; 1902-151; *1928-296-297; 1929-318; 1935-A27,E32;
1942-73; 1947-172; 1948-148; 1950-150; 1951-43,177; *1957-57;
1964-A56,127; 1965-195; 1966-218
EMPR ASS RPT 16249
EMPR BC METAL MM01461
EMPR EXPL 1987-C60
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-208, 218; 4-126
EMPR OF 1988-11
EMPR P 1989-5
EMPR PF (Starr, C.C. (1925): Report on the White Hope Group)
GSC MAP 272A, 1091A
GSC MEM *184, pp. 190-191; 308, pp. 119,131

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

and walls are well defined. Hostrocks are well brecciated and cemented with milky quartz. Mineralization hosted in quartz cement includes galena, pyrargyrite, sphalerite and pyrite. Diamond drilling in 1986 confirmed the downward dip of the shear zone up to 61 metres, along a strike length of 61 metres. Sericitic, argillic and silicification alteration were observed.

Shipments of 10 and 5 tonnes were made in 1896 and 1897, respectively. In 1975, clean-up from the dump resulted in a shipment of 36 tonnes of ore. In total 123,447 grams silver, 323 kilograms lead and 143 kilograms zinc were recovered from 51 tonnes of ore.

BIBLIOGRAPHY

EMPR AR 1894-741; 1895-678; 1896-71,559; 1897-535; 1898-1191; 1902-150; 1903-139; 1975-A95
EMPR ASS RPT *15801
EMPR BC METAL MM01254
EMPR FIELDWORK 1987, pp. 31-48,535-541; 1989, pp. 251-255, 1990, pp. 171-178
EMPR GEM *1974-75
EMPR INDEX 3-191
EMPR MINING 1975-1980, Vol.1, p. 56
EMPR OF 1988-11; 1990-18
EMPR P *1989-5
EMPR PF (Starr, C.C. (1929): Notes on an Examination of the Kalispell Claim, 4 p.)
GSC MEM 173, Map 272A; 184, p. 177; 308, pp. 150,153

DATE CODED: 1985/07/24
DATE REVISED: 1996/03/01

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW167**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTHERN LIGHT (L.11130), S, R,
ROSS**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 11 N
LONGITUDE: 117 26 07 W
ELEVATION: 1310 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5516825
EASTING: 468678

LOCATION ACCURACY: Within 500M

COMMENTS: This property is located at the extreme headwater area of Scorpion Creek, 4.5 kilometres northeast of Slocan. Access to the property is from the Slocan highway via a switchbacked logging road on the northwest slope of Ottawa Hill. The Republic (082FNW168) lies to the southwest. Adit locations are shown on Geological Survey of Canada Map 272A.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Silver Galena Sphalerite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

This property is located at the extreme headwater area of Scorpion Creek, at an elevation of 1300 metres, 4.5 kilometres northeast of Slocan. Access to the property is from the Slocan highway via a switchbacked logging road on the northwest slope of Ottawa Hill. The Republic (082FNW168) lies to the southwest. Adit locations are shown on Geological Survey of Canada Map 272A.

The Northern Light was located in 1902 and Crown granted (Lot 11130) in 1916. Little is known about this property other than it is underlain by coarse grained, porphyritic Nelson granite. The only development work is two short adits from which there is no known ore production.

International Cherokee Development and Manny Consultants conducted geochemical and geophysical surveys over the S and R claims between 1983 and 1986.

BIBLIOGRAPHY

EMPR AR 1904-203; 1916-523
EMPR ASS RPT 4877, 7831, 11126, 11809, 11836, 13552, 13553, 15204
EMPR EXPL 1985-C60
EMPR GEM 1972-57, 1973-74
EMPR P 1989-5
GSC MAP 272A, 1090A
GSC MEM *184, p. 182

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW168**

NATIONAL MINERAL INVENTORY:

NAME(S): **REPUBLIC NO. 2 (L.5498)**, ERWIN (L.1530), ERWIN FR. (L.5236),
 SUNLIGHT FR. (L.5319), SLOCAN BOB, BELL NO. 2 (L.5500),
 BONANZA NO. 3 (L.5497), AMERICAN EAGLE (L.5499), SLOCAN REPUBLIC,
 ROSS, EVENING STAR NO. 9 (L.5235), EVENING STAR NO. 9 FR.(L.7058),
 BLACK BESS

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 082F14W
 BC MAP:
 LATITUDE: 49 48 00 N
 LONGITUDE: 117 27 10 W
 ELEVATION: 1350 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5516493
 EASTING: 467416

COMMODITIES: Silver Gold Lead Zinc

MINERALS

SIGNIFICANT:	Silver	Gold	Sphalerite	Pyrite	Galena
	Bornite				
ASSOCIATED:	Quartz	Argentite		K-Feldspar	
ALTERATION:	Sericite	Chlorite	Carbonate		Hematite
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
 TYPE: I01 Au-quartz veins
 SHAPE: Tabular
 MODIFIER: Faulted
 DIMENSION: Metres
 COMMENTS: Vein is offset by steep northeast-striking faults.
 STRIKE/DIP: 265/30N
 TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Nelson Intrusions

ISOTOPIC AGE: 165 - 169 Ma
 DATING METHOD: Zircon
 MATERIAL DATED: Zircon

LITHOLOGY: K-Feldspar Porphyritic Granite
 Andesite Dike
 Rhyolite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Plutonic Rocks	Quesnel
METAMORPHIC TYPE: Regional	RELATIONSHIP: Pre-mineralization
	GRADE: Greenschist Amphibolite

CAPSULE GEOLOGY

The Republic group of claims is located about 5 kilometres by gravel road northeast of Slocan City. The claims were first staked in 1895 and worked intermittently until 1952. Tandem Resources Ltd. held the property, including the Club (082FNW169) in 1972. In 1979, they conducted an IP survey and sampling.

Past production occurred from the Republic vein which is less than 75 centimetres thick. The quartz vein contains pyrite, argentite, native silver and gold with minor galena and sphalerite. Bornite are also reported. The vein is hosted in potassium-feldspar porphyritic granite. Wallrock alteration includes quartz, sericite, chlorite, and carbonate. It extends less than 1 metre from the quartz veins. There are at least 2 main quartz veins on the property. They strike west and dip moderately to gently north.

The Republic vein has been developed by an inclined shaft, collared at an elevation of 1334 metres. The incline has been sunk to a depth of some 18 metres on the vein which is approximately 1-metre wide. The vein strikes 085 degrees and dips 30 degrees to the north and is offset slightly by step-faults striking 025 degrees to 045 degrees with dips from 65 degrees to 85 degrees northwest. Short irregular drifts and slopes have been driven from the incline. Another shaft, some 244 metres west of the above shaft, has been sunk on what appears to be the extension of the Republic vein. The vein

CAPSULE GEOLOGY

is 0.6-metre wide, strikes 050 degrees and dips 35 degrees northwest. Further west 2 levels have been driven to crosscut the vein but neither one did before the work was stopped.

The Bell No. 2 adit, west of the Republic adits, follows a discontinuous vein which strikes 020 degrees and dips 45 degrees southeast. Beyond 18 metres from the portal the vein is complexly faulted. The veins in the eastern portion of the property generally strike east and dip gently north whereas the west veins strike northeasterly with a flat dip to the northwest. Ore shoots within the veins are erratically distributed and are elongated down the dip. The Crown-granted mineral claims have numerous showings and surface workings and a few claims which were previously worked on and surveyed were covered by some of the Ross claims in 1922. The Slocan Bob claim was covered by Ross No. 9 and the Ross No. 11 claims. The Club claim (082FNW169), which has two veins reported to be at right angles to one another, were covered by Ross No. 10 and Ross No. 12 claims.

R.B. Stewart prospected the Evening No. 9 claims in 1987.

BIBLIOGRAPHY

- EMPR AR 1896-73; 1897-535; 1898-1076,1077; 1899-843; 1900-830; 1901-1027,1223; 1902-150,296,297,301; 1903-138; 1904-170,203; 1918-171,195,473; 1919-126,155; 1920-146; 1935-A27,E32; 1941-75; 1951-177; 1952-44,181
- EMPR ASS RPT 4877, 7831, 8825, 15893
- EMPR BC METAL MM01371
- EMPR EXPL 1979-69
- EMPR FIELDWORK 1987, pp. 31-48,535-541
- EMPR GEM 1971-411; 1972-57; 1973-74
- EMPR INDEX 3-210
- EMPR OF 1988-11
- EMPR P 1989-5, p. 14
- EMPR PF (*Tough, T.R. (1972): Geological Report on the Republic Property of Tandem Resources Ltd., in Tandem Resources Ltd., Prospectus, June 9, 1972)
- GSC MAP 272A; 1091A
- GSC MEM 184, p. 184; 308, p. 151
- GCNL #195(Oct.10), 1979
- N MINER Mar.22, 1979

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/25

CODED BY: GSB
REVISED BY: DAB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW169**

NATIONAL MINERAL INVENTORY:

NAME(S): **CLUB, ROSS, SLOCAN BOB, REPUBLIC**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 03 N
LONGITUDE: 117 26 40 W
ELEVATION: 1280 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5516582
EASTING: 468017

LOCATION ACCURACY: Within 1 KM

COMMENTS: The Club claim is situated towards the head of Scorpion Creek, 3.5 kilometres northeast of Slocan. Access is from the Slocan highway via a switchback road that crosses Scorpion Creek below the property. See also Republic (082FNW168).

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Pyrite Silver
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Club claim is situated towards the head of Scorpion Creek, 3.5 kilometres northeast of Slocan. Access is from the Slocan highway via a switchback road that crosses Scorpion Creek below the property. See also Republic (082FNW168).

The Club property was first prospected in 1904. The target of exploration was two quartz veins in crushed granitic rocks that appear to be related to the Nelson batholith. The main vein is about 0.9 metre in width, strikes northeast and dips northwest at about 30 degrees. Rich samples have reportedly been obtained from a shallow inclined shaft sunk on this vein. A shipment of 4.5 tonnes of ore from this property in 1904 produced 8367 grams of silver.

Across a small creek from these workings there is a second vein quartz, about 1.5 metres wide, striking 126 degrees.

The property was covered by the Ross claims, held in 1972 by Tandem Resources Ltd.

BIBLIOGRAPHY

EMPR AR 1896-73; *1904-170,203
EMPR ASS RPT 4877, 7831
EMPR BC METAL MM01146
EMPR GEM 1972-57, 1973-74
EMPR INDEX 3-192
EMPR P 1989-5
EMPR PF (Trough, T.R. (1972): Geological Report on the Republic Property of Tandem Resources Ltd., in Tandem Resources Ltd. Prospectus, June 9, 1972, see 082FNW168)
GSC MEM 184, p. 170

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW170**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUBY AND MABLE** CRIPPLE STICK, MABLE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 47 03 N
LONGITUDE: 117 26 08 W
ELEVATION: 1150 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5514725
EASTING: 468646

LOCATION ACCURACY: Within 500M

COMMENTS: The Ruby and Mable property is located on the lower section of Scorpion Creek, 2.5 kilometres northeast of Slocan. Access is from the Slocan highway via a switchback road on the west slope of Ottawa Hill.

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

Quesnel

CAPSULE GEOLOGY

The Ruby and Mable property is located on the lower section of Scorpion Creek, 2.5 kilometres northeast of Slocan. Access is from the Slocan highway via a switchback road on the west slope of Ottawa Hill.

The workings on this property, comprising a 90-metre adit and raise, explore a quartz vein in coarse grained, porphyritic Nelson granite. A total of 10 tonnes of ore was shipped from 1903 to 1904, yielding 6656 grams of silver and 31 grams of gold.

BIBLIOGRAPHY

EMPR AR 1902-150; 1903-139; 1904-203
EMPR BC METAL MM01155
EMPR INDEX 3-193
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM 184, p. 185

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW171**

NATIONAL MINERAL INVENTORY:

NAME(S): **PORT HOPE (L.5493)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 46 51 N
LONGITUDE: 117 26 27 W
ELEVATION: 1150 Metres

NORTHING: 5514356
EASTING: 468263

LOCATION ACCURACY: Within 500M

COMMENTS: The Port Hope claim is situated 1 kilometre northwest of the confluence of Scorpion and Springer creeks, 2 kilometre northeast of Slocan. Access is from the Slocan highway via a switchback road leading to the northwest slopes of Ottawa Hill.

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Argentite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
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>
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Port Hope claim is situated 1 kilometre northwest of the confluence of Scorpion and Springer creeks, 2 kilometre northeast of Slocan. Access is from the Slocan highway via a switchback road leading to the northwest slopes of Ottawa Hill.

Little is known about the Port Hope claim (Lot 5493) other than it was Crown granted in 1903 and 10 tonnes of ore was shipped the following year. Recovery was 46,530 grams of silver and 246 grams of gold. In 1935 and 1937, production from 4 tonnes, yielded 8149 grams of silver and 31 grams of gold.

The property is underlain by mineralized granitic rocks of the Nelson batholith. In 1969, work done in the area by Red Metal Mines included six open cuts and 132 metres of diamond drilling.

BIBLIOGRAPHY

EMPR AR 1903-139,244; 1904-203; 1935-A27,E32; 1937-A38
EMPR BC METAL MM01361
EMPR GEM 1969-323
EMPR INDEX 3-209
EMPR P 1989-5
GSC MAP 1091A
GSC MEM 184, p. 184; 308, p. 154

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW172**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAKEVIEW (L.1802)**, LAKE VIEW NO. 8, SELMON,
MAUR, MS

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 06 N
LONGITUDE: 117 26 52 W
ELEVATION: 900 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5512970
EASTING: 467755

LOCATION ACCURACY: Within 500M

COMMENTS: The Lakeview property is situated east of Springer Creek, and 1.5 kilometres due east of Slocan. Access is directly from Slocan via the Springer Creek gravel road.

COMMODITIES: Silver Lead Zinc Gold Cadmium
Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Silver Chalcopyrite

Pyrrhotite Chalcocite Covellite Cerussite

ASSOCIATED: Quartz

ALTERATION TYPE: Carbonate

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Epigenetic

Mesothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION: 100 x 35 Metres

STRIKE/DIP: I01 Au-quartz veins
360/70E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Lakeview property is situated east of Springer Creek, at the elevation of 900 metres, and 1.5 kilometres due east of Slocan. Access is directly from Slocan via the Springer Creek gravel road.

The Lakeview property comprises the Lakeview No. 8 claim (Crown granted in 1898) and located MS claims, Selmon, Maur I and II. The property is underlain predominantly by granitic rocks of the Nelson batholith. The focus of exploration and development is a northerly trending vein exposed for a strike length of 100 metres at surface and 35 metres underground. The vein, consisting of lenses and stringers of quartz, dips 70 degrees east and is hosted by highly crushed granite. Disseminated sulphides occurring in the wall rocks and the vein system include pyrite, galena and sphalerite, together with a minor amount of chalcopyrite and pyrrhotite. At surface chalcocite and covellite occur associated with late carbonate gangue replacing chalcopyrite and cerussite replaces galena.

Development on the property consists of open cuts, an adit, a shallow shaft and a small floatation plant. The shaft, about 5 metres deep, remains from the original workings. At the south side of the shaft, the quartz vein has a width of 0.7 metre, which narrows to 40 centimetres at a point 9 metres south, where a sample taken across cellular rusty quartz assayed 17 grams per tonne gold and 410 grams per tonne silver. The adit is a crosscut for 15 metres on a course of 125 degrees to the vein, then 12 metres at 155 degrees, and further drifting for 23 metres, striking 175 degrees to the face that lies directly below the end of stripping on surface. There is an ore shoot at the second bend in the tunnel that connects to the shaft - the best mineralization is exposed in the first 15 to 18 metres of drift section of the tunnel.

Intermittent shipments of ore were made from 1937 to 1980; these totalled 4150 tonnes, yielding 132,843 grams of silver, 1504 grams of gold, 5175 kilograms of lead, 4139 kilograms of zinc, and 24 kilograms of cadmium.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 600
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1898-1191; 1905-162; 1936-E51: *1937-A38,E3-E5: 1938-A37,E42;
1939-40; 1979-130
EMPR ASS RPT 11544
EMPR BC METAL MM01264
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-202
EMPR IR 1984-2, p. 102
EMPR OF 1988-11
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM 308, pp. 156,171

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW173**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAYTON (L.2419)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 30 N
LONGITUDE: 117 25 28 W
ELEVATION: 1035 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5513701
EASTING: 469440

LOCATION ACCURACY: Within 500M

COMMENTS: The Dayton property is near the mouth of Dayton Creek, 3 kilometres east-northeast of Slocan. Access is from the Slocan highway via the Springer Creek road.

COMMODITIES: Silver Lead Gold

MINERALS

SIGNIFICANT: Pyrite Galena Tetrahedrite Argentite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres

STRIKE/DIP: 160/35E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Dayton property is near the mouth of Dayton Creek at the elevation of 1035 metres, 3 kilometres east-northeast of Slocan. Access is from the Slocan highway via the Springer Creek road.

The Dayton claim (Lot 2419) is underlain by coarse grained, porphyritic Nelson granite. The workings consist of a crosscut adit that intercepts two vein structures. Drifting on the principal structure explores a fault fissure system that strikes 160 degrees and dips 35 degrees northeast. This contains lenses of quartz up to 46 centimetres wide, mineralized with pyrite, some galena, argentite and tetrahedrite. A second quartz vein, 15 metres further on at the face of the crosscut, strikes 025 degrees and dips 55 degrees southeast. This vein is 1.8 metres wide and contains some coarse pyrite cubes.

Intermittent production from 1903 to 1935, totalled 17 tonnes, yielding 12,224 grams of silver, 93 grams of gold and 1006 kilograms of lead.

OGG Corporation held the property in 1982.

BIBLIOGRAPHY

EMPR AR 1893-1059; 1899-843; 1900-983; 1903-139; 1905-162; 1921-347;
1928-297; 1935-A27,E35; 1940-65; 1941-63; 1946-168; 1949-192
EMPR BC METAL MM01164
EMPR INDEX 3-194
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM 184, p. 172; 308, pp. 133, 148
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW174**

NATIONAL MINERAL INVENTORY:

NAME(S): **EXCHANGE (L.1523)**, SILVER PLATE (L.1524)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 45 45 N
LONGITUDE: 117 25 06 W
ELEVATION: 1590 Metres

NORTHING: 5512309
EASTING: 469872

LOCATION ACCURACY: Within 500M

COMMENTS: The Exchange property is located on the ridge southwest of Dayton Creek, 3 kilometres due east of Slocan. Access to the property is from a switchback mountain road that joins the Springer Creek road just east of the Slocan highway.

COMMODITIES: Silver Gold Lead Zinc

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Exchange property is at 1600 metres elevation on the ridge southwest of Dayton Creek, 3 kilometres due east of Slocan. Access to the property is from a switchback mountain road that joins the Springer Creek road just east of the Slocan highway.

A quartz vein in Nelson granite has been explored by three adits, a shaft and a 30-metre winze sunk from the lowest adit. The vein is 1.5 metres wide, banded with clear and milky white quartz and pyrite accompanied by some galena, sphalerite and ancillary silver-bearing minerals.

Production from this property in 1896 amounted to 4.5 tonnes averaging 41 grams per tonne gold and 5100 grams per tonne silver. In 1940, 12 tonnes produced 25,784 grams of silver and 156 grams of gold. Total production is estimated to be more than 50 tonnes, although records are incomplete.

BIBLIOGRAPHY

EMPR AR 1895-678; 1897-535; 1901-1027; 1902-150; 1903-242,244;
1940-26,65
EMPR BC METAL MM01188
EMPR INDEX 3-196
EMPR P 1989-5
GSC MAP 272A, 1091A
GSC MEM 184, p. 175; 308, p. 154

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW175**

NATIONAL MINERAL INVENTORY:

NAME(S): **EVENING STAR NO. 8 (L.5226)**, SILVER CROWN (L.5227), ECLIPSE NO. 2 (L.5229),
COLUMBIA NO. 5 (L.5225), SOMERSET (L.5224), UNKNOWN GROUP (L.5230)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 45 46 N
LONGITUDE: 117 24 01 W
ELEVATION: 1675 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5512333
EASTING: 471172

LOCATION ACCURACY: Within 500M

COMMENTS: The Evening Star property is located on the slopes east of Dayton
Creek, 4.5 kilometres due east of Slocan. Access to the property
is from a switchback mountain road that joins the Springer Creek
road at Coldwell Creek, about 8 kilometres by road east of the
Slocan highway.

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Galena Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres

STRIKE/DIP: 160/65E

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic-Cretaceous

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Evening Star property is at 1675 metres elevation on the slopes east of Dayton Creek, 4.5 kilometres due east of Slocan. Access to the property is from a switchback mountain road that joins the Springer Creek road at Coldwell Creek, about 8 kilometres by road east of the Slocan highway.

The Evening Star property, which was first staked in 1894, comprises the Evening Star No. 8 (Lot 5226), Silver Crown (Lot 5227), Eclipse No. 2 (Lot 5229), Columbia No. 5 (Lot 5225), Somerset (Lot 5224) and Unknown Group (Lot 5230) Crown granted claims and fractions.

A quartz vein in Nelson granite has been explored by an adit and shaft. The vein strikes variably from 150 to 175 degrees, dips 55 to 75 degrees northeast. It is about 1 metre wide and carries some pyrite and galena.

Production of mainly hand cobbled ore from this property in 1896, 1918 and 1941 totals 42 tonnes grading 23 grams per tonne gold and 6646 grams per tonne silver.

BIBLIOGRAPHY

EMPR AR 1896-73; 1897-535; 1898-1075,1077; 1899-689; 1901-1223;
1905-251; 1917-163; 1918-195; 1919-155; 1941-27,63
EMPR BC METAL MM01187
EMPR INDEX 3-196
EMPR 1989-5
GSC MAP 272A, 1091A
GSC MEM 184, pp. 174-175; 308, p. 154

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW176**

NATIONAL MINERAL INVENTORY:

NAME(S): **CALUMET AND HECLA**, CALUMET NO. 2, HECLA,
BUFFALO

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 45 30 N
LONGITUDE: 117 23 06 W
ELEVATION: 2040 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Calumet property is located on the ridge east of Dayton Creek, 5 kilometres due east of Slocan. Access to the property is from a switchback mountain road that joins the Springer Creek road at Coldwell Creek, about 8 kilometres by road east of the Slocan highway.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5511833
EASTING: 472270

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite Argentite Tetrahedrite Pyrite
ASSOCIATED: Quartz Barite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 90 Metres
STRIKE/DIP: 060/85N
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic	Slocan	Unnamed/Unknown Formation	
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite
Argillite
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks Quesnel
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Calumet property is at about 2000 metres elevation on the ridge east of Dayton Creek, 5 kilometres due east of Slocan. Access to the property is from a switchback mountain road that joins the Springer Creek road at Coldwell Creek, about 8 kilometres by road east of the Slocan highway.

The Calumet property, first staked in 1895, comprises the Calumet No. 2, Buffalo and Hecla claims and fractions. The property was trenched by Slocan Hughes Mines Ltd. in 1963 and by Goldstream Mines Ltd. in 1970.

A quartz vein cutting granitic rocks of the Nelson batholith and a large metasedimentary xenolith (the Slocan Group ?) has been explored by an adit crosscut and drift. The vein is intercepted by the tunnel at 46 metres from the portal. It strikes about 060 degrees and dips steeply northwest and has been drifted on for 90 metres, partly in metasediment rocks and partly in the granite. In the metasedimentary rocks the vein is irregular and consists of barren quartz, however, in the granite the vein is regular, about 1.5 metres wide, and contains galena, sphalerite and barite. In this section of the tunnel the best samples grade 280 grams per tonne silver and 12 per cent lead.

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EMPR GEM 1970-448
EMPR P 1989-5
GSC MAP 272A
GSC MEM 184, p. 170

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW176**

CAPSULE GEOLOGY

consisted of galena and sphalerite with the latter increasing with depth. In the lower portions of the workings vein widths varied from several centimetres to 120 centimetres, containing bands of sphalerite up to 20 to 25 centimetres wide. The vein-lode is interrupted by faults which displace it to the east and divide the vein-lode into two distinct separate ore shoots. The northern ore shoot was the more extensive of the two.

Principal production was from the upper three levels of the workings which were stoped to the surface. Production records indicate 2989 tonnes were produced periodically from 1893 to 1942. From this, 10,884,805 grams silver, 311 grams gold, 913,963 kilograms lead and 183,052 kilograms zinc were recovered. Another 57 tonnes production is reported in the Minister of Mines Annual Report 1943, page A73. The ore was mined by hand and sent directly to the Trail smelter. Approximately 44 tonnes was reported mined in 1936 but was not shipped (Minister of Mines Annual Report 1936, page E52).

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- EMPR AR 1893-1047; 1899-598; 1900-983; *1904-180; 1911-134; *1921-136; 1922-200; 1923-227; 1924-19,198; 1925-245; 1926-255; 1927-277; 1928-294; 1929-285,316; 1930-251; 1934-A26,E34; *1935- A26, E35; 1936-E52; 1937-A38,E55; 1942-27; *1943-73
- EMPR ASS RPT 3919
- EMPR BC METAL MM01319
- EMPR FIELDWORK 1987, pp. 31-48
- EMPR GEM 1972-58; 1973-79
- EMPR INDEX 3-206
- EMPR OF 1988-11
- EMPR P 1989-5
- EMPR PF (Allen Geological Engineering (1971): Report)
- GSC MAP 1667
- GSC MEM *173, Map 273A; *184, p. 14; 308, p. 125
- GSC SUM RPT 1916, pp. 56-57; 1925A, p. 189

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/20

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 608
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (Starr, C.C. (1945): Report on a Brief Inspection of the
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GSC MAP 272A; 1091A; 1667
GSC MEM 173, p. 13, Map 273A; 184, p. 78; 308, p. 126
GSC SUM RPT 1916

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW179**

NATIONAL MINERAL INVENTORY:

NAME(S): **CLIFF (L.2606)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 57 05 N
LONGITUDE: 117 18 56 W
ELEVATION: 1067 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5533274
EASTING: 477362

LOCATION ACCURACY: Within 500M

COMMENTS: The centre of the Cliff Reverted Crown grant (Lot 2606).

COMMODITIES: Zinc Silver Lead

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite
COMMENTS: Significant minerals are for zinc-lead-silver deposits in general (Geological Survey of Canada Memoir 308, pages 184-185).

ASSOCIATED: Quartz Calcite Siderite
COMMENTS: Associated minerals are for zinc-lead-silver deposits in general (Geological Survey of Canada Memoir 308, pages 184-185).

MINERALIZATION AGE: Unknown

DEPOSIT

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

STRIKE/DIP: 090/50N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Triassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite
Quartzite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

CAPSULE GEOLOGY

The Cliff occurrence is located at about 1067 metres elevation on the Cliff Reverted Crown grant (Lot 2606), east of Emily Creek. Silverton, British Columbia lies 2.75 kilometres to the west.

The Cliff claim was first Crown granted in 1898. Little geological information is available for the Cliff occurrence. Some general information with reference to the Cliff occurrence is given in Geological Survey of Canada Memoir 308, pages 184-185. The occurrence is described as a zinc-lead-silver fissure-filled lode deposit with silver production exceeding lead. These deposits may contain some disseminated sulphides in the adjacent wallrock. The country rocks are argillite, quartzite and limestone of the Triassic Slovan Group. Gangue minerals include quartz, calcite and siderite. Wallrock fragments are common in veins. Ore minerals are mainly sphalerite, galena and pyrite. A 60-metre adit follows part of the vein which strikes east-west and dips 50 degrees north.

Reference to production on the Cliff occurrence dates back to 1932. Production records indicate 21 tonnes was mined in 1932, 1935 and 1936. This yielded 32,098 grams silver, 2278 kilograms lead and 3542 kilograms zinc.

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EMPR AR 1893-1059; 1898-1189; 1932-160; 1935-A26,E35; 1936-E52
ENPR BC METAL MM01145
EMPR INDEX 3-192
EMPR P 1989-5
EMPR PF (Starr, C.C. (1937): Report in 082FNW180)
GSC MAP 1667
GSC MEM *308, pp. 184,185

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/29

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW179**

MINFILE NUMBER: **082FNW180**

NATIONAL MINERAL INVENTORY: 082F14 Ag65

NAME(S): **STANDARD (L.564)**, EMILY EDITH (L.2532), ALPHA (L.562),
STANDARD FR. (L.11754), IRONCLAD, EAGLE,
EAGLE FR., J.I.C., ARENA FR.,
JENNIE JONES, SHUNIEAU SHUNIEAW,
ANACORTES FR., SURPRISE, ALPHA GRADY,
ECHO

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 57 22 N
LONGITUDE: 117 19 14 W
ELEVATION: 1082 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The location of the old mine buildings. See Mammoth (082FNW060) and Hecla (082FNW062).

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5533800
EASTING: 477006

COMMODITIES: Silver Zinc Lead Gold Cadmium
Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite Pyrargyrite Pyrite
Chalcopyrite
COMMENTS: Galena and sphalerite are the most abundant sulphide minerals.
ASSOCIATED: Quartz Siderite Calcite
ALTERATION: Quartz Calcite Sericite
COMMENTS: Alteration recorded is in the intrusive dikes.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Discordant Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Bladed
MODIFIER: Faulted
DIMENSION: 2390 x 366 x 46 Metres STRIKE/DIP: 065/45 TREND/PLUNGE:
COMMENTS: The lode has been followed for 2.39 kilometres underground and has a maximum width of 46 metres near the main zone which extends for 366 metres vertically. The lode strikes 060 degrees and dips 45 degrees.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic Unknown	Slocan	Undefined Formation	Unnamed/Unknown Informal

LITHOLOGY: Calcareous Argillite
Siliceous Argillite
Carbonaceous Argillite
Quartz Porphyry Dike
Biotite Hornblende Porphyry Dike
Quartzite
Limestone
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

CAPSULE GEOLOGY

The Standard occurrence is located on the southwest flank of Idaho Peak at about 1082 metres elevation. Silverton, British Columbia is located 2.5 kilometres to the west. The Standard (Lot 564), Alpha (Lot 562) and Emily Edith (Lot 2532) claims form the nucleus the Standard claim group covering the ground hosting the Standard occurrence. These claims were initially staked under separate ownership. Production from the Alpha occurrence began almost immediately from an outcrop containing high-grade galena. The main Standard orebody was not discovered until 1919, in the No. 4 tunnel. By 1913 all the claims had been combined under ownership of the Standard Silver-Lead Mining Company and the mine operated until 1921. From 1921 to 1928 the mine continued to operate under the ownership of Western Exploration Company Limited

CAPSULE GEOLOGY

and worked by various lessees. The mine continued to operate intermittently until 1952 by Western Exploration Company Limited. Operations then ceased until 1959 when various lessees carried out salvage operations. In 1961, Loma Minerals Ltd. held a lease that included the Standard, Mammoth (082FNW060), Monarch and Enterprise (082FNW148) groups. The property was leased by Johnsby Mines Ltd. in the following year and an extensive development program was commenced on the hangingwall branch of the Standard-Mammoth lode system. Three new ore shoots were discovered during a diamond drilling program in a newly collared adit on the east-neighbouring Surprise claim. Production continued until 1966 when the new ore was exhausted. Panoil Canadian Minerals Associates optioned the property in 1967 with further development work on the Mammoth occurrence. Arjan Pacific Ltd. acquired ownership of 32 Crown grants in 1973 which included claims covering the Standard, Hecla and Mammoth lodes. In 1984, Silver Ridge Resources Inc. carried out restoration of the 7-B level on the Emily Edith claim. This included 27 metres of new drift, 183 metres of drift rehabilitation and 46 metres of crosscut rehabilitation. Development work continued from 1986 to 1988 with diamond drilling carried out.

The Alpha claim has been developed by seven adits, the lowest at 1280 metres elevation. A total of 1433 metres of adit development work were carried out. The remainder of the Standard occurrence has been developed by twelve tunnels, including the Y, and Nos. 1, 7, 7-A, 7-B, 7-C and 8. The No. 8 is the lowest at 841 metres elevation. Ore has been found over a vertical range of 610 metres with up to 90 per cent of the ore mined over 152 metres between 1021 and 1173 metres elevation.

The Standard occurrence is hosted by siliceous, carbonaceous and locally calcareous argillite, minor quartzite and limestone of the Triassic Slocan Group. These are intruded by a granodiorite stock and various quartz porphyry and biotite hornblende porphyry dikes. The dikes are highly altered to quartz, calcite and sericite, close to the Standard veins. The structure of these strata is extremely complex owing to intricate folding and faulting.

The Standard lode-fissure consists of a wide, up to 50 metres, shear zone. Underground, the lode has been followed for nearly 2.39 kilometres. While the lode is somewhat sinuous, it strikes about 065 degrees and dips 20 to 80 degrees, averaging 45 degrees. Near the main orebody the lode has a maximum width of 46 metres. The zone has many small offsets and split in north-northeast and east-northeast branches at its eastern extremity. This is where the main orebody was found. The main ore shoot, known as the Big or Million Dollar stope, extends 366 metres vertically downward from the No. 3 level to below the No. 6 level. Other orebodies, which include the I vein, 640 vein, 620 vein and Spur vein, are scattered along the structure. The ore shoots are generally at an angle to the main footwall shear and a sigmoidal shape is reported for some of them, joining the footwall and hangingwall of the structure.

The orebodies occurred generally close to the footwall of the structure and consisted of up to four metres of massive, sheared and coarse-grained galena or up to three metres of massive galena and sphalerite in veins, stringers and lenses. Breccia composed of argillite, quartzite and porphyry are common in the footwall of the structure. Other reported minerals include varying minor amounts of pyrite, chalcopyrite, tetrahedrite and rare pyrargyrite. The Big ore shoot consisted primarily of relatively clean galena. Ore mined in later years contained mixed sphalerite and galena with the former predominating. Quartz, calcite and siderite comprise the gangue mineralogy.

The controlling factors on mineralization are thought to be the extent of shearing, brecciation and faulting of hostrocks with the presence of porphyry playing a minor role.

The Standard was one the longest and most significant producers in the area. The first mill in the area was built for ore from the Standard occurrence. Production records indicate 746,235 tonnes were mined intermittently over 75 years, from 1894 to 1969. This ore yielded about 278 tonnes silver, 20 kilograms gold, 39,690 tonnes lead, 49,361 tonnes zinc and 61 tonnes cadmium. An additional 4356 tonnes of ore from the Standard occurrence were processed at the nearby Ottawa mill (National Mineral Inventory 082F14 Ag65).

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1898-1189; 1899-599,688; 1900-828,981; 1901-1026; 1904-176;
1905-160,161; 1906-145,249; 1907-99,214; 1908-99,247; 1909-112,
273; 1910-99,244; 1911-133,145,285; 1912-148,322; 1913-420; 1914-
288,510; 1915-120,122,124,136,445; 1916-197,516; 1917-157,189,
448; 1918-169; 1919-125; 1920-122,127; 1921-136,138; 1922-200;

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1923-227; 1924-198; 1925-245; 1926-252,257; 1927-276; 1928-294;
1929-285; 1930-230,251; 1931-138,141; 1932-160,178; 1933-200,206;
1934-A26,E34; 1935-A26,E34,G51; 1936-E52; 1937-A37,E55; 1938-A36,
E43; 1940-27,81; 1941-27,75; 1942-27,73; 1943-45,72; 1944-41,42,
72; 1945-43,106; 1946-35,153,166; 1947-171; 1948-146; 1949-191;
1950-148; 1951-43,174; 1952-44,178; 1953-46,141,209; 1954-51,141;
1955-A49,63; 1956-A51,96; 1957-A47,54; 1958-A46,47; 1959-A49,69;
1961-A50,77; 1962-A50,82; 1963-77; 1964-125; 1966-220; 1967-251;
1968-A55,251; 1969-A56
EMPR BC METAL MM01180; *MM01417
EMPR BULL *29, pp. 11,55,86,122
EMPR EXPL 1985-A38; 1987-A65
EMPR GEM 1969-327
EMPR INDEX 3-187,195,214; 4-125
EMPR OF 1998-10
EMPR P 1989-5
EMPR PF (Hedley, M.S. (1944): Report on the Standard and Mammoth
Mines; Starr, C.C. (1943): Underground mine plan, 1"=200'; C.C.
(1943): Mine plan of the ore zones, 1"=200'; (1964): Photograph of
the Hecla adit; see Reco, 082FNW035 - Jefferson, L.M. (1971):
The Potential of Reco Silver Mines Ltd., pp. 49, 50; Starr, C.C.
(1937): Notes on the Geology of the Alpha Mine; Starr, C.C.
(1937): Report on the Geology of the Claims of the Western
Exploration Co. Ltd.; Starr, C.C. (1952): Geology Between the
Standard and Mammoth Mines, scale 1"=100', in 082FNW060; Western
Exploration Company, Limited (1947-1959): 25 reports and
correspondence on Standard Mine, in 082FNW060)
EMR MP CORPFILE (Western Exploration Co. Ltd.; Standard Silver Lead
Mining Co.; Johnsby Mines Ltd.; Loma Minerals Ltd.)
GSC MAP 1667; 1956-3
GSC MEM 173, Map 273A; *184, pp. 94,104,136-141; *308, p. 185
GSC SUM RPT 1916, pp. 56-57; 1925A, p. 207
CIM Journal Volume XIV, 1911, p. 55
GCNL #26(Feb.6), 1986
W MINER 1948, p. 64

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/27

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW181**

NATIONAL MINERAL INVENTORY: 082F14 Ag27

NAME(S): **AMERICAN BOY (L.571)**, LAST CHANCE (L.717), SILVER CHORD

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 34 N
LONGITUDE: 117 12 15 W
ELEVATION: 1630 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5537848
EASTING: 485366

LOCATION ACCURACY: Within 500M

COMMENTS: Location of underground workings on American Boy Crown grant. Same vein system as the Last Chance (082FNW020). The workings are connected to Noble Five (082FNW037).

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Tetrahedrite Pyrargyrite
ASSOCIATED: Quartz Siderite
MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Bladed
MODIFIER: Sheared

DIMENSION: 825 x 400 Metres STRIKE/DIP: 045/65S

TREND/PLUNGE:

COMMENTS: The vein strikes 045 degrees on the American Boy Crown grant and 060 degrees on the Last Chance Crown grant. The massive sulphide portion of the fissure vein is usually less than 10 centimetres wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Quartzite
Argillaceous Quartzite
Calcareous Argillite
Quartz Porphyritic Dike
Quartz Porphyry
Slate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The American Boy occurrence is situated on Crown grant Lot 571 at 1630 metres elevation above sea level, in the Slocan Mining Division. The property is on the north side of Carpenter Creek east of Mount Payne.

The American Boy and Last Chance (082FNW020) adjoin and the mine workings are on the same lode system. The principal claims making up the properties were located in 1891 and were among the first to be staked in Slocan.

Development commenced on both properties in the early 1890's and continued at a fairly steady pace until 1908 when activity ceased. Work on the American Boy was carried out by Tom McGuigan and by the American Boy Mining and Milling Company, formed in 1897, later (1918) reorganized and renamed American Boy Mining Company. Work on the Last Chance was carried out by the Last Chance Mining and Milling Company.

In 1920 work recommenced on the Last Chance property and in 1922 on the American Boy. Activity was intermittent and lasted until about 1927. From that time until 1953 nothing was done on either property. In 1951 Cody-Reco Mines Limited bought up several properties in the Slocan area including the American Boy and Last Chance. A new road system was put in connecting the workings with a new mill built at Cody in 1952.

Workings on the main vein lode comprise 11 adits and several intermediate levels aggregating about 4.8 kilometres of drift and

CAPSULE GEOLOGY

crosscut. These workings are connected by raises and explore the lode over a vertical depth of about 350 or 396 metres measured down dip. Most of the work was done on the main lode and only short crosscuts were required in any distance. Certain workings are continuous on the 2 properties and have developed the main lode a length of 823 metres.

In 1953 No. 9 adit of the American Boy was reopened and some drifting done. In 1954 about 106.6 metres of drifting to get around a cave on No. 9 adit level and raises were rehabilitated down to No. 10 and No. 11 levels. In 1960 Cody-Reco Mines Limited was reorganized and its name changed to Vespar Mines Limited.

Reco Silver Mines Limited in October 1968 acquired a lease, renewable every 4 years, on 21 claims in the Last Chance and Noble Five (082FNW037) groups. Vespar amalgamated with Lakehead Mines Limited in January 1979 under the name Parlake Resources Limited. In May 1980 Reco Silver Mines changed its name to Silvex Resources Corporation.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The American Boy occurrence is hosted by quartzite, argillaceous quartzite and calcareous argillite of the Slocan Group intruded by various dikes of quartz porphyry probably related to the Nelson intrusions. The sedimentary sequence generally strikes 120 degrees and dips 58 degrees southwest. For the most part the sedimentary rocks are well bedded and banded. The quartz porphyritic dikes, in general, tend to follow the strike of the sedimentary rocks and are 3 to 10 metres thick.

The occurrence consists of two or more fissure veins that cut across the sedimentary and intrusive rocks. The veins strike 045 degrees on the American Boy Crown grant (Lot 571) and 060 degrees on the Last Chance Crown grant. Dips are 60 to 65 degrees southeast. The veins have been explored for about 825 metres along strike and 400 metres downdip on both the American Boy and Last Chance Crown grants. The veins pinch-out to the southwest on the Chicago Crown grant (Lot 622) (082FNW020) where they cut fissile slate of the Slocan Group. The strike and dip of each fissure varies from point to point so that fissures meet and separate at irregular intervals developing a braided structure varying from a few millimetres to over 6 metres in width. The fissures are mostly filled with crushed wallrock. Argentiferous galena, sphalerite, pyrite, tetrahedrite and ruby silver (pyrargyrite) occur with quartz and siderite concentrated in narrow veinlets near the walls of the fissures. The sulphide material is usually less than 10 centimetres wide except where crossfaults cut the fissure veins and pockets of massive sulphide up to 75 centimetres wide are developed. In general, sphalerite increases with depth.

Production from the American Boy portion of the fissure vein structures amounts to about 9 tonnes of silver, 1482 tonnes of lead, 85 tonnes of zinc and 62 grams of gold from 3943 tonnes mined between 1896 and 1927.

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1901-1024; 1902-148; 1903-136; 1904-202; 1905-160; 1906-145,248;
1907-100,214; 1908-99,247; *1922-199; 1923-224; 1924-195; 1925-244;
1926-251; 1953-139; 1954-140; 1955-61; 1956-94; 1957-53
EMPR BC METAL MM01110
EMPR BULL 29
EMPR INDEX 3-187
EMPR P 1989-5
EMPR PF (See Reco, 082FNW035 - Claim location map; Starr, C.C.
(1925): Abstract of Report on the American Boy - Noble Five -
Silver Chord - Ajax Mines, 5 p.)

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 615
REPORT: RGEN0100

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CANMET IR 12 (1906), p. 255

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW182**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUFFALO (L.674)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 57 25 N
LONGITUDE: 117 17 12 W
ELEVATION: 1585 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 674.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5533883
EASTING: 479437

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite
ASSOCIATED: Quartz
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Calcareous Argillite
Quartzite
Granitic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Buffalo property is situated on Avison Creek at 1585 metres elevation above sea level in the Slocan Mining Division. The underground workings are on the Buffalo Crown grant (Lot 674) (forfeited).

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The Buffalo occurrence is hosted by calcareous, mostly massive argillites and quartzites of the Slocan Group. The sedimentary rocks are cut by a granitic dike, probably related to the Nelson intrusions. The occurrence consists of a fissure vein located within a fault zone subparallel to bedding. Rocks on the hangingwall side of the fault have been horizontally displaced about 10 metres north with respect to the footwall side. The fissure strikes 050 degrees, dips 55 degrees southeast and is about 1 to 1.5 metres wide. It has been explored with three short adits over a vertical range of about 75 metres.

The Buffalo vein intersects and merges with the Mammoth vein on the No. 8 level of the Mammoth mine (082FNW060) to the northwest. The vein consists of galena, sphalerite and tetrahedrite in a gangue of quartz and crushed wallrock. The wallrock is strongly silicified

CAPSULE GEOLOGY

adjacent to the vein and sulphide mineralization appears more concentrated on the hangingwall side of the vein.

Production records for the Buffalo occurrence are incomplete because the ore was combined with that of the Mammoth (082FNW060) and the Standard (082FNW180) after 1928. Production between 1905 and 1928 yielded 480,572 grams of silver, 25,794 kilograms of lead and 13,239 kilograms of zinc from 103 tonnes mined.

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- EMPR BULL *29, p. 69
- EMPR EXPL 1976-E42
- EMPR INDEX 3-190
- EMPR P 1989-5
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- GSC MAP 273A; 1091A; 1667
- GSC MEM 173, p. 12; *184, p. 23; 308, p. 146

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/11

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

They reported a small shipment of ore in 1895. The Carnation claim, owned by D.D. Mann was under development from 1895 or earlier. Crown-grants were issued in 1897 as follows: the Carnation (Lot 575) to D.D. Mann, the Read (Lot 1247) and Tenderfoot (Lot 1248) to E.E. Evans, the Jennie Lind (Lot 1806) and Robertson (Lot 1808) to The West Kootenay (B.C.) Exploring and Mining Company, Limited. In 1904 the Robertson and Jennie Lind claims were held as part of the adjacent Wakefield property (82FNW059) which was under lease to The Anglo-Slocan Syndicate Limited. The Read and Tenderfoot claims were worked in 1906 by M.S. Davys who shipped a small amount of ore.

During the period 1917 to the mid 1920's claims on the east side of the ridge, including the Carnation, Violet (Lot 3168) and Violet Fr. (Lot 3170) were held by G.W. Clark & associates under bond from A.R. Mann and others. During that period considerable development work was done in Nos. 2 and 3 adits. The Victoria Syndicate, Limited, of London, acquired an option on the property in 1925. Development work was carried out on both sides of the ridge, mainly in No. 2 drift adit which was driven southwesterly for 853.4 metres through the mountain to the Jennie Lind claim. A raise was driven to the old Read workings. A 3048-metre tramline was installed at the west portal of No. 2 adit at an elevation of 1967 metres. The syndicate dropped the option in 1928 and work was resumed by G.W. Clark. In January 1929 A.R. Mann & associates incorporated Carnation Silver Lead Mines, Limited to acquire the 17 claims and fractions. The claims were electrically prospected for one month by The Radiore Company of Canada, Limited. Underground work began in August in No. 3 adit on the east side of the ridge. Operations ceased in 1930.

Early exploration on the Jennie Lind and Read claims on the west side of the ridge was carried out in a series of 8 or more short adits and open cuts. On the east side of the ridge, to 1930, the main lode (Carnation lode) had been partly explored on and close to the northeast corner of the Carnation claim by 3 adits and a 6-metre shaft. A 36.5-metre drift adit was driven on the "D" vein at the 1996-metre elevation about 183 metres northwest of No. 2 adit; the latter as mentioned earlier, had been driven through the mountain at the 1966 metre elevation. A third adit, begun in 1929 at the 1920 metre elevation, was driven as a crosscut for 45.7 metres northwesterly to the lode, which was drifted on southwesterly for about 122 metres.

Kelowna Exploration Company, Limited in 1939 optioned the Carnation and adjacent claims and began an extensive geological survey. The option on the Carnation was given up in 1940 but control of the adjacent claims was retained. In August 1945 the company purchased the Carnation group of 14 Crown-granted claims and fractions. In 1948 the old No. 3 adit at 1920 metres elevation was reopened. In 1949 a new low level adit at elevation 1670 metres was begun at the south edge of the Western Fr. claim of the Minniehaha property, and a second, 1670-metre east adit, was driven the following year. Two crosscuts were driven across the lode in the old 1920-metre adit and a new adit (1859 metres) was driven westerly for 166 metres after the lode had been uncovered at that level by stripping. The new low-level 1670-metre adit was driven in search of the downward extension of the Carnation lode exposed in the 1920 adit, 243.8 metres above. The new adit was driven 70 metres southwesterly into the hill, then 420.6 metres in a south 7-degree west direction through the adjacent Evening claim (082FNW049). Two mineralized lodes, about 122 metres apart, were encountered. The first, probably related to the Minniehaha lode, was drifted on for 103.6 metres in the 1670 main adit and for 97.5 metres in the 1670 east adit. The second lode (Carnation lode) was drifted on westerly for about 548.6 metres to a point down dip from the upper levels and a crosscut was driven 100.5 metres into the hangingwall. The company name was changed in 1951 to Kelowna Mines Hedley Limited. The results of the exploration work were disappointing and operations ceased in June 1951.

Silver Standard Mines Limited, in 1961, acquired an option on 59 claims from Oil Participations Incorporated who had acquired the claims from Kelowna Mines when that company was dissolved in 1958. Drilling was done to test the Carnation lode 122 metres below the 1670 level. Subsequent exploration was on claims down dip to the east (see Silvana (82FNW050)). Silmonac Mines Limited was incorporated in 1963 to acquire the property. The company name was changed in 1977 to Silvana Mines Inc.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are

CAPSULE GEOLOGY

intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium-feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly interbedded black argillite and medium to dark grey quartzite and argillaceous quartzite of the Slocan Group. Argillaceous limestone, limestone and slate are also found in varying proportions in the sequence. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Horizontal displacement can be several metres to over 90 metres. Drag features are also present.

The vein exposed on the Jennie property is part of a vein system that has been traced to the east through the Carnation (082FNW048) and Silvana (082FNW050) and may extend as far east as the Ruth-Hope property (082FNW052). The vein has been explored with eight short adits on the Jennie Lind property. It is about a metre wide and contains mostly crushed rock cemented by coarse calcite and quartz. The ore consists of brecciated galena and sphalerite cemented by the gangue minerals. A sample of vein material from the dump in 1926 assayed 0.68 gram per tonne gold, 1900 grams per tonne silver, 17.2 per cent lead and 14.8 per cent zinc (Minister of Mines Annual Report 1926).

Production from the Jennie Lind in 1895 and in 1906 yielded 301,264 grams of silver and 31,497 kilograms of lead from 61 tonnes mined. Some production may be included with Carnation (082FNW048).

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DATE CODED: 1985/07/24
DATE REVISED: 1996/01/04

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW184**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOAN, DUPLEX, DIANNE,**
FOURTH OF JULY NO. 6 (L.7295), TEURO (L.7297), CHAPLEAU CREEK,
KING JACK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:
LATITUDE: 49 44 35 N
LONGITUDE: 117 21 22 W
ELEVATION: 1830 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Joan claim, formerly known as the Duplex, is located about 7.5 kilometres east of Slocan City. Access is by the Chapleau Creek and Lemon Creek roads that join the Slocan highway.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5510124
EASTING: 474343

COMMODITIES: Silver Gold Lead

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres
STRIKE/DIP: 135/75N
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks Quesnel
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Joan claim, formerly known as the Duplex, is located about 7.5 kilometres east of Slocan City. Access is by the Chapleau Creek and Lemon Creek roads that join the Slocan highway. It joins the Fourth of July No. 6 (Lot 7295) and Teuro Crown-granted claims on the south.

The property was staked prior to 1901 and worked intermittently until 1946. Ore shipments in 1902 and 1947 totalled 9 tonnes, from which 5 kilograms of lead, 249 grams of gold and 20,000 grams of silver were recovered.

The workings consist of two short drift adits (separated vertically by 13.4 metres) and a raise to surface near the portal of the lower adit.

The property is underlain by porphyritic Nelson Granite that is sheared and fractured near the vein. The vein is encountered in the lower tunnel at about 7.6 metres from the portal where it enters the right wall. From this point it is followed in the drift for a distance of about 43 metres to a fault near the face. Along the drift, the vein is offset by three faults with slight left-hand displacements. These strike roughly north and dip 70 to 80 degrees west. The vein is 0.3 to 0.6 metre wide and strikes 130 to 140 degrees, dipping 30 to 40 degrees northeast. The vein consists of quartz (no carbonates) with narrow streaks and disseminations of galena and a minor amount of pyrite and argentite.

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EMPR BULL 7, p. 2
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-194, 201
EMPR OF 1988-11

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 622
REPORT: RGEN0100

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GSC MEM *308, p. 152-153

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Little information is available about the early years of the Gold Cure occurrence. The claims were first located in 1898 and produced 18 tonnes of ore in 1909. Further development work was carried out in 1917, extending the main adit to 34 metres length. In 1920, the property was acquired by Marsh Mines and Development Co. and a small amount of development work was continued. In 1924, the Gold Cure and Wintrop (082FNW097) occurrences were reported to be under the same management. No work was reported at this time however. Red Hawk Gold Mines Ltd. acquired an option on the property in 1950. The old adits were reopened and a contract signed to do 610 metres of diamond drilling. Cream Minerals sampled the property in 1997; a 0.3-metre chip sample assayed 175.6 grams per tonne silver, 8.18 per cent zinc and 0.08 per cent lead (GCNL #174, 1997). An 8-metre trench sample assayed 260.4 grams per tonne silver, 0.72 per cent zinc and 0.66 per cent lead (GCNL #230, 1997). A 25 to 80-metre northeast-trending shear zone has been traced for 3.7 kilometres.

Gold Cure mineralization occurs along the same northeast-trending structure as the Bismark (082FNW096) in the Triassic Slovan Group sediments. Hornblende potassium feldspar porphyritic granite of the Nelson batholith lies 400 metres to the southwest. The Middle Jurassic Mount Carlyle stock lies to the northwest. Potassium feldspar porphyritic granite comprises the stock. The Slovan Group comprises argillite, silicic sandstone and a layer of recrystallized limestone that is over 20 metres thick.

Faults and fractures at the Gold Cure occurrence host associated replacement and vein mineralization. They are stratabound and subparallel to the contact with the Middle Jurassic Nelson batholith. Mineralization at the Gold Cure occurrence consists of galena, sphalerite and pyrite hosted in a gangue of quartz and calcite.

Eighteen tonnes of ore were mined from the Gold Cure occurrence in 1909. This ore yielded 62,206 grams silver and 9072 kilograms lead.

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EMPR BC METAL MM01207
EMPR BULL 9, p. 83; 45, pp. 59,64
EMPR FIELDWORK 1987, pp. 31-48,535-541
EMPR INDEX 3-197
EMPR OF 1988-11
EMPR P *1989-5
EMPR PF (Various maps, reports by R.J. Maconachie, 1942, S.S. Holland)
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CANMET RPT 592, p. 47
CIM Jan. 1983, Vol.76, #849, pp. 115-124; Mar. 1982
GCNL #229, 1981; #174(Sept.10), #185(Sept.25), #230(Dec.1), 1997;
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N MINER May 4, Aug. 17, #220(Nov.17), 1998
WWW <http://www.langmining.com/cream/main.htm>

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/28

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW186**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER BELL (L.6815)**, SILVER BELL GROUP, HUB (L.6816),
LITTLE BELL FR. (L.6817), KASLO SILVER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 51 47 N
LONGITUDE: 117 07 20 W
ELEVATION: 1432 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Silver Bell occurrence (Paper 1989-5, Map 3).

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5523412
EASTING: 491216

COMMODITIES: Silver Lead Zinc Cadmium

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Silver
COMMENTS: High grade silver-bearing sulphides are reported. Fine specimens of wire native silver are reported.
ASSOCIATED: Quartz Calcite
COMMENTS: Calcite is minor.
COMMENTS: Sulphides are oxidized.
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 61 Metres STRIKE/DIP: 090/25S TREND/PLUNGE:
COMMENTS: Ore was mined over 61 to 91 metres length on and near surface on a shear-hosted vein striking 090 degrees and dipping at a low angle to the south.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 169 +/- 3 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			
Middle Jurassic			Mount Carlyle Stock
ISOTOPIC AGE: 169 +/- 3 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: Slate
Limestone
Carbonaceous Argillite
Siltstone
Biotite Andalusite Schist
Hornblende K-Feldspar Porphyritic Granite
K-Feldspar Porphyritic Granite

HOSTROCK COMMENTS: Zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Pre-mineralization
Syn-mineralization
GRADE: Greenschist
Hornfels

CAPSULE GEOLOGY

The Silver Bell occurrence is located at 1432 metres elevation between Desmond and Kyawats creeks, southeast of Keen Creek. The ground is covered by the Silver Bell claim group composed of the Silver Bell (Lot 6815), Hub (Lot 6816) and Little Bell Fraction (Lot 6817) Crown grants. Kaslo, British Columbia is located 22 kilometres to the northeast.

The first production from the Silver Bell occurrence was in 1898. Workings consisted of two main and several short subsidiary adits.

The Silver Bell occurrence occupies a narrow belt of Triassic Slocan Group metasediments within the Keen Creek reentrant. Metasediments, in order of importance, include slate, carbonaceous

CAPSULE GEOLOGY

argillite, limestone, siltstone and biotite andalusite schist. Slocan lithologies are flanked by hornblende potassium feldspar porphyritic granite of the Middle Jurassic Nelson batholith and potassium feldspar porphyritic granite of the Middle Jurassic Mount Carlyle stock.

Ore mineralization occurred in a wide crushed (shear) zone in rocks of the Slocan Group. The zone strikes to the east and dips at a low angle to the south. The lode is reported to have carried high silver near and at the surface over 61 to 91 metres length. Ore occurred in broken bands and lenses composed of quartz, calcite with galena, sphalerite, pyrite and other high-grade silver minerals. Sulphides were considerably oxidized.

Ore was mined from the Silver Bell intermittently from 1898 to 1983, with most of the production occurring between 1898 and 1925. From a total of 656 tonnes mined, 2,573,587 grams silver, 111,655 kilograms lead, 12,050 kilograms zinc and 66 kilograms cadmium were recovered.

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EMPR OF 1988-11; 1990-18; 1992-1
EMPR P *1989-5
GSC MEM 173, p. 14, Map 272A; *184, pp. 245,246; 308, p. 131
WWW <http://www.langmining.com/cream/main.htm>;
http://www.infomine.com/index/properties/KASLO_SILVER.html

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/28

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW187**

NATIONAL MINERAL INVENTORY:

NAME(S): **OLSEN (L.10054)**, OLSEN NO. 1 (L.10055)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11E 082F14E
BC MAP:
LATITUDE: 49 44 08 N
LONGITUDE: 117 03 22 W
ELEVATION: 2075 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5509231
EASTING: 495957

COMMODITIES: Silver Zinc Lead Gold Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
SHAPE: Tabular
MODIFIER: Fractured
DIMENSION: STRIKE/DIP: 260/18N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 165-169 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: K-Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1987	
SAMPLE TYPE: Grab		
<u>COMMODITY</u>	<u>GRADE</u>	
Silver	3800.0000	Grams per tonne
Gold	4.9000	Grams per tonne
Copper	0.1400	Per cent
Lead	11.6000	Per cent
Zinc	33.7000	Per cent

COMMENTS: Grab sample DB-356.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The quartz veins are hosted in potassium feldspar porphyritic granite of the Middle Jurassic Nelson Intrusions. Veins are less than 5 centimetres thick at surface. Quartz is aphanitic to fine-grained, dark grey to milky. Vugs are lined with quartz crystals. Sphalerite is black to dark red. Some veins are banded and brecciated.

The Olsen (Lot 10054) was Crown-granted in 1911 to C.F. Olsen. Earlier work consisted of a 30-metre adit. The property is located on Olson Creek, a tributary of Coffee Creek, and adjacent to Kootenay Glacier Provincial Park.

In 1939, eight tonnes of ore yielded 27,868 grams silver, 31 grams gold, 906 kilograms lead, and 1050 kilograms zinc.

In 1987 a grab sample assayed 3800 grams per tonne silver, 4.9 grams per tonne gold, 0.14 per cent copper, 11.6 per cent lead and 33.7 per cent zinc (Open File 1988-11).

PBX Resources Ltd. acquired the claims in 1989.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 628
REPORT: RGEN0100

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EMPR INDEX 3-208
EMPR OF 1988-11
EMPR P 1989-5, p. 14
GSC MAP 1091A
GSC MEM 308, p. 148
GCNL #246 (Dec.22), 1989

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/25

CODED BY: GSB
REVISED BY: DAB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW188**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUSTER**, SHADOW, SHADOW 1-7,
SHADOW FR. 1-6, NORJACK, NORJACK1-4,
WINONA, WINONA 3-4

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W

Underground

MINING DIVISION: Slocan

BC MAP:
LATITUDE: 49 56 35 N

UTM ZONE: 11 (NAD 83)

LONGITUDE: 117 20 41 W

NORTHING: 5532356

ELEVATION: 853 Metres

EASTING: 475266

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of the Buster occurrence (Geological Survey of
Canada Memoir 308, Map 1091A).

COMMODITIES: Silver

Zinc

Lead

Gold

Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Tetrahedrite Pyrrargyrite Silver

COMMENTS: Significant minerals are given in no particular order (Geological
Survey of Canada Memoir 308, page 131).

ASSOCIATED: Quartz Calcite Siderite

COMMENTS: Associated minerals are given in no particular order (Geological
Survey of Canada Memoir 308, page 131).

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic

Slocan

Undefined Formation

Middle Jurassic

Nelson Intrusions

ISOTOPIC AGE: 169 +/- 3 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

LITHOLOGY: Porphyritic Granite

Argillite

Slate

Quartzite

Limestone

Conglomerate

Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

Hornfels

CAPSULE GEOLOGY

The Buster occurrence is located at about 853 metres elevation,
on a small knoll one kilometre southeast of Silverton, British
Columbia.

No records could be located on work on the Buster property prior
to 1970, except for production of 2 tonnes of ore in 1935. Work done
on the claims hosting the Buster occurrence from 1970 to 1980
included trenching, one 122 metre diamond-drill hole, geochemical
soil surveys, and ground electromagnetic and magnetic geophysical
surveys. During this time two small adits were discovered in the
northwest corner of the Winona claim group, covering the Buster
occurrence.

The Buster occurrence is underlain by the Triassic Slocan Group,
consisting of slate, argillite, quartzite, limestone, conglomerate
and tuff. Porphyritic granite of the Middle Jurassic Nelson
batholith outcrops to the south.

The Buster occurrence is mentioned in silver-lead-zinc vein
deposits with or without gold and cadmium (Geological Survey of
Canada Memoir 308, page 131). It is stated sphalerite was more
abundant than galena and is classified as a fault-fissure lode.
Other ore minerals may have included tetrahedrite, pyrrargyrite,

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RUN TIME: 16:27:53

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PAGE: 630
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CAPSULE GEOLOGY

native silver and other unidentified minerals. Gangue minerals consist of varying proportions of quartz, calcite and siderite. Production records indicate 2 tonnes of ore was mined from the Buster occurrence in 1935. This ore yielded 2364 grams silver, 31 grams gold, 173 kilograms zinc and 150 kilograms lead.

BIBLIOGRAPHY

EMPR AR *1935-A26,E33
EMPR ASS RPT 4033, 4537, 4649, *8237, 9588
EMPR BC METAL MM00613
EMPR GEM *1972-57; *1973-77
EMPR INDEX 3-191
EMPR P 1989-5
GSC MAP 1667
GSC MEM *308, p. 133

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW189**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKYLARK & RANGER**, SKYLARK (L.9333), RANGER (L.9332),
KILO

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 44 26 N
LONGITUDE: 117 23 45 W
ELEVATION: 1950 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5509860
EASTING: 471479

LOCATION ACCURACY: Within 500M

COMMENTS: The Skylark (Lot 9333) and Ranger (Lot 9332) claims are at about 1950 metres elevation on the ridge north of Chapleau Creek, 6 kilometres southeast of Slocan. Access to the property is by trail from the Chapleau mine (082FNW130) which is connected to the Slocan highway via the Lemon and Chapleau creek roads.

COMMODITIES: Silver Gold Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
DIMENSION: 900 Metres STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic	Slocan	Unnamed/Unknown Formation	
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Granite
Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Plutonic Rocks Quesnel

CAPSULE GEOLOGY

The Skylark (Lot 9333) and Ranger (Lot 9332) claims are at about 1950 metres elevation on the ridge north of Chapleau Creek, 6 kilometres southeast of Slocan. Access to the property is by trail from the Chapleau mine (082FNW130) which is connected to the Slocan highway via the Lemon and Chapleau creek roads.

The property, Crown granted in 1910, was first explored in 1896.

A quartz vein, cutting granitic rocks of the Nelson batholith and gneissic rocks (inclusion), has been explored by drifts from three adits. At surface the vein is traced for about 900 metres over two full claims. Three tonnes of hand cobbled ore produced in 1934 graded 41 grams per tonne gold and 3442 grams per tonne silver.

Kilo Gold Mines Ltd. sampled the claims in 1985 and surveyed in 1986. A 20-centimetre sample assayed 36.2 grams per tonne gold and 757 grams per tonne silver (GCNL #229(Nov.25), 1985).

BIBLIOGRAPHY

EMPR AR 1896-73; 1899-689; 1904-168; 1910-247; 1934-A26; 1938-E5
EMPR BC METAL MM01405
EMPR BULL 7, p. 2
EMPR INDEX 3-214
EMPR P 1989-5
GSC MAP 1090A, 1091A
GSC MEM 308, p. 150
GCNL #225(Nov.22), #229(Nov. 28), 1985; #111(June 10), 1987

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW190**

NATIONAL MINERAL INVENTORY:

NAME(S): **SAPPHIRE**, CHAMPION, SAPPHIRE NO. 2 (L.10813),
CHAMPION NO. 2 (L.10811)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 49 36 N
LONGITUDE: 117 26 10 W
ELEVATION: 850 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5519450
EASTING: 468633

LOCATION ACCURACY: Within 1 KM

COMMENTS: The Sapphire and Champion claims are located near the Slocan highway, 6.5 kilometres north of Slocan. The claims, Lots 10813 and 10811, respectively, were Crown granted in 1912 to D.A. MacLachlan.

COMMODITIES: Silver

Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Jurassic-Cretaceous

Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Sapphire and Champion claims are located near the Slocan highway, 6.5 kilometres north of Slocan. The claims, Lots 10813 and 10811, respectively, were Crown granted in 1912 to D.A. MacLachlan.

Little is known about the Sapphire property other than the area is underlain by cataclastic granitic rocks, typical of the boundary facies of the Nelson batholith.

Recorded production in 1903 and 1904, was 37 tonnes, yielding 52,284 grams of silver and 1026 grams of gold.

BIBLIOGRAPHY

EMPR AR 1901-1027; 1903-139; 1904-204; 1912-325,326
EMPR BC METAL MM01384
EMPR INDEX 3-212
EMPR P 1989-5
GSC MAP 1091A

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

grams of silver). At 9 metres from the face of this second adit, a small basic dike intrudes and displaces the vein about 1 metre to the left. At a point 36 metres west of the second adit, a third adit explores another quartz vein having the same attitude as the others. Also there are several small quartz veins between the second and third adits. A fourth adit, 60 metres west of the third, is 27 metres long and investigates a parallel quartz vein ranging up to 45 centimetres in width, carrying some pyrite.

Production of about 9 tonnes of ore in 1938, from the Get There Eli, yielded 124 grams of gold and 15,925 grams of silver; 3 tonnes of ore in 1955, from the V. & M., yielded 93 grams of gold, 12,338 grams of silver, 23 kilograms of lead and 8 kilograms of zinc.

In 1988, Yukon Minerals Corporation conducted soil and rock sampling, and geological mapping in the area. A sample from the Get-There-Eli adit assayed 16.8 grams per tonne gold and 549 grams per tonne silver over 0.5 metre on a quartz-pyrite vein (Assessment Report 18603).

BIBLIOGRAPHY

EMPR AR 1900-830; 1901-1027; 1902-298,302; 1903-242; 1921-347; 1938-A37; 1948-148; 1955-A49,65
EMPR ASS RPT 17168, *18603
EMPR BC METAL MM01203 (Get There Eli), MM01218 (V. & M.)
EMPR INDEX 3-197,217; 4-126
EMPR P 1989-5
EMR MP CORPFILE (McLeod Slocan Mining Syndicate Ltd.)
GSC MAP 272A, 1091A
GSC MEM 173; 184, pp. 188-189; 308, p. 154

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW192**

NATIONAL MINERAL INVENTORY:

NAME(S): **TRY AGAIN**, LEMON CREEK

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 42 00 N
LONGITUDE: 117 26 04 W
ELEVATION: 670 Metres

NORTHING: 5505367
EASTING: 468671

LOCATION ACCURACY: Within 1 KM
COMMENTS: South side of Lemon Creek.

COMMODITIES: Uranium

MINERALS

SIGNIFICANT: Allanite Fergusonite
COMMENTS: Allanite.
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic Pegmatite
TYPE: O02 Rare element pegmatite - NYF family

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Pegmatite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY
Uranium

GRADE
0.0400 Per cent

YEAR: 1955

COMMENTS: A selected sample.
REFERENCE: Minister of Mines Annual Report 1955, page 65.

CAPSULE GEOLOGY

A quartz-pegmatite within granite of the Middle Jurassic Nelson intrusions contains disseminated allanite and possibly fergusonite. A selected sample assayed 0.04 per cent uranium (Minister of Mines Annual Report 1955).

BIBLIOGRAPHY

EMPR AR *1955-65
EMPR ASS RPT 2170
EMPR MAP 22
GSC EC GEOL #16, 1952, p. 45; #16 (2nd Ed.), p. 233; #29, pp. 70,134
GSC MAP 1090A
GSC OF 551; 1988-11
American Mineralogist V38, 1953, p. 546

DATE CODED: 1987/07/09
DATE REVISED: / /

CODED BY: LDJ
REVISED BY:

FIELD CHECK: N
FIELD CHECK:

MINFILE NUMBER: **082FNW193**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD VIKING (L.4850)**, NEW PHOENIX (L.4851), VIKING (L.4852)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 46 49 N
LONGITUDE: 117 26 59 W
ELEVATION: 960 Metres

NORTHING: 5514298
EASTING: 467623

LOCATION ACCURACY: Within 500M

COMMENTS: The Gold Viking property is 1 kilometre west of Scorpion Creek and 2 kilometres northeast of Slocan. The property is accessible by 5 kilometre of all weather gravel road from the town of Slocan and the Slocan highway.

COMMODITIES: Silver Gold Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic-Cretaceous

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Granite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Gold Viking property is 1 kilometre west of Scorpion Creek and 2 kilometres northeast of Slocan. The property is accessible by 5 kilometre of all weather gravel road from the town of Slocan and the Slocan highway.

The Gold Viking property comprises the Gold Viking (Lot 4850), Viking (Lot 4852), and New Phoenix (Lot 4851) reverted Crown granted claims and fractions. The property is underlain by granitic rocks near the western margin of the Nelson batholith.

The mineralization consist of quartz veins in north and northeasterly trending shear zones. On the Gold Viking claim the original development, at 957 metres elevation, consisted of an adit. On the New Phoenix claim an adit, at 926 metres elevation, follows a 015 striking and 70-degree east-dipping shear zone. Shipments from 1932 to 1936 totalled 15 tonnes, yielding 4790 grams of silver 373 grams of gold and 14 kilograms of lead. Red Metal Mines Ltd. worked and diamond drilled in the area in 1969. The property was held by Amergas Resources Ltd. in 1980.

The Gold Viking vein strikes north and dips 70 degrees east. Rusted samples of quartz contain galena, sphalerite and trace amounts of chalcopyrite and pyrite. A grab sample from the mine dump assayed 1.1 grams per tonne gold, 35 grams per tonne silver, 0.01 per cent copper, 0.07 per cent lead, and 0.25 per cent zinc. On the New Phoenix claim, another vein is exposed by a 40-metre long adit that follows a shear zone in granodiorite. The shear zone strikes 015 degrees, dips 70 degrees southeast and contains a lenticular quartz vein that ranges from 0.5 to 1.0 metre in width. The vein is slightly mineralized by galena, sphalerite and pyrite in quartz and calcite gangue. A 1-metre wide chip sample across the vein, near the face of the adit, assayed 0.1 gram per tonne gold, 8.9 grams per tonne silver, 0.01 per cent copper, 0.23 per cent lead and 0.16 per cent zinc (Assessment Report 8825).

Amergas Resources Ltd. surveyed the area in 1980.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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PAGE: 637
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1902-298,300,302; 1932-25,160; 1933-200,207; 1935-A27,E32;
1936-E49
EMPR ASS RPT 7078, *8825
EMPR BC METAL MM01211
EMPR EXPL 1978-E63
EMPR GEM 1969-323
EMPR INDEX 3-197
EMPR P 1989-5
GSC MAP 1091A
GSC MEM 308, p. 155

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW194**

NATIONAL MINERAL INVENTORY: 082F14 Ag22

NAME(S): **CHICAGO NO. 2 (L.2142)**, CHICAGO FR. (L.3310), PULLMAN FR. (L.3309)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 57 43 N
LONGITUDE: 117 11 58 W
ELEVATION: 1616 Metres

NORTHING: 5534419
EASTING: 485695

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits and dumps. See also Freddie Lee (082FNW055), Colonial (082FNW069) and Jazmine (082FNW254).

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Slate
Limestone
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Chicago No. 2 property is situated on Crown grant Lot 2142 at 1616 metres elevation above sea level in the Slocan Mining Division. The property is on the east side of the ridge that separates Cody and Sandon creeks. The claims extend from the creek, at the 1310-metre elevation, to the summit of the north trending ridge at an elevation of about 1981 metres. The Airdrie Fraction, Freddie Lee (082FNW055), Colonial (082FNW069), and Cristein (082FNW254) claims are located from north to south near the crest of the ridge. The Chicago No. 2, Chicago Fraction, and Pullman Fraction claims cover the ground down slope from the Colonial and Freddie Lee.

The Colonial claim (Lot 5313) was owned and intermittently explored by A.D. Coplen, of Spokane, from about 1906. In 1928 the Colonial, Freddie Lee, Cristein, Airdrie Fraction, and Nellie claims were acquired under option by W.G. Wasmandorff of Vancouver. The Cristein claim (Lot 5369) had been Crown-granted to Messrs. McDonald and Taylor in 1904; the Airdrie Fraction (Lot 9832) had been Crown-granted to Messrs. McAllistar and Bigney in 1910. Colonial-Slocan Mines, Limited, was incorporated in May 1929 to acquire the claims and carry on exploration work. Work by the company ended in January 1930 and the company charter was surrendered in 1932.

The Chicago No. 2 claim (Lot 2142) was Crown-granted to A.D. Coplen in 1900. The Chicago Fraction (Lot 3310) and Pullman Fraction (Lot 3309) were Crown-granted to F.P. O'Neill in 1907. These 3 claims were held by F.P. O'Neill as the Chicago group in 1925. During the year some work was done in prospecting and in driving a short adit in the vicinity of the old workings.

The workings on these claims include 9 or more short adits and several raises and intermediate levels. The upper 4 adits explore the Freddie Lee vein down dip. The lower adits comprise the principal workings on the Colonial and Chicago No. 2 claims.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity

CAPSULE GEOLOGY

of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The property is underlain by sedimentary rocks of the Slocan Group which form a broken syncline composed chiefly of massive quartzite and limestone just west of the occurrence. To the east, the syncline is faulted against another broader syncline in which the strata dip generally to the east. The core of this syncline is occupied by slate and argillite. The occurrence is hosted within argillite of the eastern synclinal structure.

The occurrence consists of a fissure vein striking 045 degrees and dipping 45 degrees southeast. The vein has been explored with at least eight adits on the southeast portion of the Chicago No. 2 Crown grant. The fissure vein consisted mostly of crushed wallrock with a few narrow bands of galena and sphalerite.

Production from the Chicago No. 2 Crown grant in 1938 yielded 6967 grams of silver, 1947 kilograms of lead and 94 kilograms of zinc from a total of 3 tonnes mined.

BIBLIOGRAPHY

EMPR AR 1900-982; 1925-245; 1938-A37
EMPR BC METAL MM01141
EMPR BULL 29
EMPR EXPL 1976-E41; 1977-E52; 1979-71
EMPR INDEX 3-192
EMPR P 1989-5
GSC MAP 273A; 1091A
GSC MEM 173, p. 12; *184, p. 31; 308, p. 129

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly interbedded black argillite, quartzite and limestone of the Slocan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

Two separate veins are known on the Cuba Reverted Crown grant, the Jan and the Belle. The veins have been explored with two major adits and several opencuts. A 15 metre deep shaft was also sunk to investigate the Jan vein.

The Jan vein is about 5 to 15 centimetres wide but can locally widen up to 50 centimetres. The vein strikes 125 degrees and dips 50 to 70 degrees southwest. It is very oxidized and locally contains argentiferous galena and sphalerite mixed with calcite and gouge.

The Bell vein is about 30 metres below and 60 metres northeast of the Jan vein. The vein has been followed for about 120 metres in a west-northwest direction in the underground workings. The vein dips 50 to 70 degrees south and locally contains argentiferous galena. It varies from a mere fracture up to 10 centimetres in width. The vein is cut and displaced by several low angle faults subparallel to bedding. A sample collected from the vein in 1939 assayed 60 per cent lead and 3428 grams per tonne silver (Property File - Prospectus, Silver Ridge Mining Company, 1939).

Production from the Cuba property in 1938 and 1940 yielded 49,671 grams of silver, 14,124 kilograms of lead and 1459 kilograms of zinc from 24 tonnes mined.

BIBLIOGRAPHY

- EMPR AR 1902-299; 1909-276; *1938-E25; 1940-26; 1946-163
- EMPR ASS RPT 7080, *10737
- EMPR BC METAL MM01160; MM01425 (1938 data by Silver Ridge)
- EMPR BULL *29, p. 93
- EMPR EXPL 1977-E52; 1978-E64
- EMPR INDEX 3-193,213
- EMPR P 1989-5
- EMPR PF (See Sunshine, 082FNW046 - Annual Report, Silver Ridge Mining Company, 1938; *Prospectus, Silver Ridge Mining Company, January 25, 1939; Prospectus, Silver Ridge Mining Company, May 20, 1940)
- GSC MAP 273A; 1091A; 1667
- GSC MEM 173; *184, p. 145; 308

DATE CODED: 1996/01/05
DATE REVISED: 1996/01/08

CODED BY: GJA
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

renamed Carnegie Mining Corporation Limited. This company holds 52 claims in the Slocan area, of which the claims of this group form a part.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The rocks hosting the occurrence consist of massive, more or less carbonaceous argillite, quartzite and limestone of the Slocan Group. The structure is complicated by folding and faulting but in general the beds strike south to southeast and dip between 30 and 75 degrees south. The sedimentary rocks have been intruded by a fine grained and dark green olivine pyroxene lamprophyre dike less than a metre thick.

The fissure zone that hosts the Silversmith and Richmond-Eureka deposits is exposed on the northwest part of the Slocan King Crown grant. The vein has been exploited with a short adit on the Slocan King Crown grant and from the No. 6 level of the Richmond-Eureka mine. The vein consisted of quartz and siderite and varied from a few centimetres to 0.6 metre in width. It contained mostly sphalerite, galena and pyrite mixed with the gangue minerals.

Production from the Slocan King adit between 1927 and 1930 yielded 87,368 grams of silver, 10,505 kilograms of lead and 1302 kilograms of zinc from 18 tonnes mined.

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- EMPR AR 1893-1055; *1896-49; 1897-574; 1904-184; 1908-99; *1926-247;
*1927-271; 1928-286; 1929-306; 1930-230; 1953-138; 1954-139; 1955-
61; 1956-94; 1957-52; 1958-46; 1959-68; 1960-76; 1961-76; 1962-80;
1963-77
EMPR BC METAL MM01231
EMPR BULL 29, p. 111
EMPR INDEX 3-199,214
EMPR P 1989-5
EMR MP CORPFILE (Slocan King Mines Limited; Silversmith Mines Limited)
GSC MAP 273A; 1090A; 1091A
GSC MEM 173, p. 90; *184, p. 13; 308, p. 128

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

done on the north side of the ridge where it has been tapped by 3 adits at depths of 61, 91.4 and 160 metres. Production to date has come from the uppermost or No. 1 shaft. Below No. 3 level there are 3 short adits from which some ore has been obtained.

The Brandon lode has been traced on the south slope by opencuts and 3 short adits over a vertical range of more than 76.2 metres. A small production is recorded from these workings. On the summit and north slope the lode appears to lie partly or entirely within the adjoining Adams group. A fourth lode nearly parallel with the Brandon lode, about 45.7 metres to the west on Adams ground, has been traced for several metres and one short adit has been driven on it from the north side. A fifth lode known as the No. 2 Canadian which intersects the fourth on the summit of the ridge has been traced down into the Canadian basin by a series of opencuts.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Canadian occurrence is hosted by limestone, argillite and quartzite of the Slocan Group that have been intruded by quartz feldspar porphyries. The rocks are folded in a synclinal structure with the limbs striking north-northwest and dipping moderately southwest and northeast.

Much confusion exists about the number and relationship of veins present on this property. At least three veins are recognized and as many as five veins may exist. From east to west, the main veins are the Canadian-Ivanhoe, the Canadian No. 1 or Adams and the Brandon or South Brandon vein. The Canadian-Ivanhoe vein is an extension of the Ivanhoe vein and extends east on the Ivanhoe Crown grant (Lot 743) (082FNW057). On the Canadian property the Canadian-Ivanhoe vein changes from a generally east to a northeast strike. The vein has been developed from the Ivanhoe workings and from two adits on the Adams Crown grant. The vein is about 3 metres wide and contains discontinuous lenses of argentiferous galena and sphalerite in a matrix of quartz, calcite and siderite mixed with crushed wallrock.

The Canadian No. 1 vein is exposed on the north side of the ridge on the Adams Crown grant. This vein has been explored with at least three adits and accounts for most of the production from the Canadian property. The vein is within a fissure zone some 10 metres wide. It occupies a major fault structure and strata north of the vein cannot be matched lithologically nor structurally with strata to the south. The vein strikes 015 to 020 degrees and dips steeply southeast. Irregular pockets of sulphide mineralization are developed within the fissure which is mostly filled with crushed rock. The ore consists of galena and sphalerite mixed with coarse calcite, quartz and minor siderite. Pyrite and limonite are also present. The relation between the Canadian No. 1 vein and the Canadian-Ivanhoe vein is not clear. The two veins appear to merge and converge into one another (Bulletin 29).

The Brandon vein is about 370 metres west of the Canadian No. 1 vein. This vein has been explored with several trenches and at least five short adits. The vein straddles the ridge on the Adams and Brandon Crown grants (Lots 750 and 751). It strikes 010 degrees and dips 70 degrees west. It is less than a metre wide and contains bands of galena and sphalerite 10 to 20 centimetres wide in a gangue of quartz and calcite.

A fourth vein lies about 45 metres west of the Brandon vein. This vein is parallel and similar to the Brandon. It has been explored with surface trenching and one short adit. The vein is intersected by a fifth vein known as the Canadian No. 2 vein. This vein strikes 070 degrees and dips 60 degrees southeast.

Production from the Canadian property between 1905 and 1942 yielded about 2439 kilograms of silver, 374,301 kilograms of lead, 17,217 kilograms of zinc and 31 grams of gold from a total of 855 tonnes mined.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 646
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1896-49,56,557; 1898-1190,1191,1193; 1905-161; 1907-98,214;
1908-99,247; 1918-166; 1919-124; 1920-124; 1921-138; *1923-223;
1924-196; 1925-246; 1926-251; 1927-275; *1928-287; 1929-285,306;
1930-230,248; 1931-142; 1934-A26,E36; 1935-A26,E55; 1937-A37,E55;
1938-A36; 1942-27,72; 1952-177
EMPR BC METAL MM01098
EMPR BULL *29, pp. 64-67,69-70
EMPR INDEX 3-191
EMPR LMP Fiche No. 60192,60193
EMPR P 1989-5
EMPR PF (See 082FNW General: Geological plans of the Silverton area,
B.C. Department of Mines, 1966)
EMR MP RESFILE MC 167-Z1-2-141
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 12; *184, pp. 24-27; 308, p. 126
GSC SUM RPT 1925 Part A, pp. 191-192

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/02

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW198**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAYBREAK (L.1464)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 58 36 N
LONGITUDE: 117 16 51 W
ELEVATION: 1920 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adit.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5536074
EASTING: 479864

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
COMMENTS: Galena and sphalerite are inferred from the other occurrences in the area.
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Argillite
Limestone
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Grab
COMMODITY GRADE

Silver	954.0000	Grams per tonne
Lead	29.5000	Per cent
Zinc	16.4000	Per cent

COMMENTS: A representative sample from the mineralized vein.
REFERENCE: Assessment Report 14024.

CAPSULE GEOLOGY

The Daybreak property is situated near the headwaters of Howson Creek at 1920 metres elevation above sea level, in the Slocan Mining Division. The underground workings are on Reverted Crown grant Lot 1464.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly interbedded black

CAPSULE GEOLOGY

argillite, quartzite and limestone of the Slocan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

On the Daybreak property the sedimentary rocks strike 145 degrees and dip 50 degrees northeast. The occurrence consists of a calcite and sulphide-filled breccia zone striking 125 degrees and dipping near vertical. The breccia zone is about 1.5 metres wide and has been traced for about 40 metres in a southeast direction. The vein is hosted within limestone and probably follows a transverse structure between two major northeast-trending faults. The vein has been explored with several surface trenches and an adit of unknown length. A representative sample collected from the vein in 1985 assayed 954 grams per tonne silver, 29.5 per cent lead and 16.4 per cent zinc (Assessment Report 14024). Although not specifically mentioned, the sulphide minerals are probably galena and sphalerite.

BIBLIOGRAPHY

EMPR AR 1900-983
EMPR ASS RPT 7077, *14024, 14160
EMPR BULL 29
EMPR EXPL 1978-E64; 1985-C59
EMPR P 1989-5
EMPR PF (See 082FNW - General: Geological compilation of the Silverton area, B.C. Department of Mines, 1966)
GSC MAP 273A; 1090A
GSC MEM 173; 184; 309

DATE CODED: 1996/01/08
DATE REVISED: / /

CODED BY: GJA
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

folded are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The occurrence consists of a fissure vein hosted by argillite and quartzite cut by a large sill of quartz porphyry. The strata generally strike north and dip 40 to 60 degrees east. The vein strikes 085 degrees, dips almost vertical and has been explored with at least four adits and a small shaft. Within the workings the vein averaged about 40 centimetres and was continuous for about 30 metres along strike and 15 metres updip. The vein is vertically zoned with galena being more abundant in the upper levels and sphalerite being the dominant sulphide in the lower levels of the mine. Gangue minerals are quartz and siderite.

Production from the New Springfield occurrence between 1897 and 1984 yielded 303,349 grams of silver, 48,792 kilograms of lead and 29,533 kilograms of zinc from 186 tonnes mined. See also Elkhorn (082FNW042).

BIBLIOGRAPHY

- EMPR AR 1896-52; 1899-688; 1901-1026; 1902-300; 1944-40; *1947-170;
1952-A44,176; *1957-A47,54; 1961-77
EMPR BC METAL MM01177 (also includes Elkhorn data (082FNW042))
EMPR BULL *29, p. 93
EMPR INDEX 3-207; 4-123
EMPR IR 1986-1, p. 111
EMPR P 1989-5
EMPR PF (Geological plan of Springfield adit, B.C. Department of
Mines, 1947)
GSC MAP 273A; 1091A; 1667
GSC MEM 173; *184, p. 82; 308, p. 128

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/16

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW200**

NATIONAL MINERAL INVENTORY: 082F14 Pb16

NAME(S): **SHADY FR.**, SHADY (L.1750), GEM,
SHADY FRACTION, MAPLE LEAF FRACTION

STATUS: Past Producer Open Pit

MINING DIVISION: Slocan

REGIONS: British Columbia

NTS MAP: 082F14E

UTM ZONE: 11 (NAD 83)

BC MAP:

LATITUDE: 49 58 37 N

LONGITUDE: 117 11 11 W

ELEVATION: 1280 Metres

NORTHING: 5536084

EASTING: 486636

LOCATION ACCURACY: Within 500M

COMMENTS: Location from Geological Survey of Canada Map 273A. See also
Chambers (082FNW032).

COMMODITIES: Lead

Silver

Zinc

MINERALS

SIGNIFICANT: Galena

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated

Vein

CLASSIFICATION: Placer

Hydrothermal

Epigenetic

TYPE: I05

Polymetallic veins Ag-Pb-Zn±Au

C01

Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Triassic
Middle Jurassic
Quaternary

Slocan

Undefined Formation

Nelson Intrusions
Glacial/Fluvial Gravels

LITHOLOGY:

Argillite

Slaty Argillite

Quartz Porphyritic Dike

Gravel

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Shady Fraction occurrence is located on Carpenter Creek at 1280 metres elevation above sea level. This claim was Crown-granted as the Gem in 1898. All production has been derived by placer methods, from float. Although attempts have been made to find the source of the float these have not been successful. In recent years the claim has apparently been renamed Shady Fraction.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Shady Fraction property is underlain by massive to slaty argillite of the Slocan Group and several small quartz porphyritic dikes probably related to the Nelson intrusions. The occurrence consists of large rounded boulders and nodules of waterworn galena that have been recovered from the gravels in Carpenter Creek, at the foot of an old landslide on the north side of the creek. The galena boulders are well rounded and probably came from eroded veins further up the slope, possibly from the Chambers Crown grant (Lot 1752),

CAPSULE GEOLOGY

(082FNW032).

Mining of galena boulders from the creek bed yielded 199,712 grams of silver, 51,787 kilograms of lead and 620 kilograms of zinc from a total of 73 tonnes mined between 1917 and 1963. Production in 1939 from the Maple Leaf Fraction, operated by M. Byrne, is possibly from this area.

BIBLIOGRAPHY

EMPR AR 1917-163-189-448; 1918-170; 1919-170; 1921-135,138;
1922-200; 1923-222; *1924-196; 1925-244; 1927-275; 1939-A39;
1950-145; 1955-A49,62; 1963-A50; 1964-A56,125; *1965-A56,191;
1966-221
EMPR BC METAL MM00742; MM01202; MM01291
EMPR BULL 29
EMPR INDEX 3-196,204
EMPR P 1989-5
EMPR PF (See Reco, 082FNW035 - Claim location map 1" = 400' Scale)
GSC MAP 273A; 1091A
GSC MEM 173; *184, p. 48; 308, p. 130
GSC OF 288; 464

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/28

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW201**

NATIONAL MINERAL INVENTORY: 082F14 Pb17

NAME(S): **VULTURE (L.4482)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 58 50 N
LONGITUDE: 117 10 03 W
ELEVATION: 1646 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Reverted Crown grant Lot 4482.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5536482
EASTING: 487991

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Quartzite
 Calcareous Argillite
 Slate
 Granite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Vulture occurrence is located at 1646 metres elevation above sea level in the Slocan Mining Division. The occurrence lies on Reverted Crown grant Lot 4482.

Most of the underground workings on this claim were driven prior to 1900, and in 1899 the first and largest shipments of ore were made.

Two adits have been driven at elevations of 1524 and 1578.8 metres. The upper adit is 74.6 metres in length and contains about 15.2 metres of crosscuts. At a point 19 metres from the portal a raise has been put up to the surface and in addition there are 2 small stopes, and a winze of unknown depth at 26 metres from the portal. The lower adit is about 53.5 metres long, with the face located approximately under the winze in the upper adit. At 15.2 metres from the portal there is a 39.6-metre drift. No mineralization of value is reported from this adit.

In January 1951 Slocan Lode Mines Limited was formed to develop the claim. In 1952 the workings were rehabilitated, and a stope prepared near the portal. Little work was done in 1953 and there is no record of subsequent development.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson

CAPSULE GEOLOGY

intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Vulture Reverted Crown grant is underlain by quartzite, calcareous argillite and slate of the Slocan Group. The strata are folded in a northwest-trending syncline with limbs dipping at low angles to the north and south. Two adits have been driven about 55 metres apart. The upper adit is 75 metres long and follows a galena-sphalerite fissure vein less than 60 centimetres wide. The lower adit extends for 53 metres in a northerly direction along the vein but no worthwhile mineralization was intersected (Minister of Mines Annual Report 1952). The vein strikes 050 degrees and dips 40 to 50 degrees southeast. The vein is cut off by a fault that parallels a vertical east trending granite dike. The fault may have a left-lateral displacement with the major dislocation being along the bedding plane (Assessment Report 22791).

Very intermittent production between 1899 and 1953 yielded about 1624 kilograms of silver, 368,625 kilograms of lead and 208 kilograms of zinc from 531 tonnes mined.

BIBLIOGRAPHY

EMPR AR 1899-688; 1900-989; 1905-161; 1951-170; *1952-175; 1953-46,139
EMPR BC METAL MM01451
EMPR BULL 29
EMPR ASS RPT *22791
EMPR INDEX 3-218
EMPR LMP Fiche No. 61755
EMPR P 1989-5
GSC MAP 273A; 1091A
GSC MEM 173, p. 15; 184; 308, p. 130

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW202**

NATIONAL MINERAL INVENTORY: 082F14 Ag26

NAME(S): **R.E. LEE**, DULUTH (L.1019), DISCOVERY FR.,
ROBERT E. LEE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 59 51 N
LONGITUDE: 117 12 44 W
ELEVATION: 2135 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of underground workings from Geological Survey of Canada Map 273A. Discovery Fraction is documented as located near the summit of Mount Payne.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5538374
EASTING: 484790

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
Argillaceous Quartzite
Quartz Feldspar Porphyritic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The R.E. Lee occurrence is situated on the crest of the divide between Carpenter and McGuigan creeks, on the north face of Mount Payne at 2135 metres elevation on the west of the divide between Carpenter and McGuigan creeks, in the Slocan Mining Division. The underground workings are near the western boundary of the Duluth Crown grant (Lot 1019).

Development of this claim commenced in 1892. Work was first confined to investigating a well-defined fissure-vain lode on the McGuigan Creek slope at the ridge. Subsequently, (about 1898); a long crosscut tunnel was run from the Carpenter Creek slope to tap this lode at a depth about 122 metres below the lowest workings on the north slope. This crosscut is reported to have intersected the lode at a point 609.6 metres from the portal.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

CAPSULE GEOLOGY

The property is underlain by quartzite and argillaceous quartzite of the Slocan Group and several small quartz and feldspar porphyritic dikes. The sedimentary rocks generally strike 115 degrees and dip 50 degrees southwest. The occurrence consists of a fissure vein striking 072 degrees and dipping steeply southeast. The vein varies from a few centimetres up to 1 metre in width and consists mostly of crushed and brecciated wallrock cemented by quartz and siderite. Bands of galena, sphalerite and pyrite up to 50 centimetres wide are concentrated along the vein walls. The vein was strongly oxidized near the surface. The vein has been explored with at least two adits.

Production records are incomplete but past records indicate that about 1080 kilograms of silver, 176,230 kilograms of lead and 729 kilograms of zinc were produced from 280 tonnes mined between 1895 and 1981. Production between 1951 and 1956 is documented from Discovery Fraction, which is located near the summit of Mount Payne. Thus, this production is attached to this occurrence.

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EMPR AR 1892-531; 1893-1060; 1895-676; 1896-37,49,58,60,560; 1897-534;
1898-1074; 1899-599; 1904-196,202; 1905-161; 1906-249; *1923-224;
1951-42,147; *1953-46,141; 1956-A51,96
EMPR BC METAL MM01165 (Discovery Fraction); MM01370
EMPR BULL 29
EMPR INDEX 3-194,210; 4-120
EMPR IR 1984-3, p. 108
EMPR P 1989-5
GSC ANN RPT 1897 Part A, pp. 10-31
GSC MAP 273A; 1091A; 1667
GSC MEM 173; *184, p. 112; 308, p. 129

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/05

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

the Reco group comprising 30 claims and including in addition to the Number One property the Reco No. 2 (082FNW035), and Chambers (082FNW032).

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slovan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slovan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slovan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Crown grant is underlain by argillite of the Slovan Group and felsic dikes to mafic dikes related to the Nelson intrusions. The felsic dikes are conformable to bedding and sill-like in nature while the mafic dikes appear to be parallel to the mineralized veins. The mafic dikes are 0.3 to 15 metres wide and in places cut the felsic dikes. The southwestern portion of the claim is mostly underlain by black slate.

The occurrence consists of a fissure vein striking 040 degrees and dipping 50 to 55 degrees southeast. The vein is exposed in the northwest portion of the Crown grant, continues to the east on the Slovan Sovereign Crown grant (082FNW036) and may correlate with the Reco No. 3-Goodenough vein on the Reco property (082FNW035), one kilometre northeast.

On the Number One Crown grant, the vein varies in width from a mere fracture up to 1.5 metres. It consists mostly of broken wallrock cemented with quartz and siderite with minor calcite. Massive galena and pyrite with minor sphalerite are concentrated along the vein walls in bands usually less than 10 centimetres wide. Galena is coarse, cubic and in part distinctly gneissic. The vein has been explored with at least four short adits.

Production from the vein yielded about 1245 kilograms of silver, 284,312 kilograms of lead, 16,075 kilograms of zinc and 93 grams of gold from 553 tonnes mined between 1916 and 1946.

BIBLIOGRAPHY

- EMPR AR 1896-58; 1897-534; 1900-986; 1904-191; 1908-98; 1916-516;
1917-448; 1921-136; 1922-200; 1936-E53; 1937-A38,E54; 1938-A37
EMPR BC METAL MM01338
EMPR BULL 29
EMPR EXPL 1973-81; 1974-75
EMPR INDEX 3-207
EMPR P 1989-5
EMR MP CORPFILE (Silvex Resources Corporation)
GSC MAP 273A; 1091A
GSC MEM 173, p. 14; *184, p. 107; 308, p. 129
GCNL #196(Oct.11), #201, 1984
IPDM Nov/Dec 1984
N MINER Mar.21, 1985

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/01

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW204**

NATIONAL MINERAL INVENTORY: 082F14 Ag9

NAME(S): **VICTOR (L.4565)**, VIOLAMAC

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 42 N
LONGITUDE: 117 16 18 W
ELEVATION: 1478 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5538110
EASTING: 480528

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adits, dumps and buildings.

COMMODITIES: Silver Lead Zinc Gold Cadmium
Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite Tetrahedrite

ASSOCIATED: Quartz Siderite Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Discordant Massive

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

SHAPE: Bladed

MODIFIER: Faulted Fractured

DIMENSION: 120 x 115 x 2 Metres STRIKE/DIP: 040/75N TREND/PLUNGE:

COMMENTS: Orientation and dimensions of largest orebody on the No. 5 level.
The ore averaged 0.3 metre but swelled up to 2.5 metres.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Quartzite
Quartz Porphyry Dike
Granite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Victor property is situated west of Shea Creek on the southwest side of Carpenter Creek. The underground workings are on Crown grant Lot 4565 at 1478 metres elevation above sea level.

Production from the Victor mine between 1923 and 1985 yielded about 129 tonnes of silver, 21,746 tonnes of lead, 14,226 tonnes of zinc, 82 tonnes of cadmium, 69 kilograms of copper and 76.8 kilograms of gold from 149,502 tonnes mined.

This property is located on the southwest side of Carpenter Creek. The original discovery here was made in 1921 by G.A. Petty as the result of trenching and ground sluicing on a hillside almost covered with overburden. No. 1 adit was driven 15.2 metres below the discovery and 4 lower adits were subsequently driven. The property was leased in 1931 by Mr. E. Doney, who worked the property in 1947. In 1948 Violamac Mines (B.C.) Limited purchased the property along with Mr. Doney's lease.

Mining commenced early in 1949 and milling operations started in December 1950, with a 50-ton mill situated at the Victor Mine. Late in 1952 the company began shipping its ore to the mill of Western Exploration Company Limited, and continued to do so until the end of 1957. In January 1958 shipments were started to the mill of the Carnegie Mining Corp. Ltd., a subsidiary company.

The Victor Mine is opened by 8 adits, situated one below the other, through a vertical distance of about 274 metres. With the exception of the lowermost adit, No. 9, these adits are completely on the Victor property. No. 9 adit was collared in 1953, 161.5 metres east and 68.5 metres lower than No. 7 portal, on the adjoining Cinderella claim (082FNW014). In 1954 this level had been driven to a point 152.4 metres in advance of the face of No. 7, some 914 metres

CAPSULE GEOLOGY

from the portal. A winze started from the No. 7 level was completed in 1955 to connect with No. 9 at a point 640 metres in from the No. 9 portal. The longest levels are No. 9, about 1280 metres, and No. 7, which is over 671 metres, and No. 5 about 366 metres in length.

In 1957, due to depletion of reserves and low metal prices, production was curtailed from a rate of 70 tons a day to 25 tons. Exploration during the next 3 years was not successful in developing a sufficient tonnage of ore, and in November 1960 the last shipment was made to the Carnegie mill. Possibilities of finding further ore in the present workings are considered remote.

During 1961 mining was done above No. 7 level and above and below No. 5 level. Total development was 79.5 metres, including 33.5 metres of drifts and crosscuts and 46 metres of raising. Violamac held the lease until 1965. Kam-Kotia Mines Limited acquired the property in 1966, and production continued under lease to E.H. Peterson until 1985.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly black argillite and quartzite of the Slocan Group intruded by numerous dikes and sills of quartz porphyry and granite probably related to the Nelson intrusions. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident in the immediate area and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

The Victor deposit occurs in a fracture zone, up to 35 metres wide, where various veins are found. The veins are hosted by joints or faults with relatively small oblique normal dextral movement. The fracture zone is perpendicular to the strike of the sedimentary rocks and to the axial plane of a recumbent fold suggesting that it resulted from dilation along the axis of the fold. The ore zones are developed on a system of veins that follow single or multiple fractures. The veins vary from a mere crack up to 2.5 metres in width close to crossfaults that are subparallel to bedding. The veins are slightly moved by dextral and sinistral displacements along these faults. Within the underground workings the veins averaged about 30 centimetres in width, striking 040 degrees and dipping 75 to 80 degrees northwest.

Where the veins are thin, sphalerite dominates but where the veins widen, massive galena occurs. The galena is commonly sheared at the hangingwall and coarse grained at the footwall. Pyrite, chalcopyrite and tetrahedrite occur within the galena-rich portions of the veins. The ore minerals are associated with a gangue of siderite, calcite and quartz.

The veins have been explored with at least six adits over a vertical range of 120 metres. The largest orebody occurred on the No. 5 level and was mined continuously for a strike length of about 115 metres.

BIBLIOGRAPHY

EMPR AR 1900-989; 1901-1227; 1922-199; 1923-223; 1924-196; 1925-244, 246; 1926-251; 1927-270,478; 1928-286; 1929-285,308; 1930-250; 1931-142; 1932-160,178; 1933-200,206; 1934-A26; 1935-A26,E35,G51; 1936-E52; 1937-A38,E55; 1938-A37,E43; 1939-39,95; 1940-27,80; 1941-27,75; 1942-28,72; 1943-72; 1944-41,71; 1945-43,105; 1946-35,164; 1947-170; 1948-145; *1949-187; 1950-146,150; 1951-43,173,175,177; 1952-44,176; 1953-46,140; 1954-51,140; 1955-A49,62; 1956-A51,95; 1957-A47,53; 1958-A47,46; *1959-A49,68; 1960-A55,76; 1961-A50,76,77; 1962-A50,80; 1963-A50,77; 1964-A56,123; 1965-A56,192; 1966-A52,222; 1967-A55,252; 1968-A55,254; 1969-A56; 1970-A55; 1972-A55; 1973-A55; 1974-A121; 1975-A95; 1976-A105; 1977-A116; 1979-130

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EMPR ASS RPT *15444
EMPR BC METAL MM01448
EMPR BULL *29, pp. 117-120
EMPR GEM 1969-328; 1970-453; 1972-59; 1973-79
EMPR INDEX-217; 4-126
EMPR IR 1984-3; p. 109; 1984-4, p. 122; 1986-1, p. 112
EMPR LMP Fiche No. 61728-61747
EMPR MIN STATS 1985, p. 50
EMPR MINING 1975-1980, Vol.1, p. 33
EMPR OF 1998-10
EMPR P 1989-5
EMPR PF (Pedley, S.J. (1956): Longitudinal projection of East Victor
orebody and cross-section of Victor mine; Photograph of Victor
mine portal, 1962; see Reco, 082FNW035 - Jefferson, L.M. (1971):
The Potential of Reco Silver Mines Ltd., pp. 50-51)
EMR MP CORPFILE (Violamac Mines - (B.C.) Limited; Violamac Mines
Limited)
GSC MAP 273A; 1091A; 1956-3
GSC MEM 173, p. 15; *184, pp. 153-155; 308, p. 127
CANMET IR MD 2725 (1950)
CIM Vol.2, p. 72

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/15

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly black and locally calcareous argillite and quartzite of the Slocan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

The sedimentary rocks have been folded about an axis that strikes southeast and plunges 10 to 20 degrees northwest. The Lone Bachelor vein lies in a tensional fault that resulted from the folding of the strata, and is perpendicular to the fold axis. The vein strikes 035 to 065 degrees and dips steeply southeast. It has been explored with at least four adits on the Lone Bachelor claim. The vein is 1 to 2 metres wide and comprises crushed fragments of wallrock, gouge and veinlets of galena and sphalerite mixed with calcite. The proportion of sphalerite to galena appears to increase with depth and minor amounts of pyrite, chalcopyrite and tetrahedrite are also present.

Production from the Lone Bachelor between 1905 and 1961 yielded about 4788 kilograms of silver, 615,819 kilograms of lead, 108,798 kilograms of zinc, 522 kilograms of cadmium and about 1 kilogram of gold from 1820 tonnes mined.

BIBLIOGRAPHY

EMPR AR 1901-1225; 1905-161,; 1906-249; 1907-214; 1908-99,247;
1910-243; 1912-149,322; 1914-288,510; 1917-448; 1923-228;
*1952-177; 1953-140; 1954-140; 1955-63; 1956-95; 1957-A46,53;
1959-A49,69; *1960-A55,76; 1961-A50,76
EMPR ASS RPT *18570
EMPR BC METAL MM01283
EMPR BULL *29, p. 85
EMPR INDEX 3-203; 4-123
EMPR LMP Fiche No. 60941
EMPR P 1989-5
EMR MP CORPFILE (Violamac Mines Limited; Lone Bachelor Mines Limited)
GSC MAP 273A; 1090A; 1667
GSC MEM 173, p. 13; *184, p. 68; 308, p. 127

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/12

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW206**

NATIONAL MINERAL INVENTORY:

NAME(S): **PROFIT-MILLER**, PROFIT, MILLER

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 49 34 N
LONGITUDE: 117 14 06 W
ELEVATION: 2133 Metres

NORTHING: 5519324
EASTING: 483098

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location of sample DB-243, EMPR Paper 1989-5.

COMMODITIES: Gold Lead Zinc Silver Copper

MINERALS

SIGNIFICANT: Galena Silver Gold Pyrite Sphalerite

ASSOCIATED: Quartz

COMMENTS: Mineralization assumed.

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Epigenetic Hydrothermal Mesothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Middle Jurassic

GROUP

Slocan

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Hornblende K-Feldspar Porphyritic Granite
Quartzitic/Quartzose Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Profit-Miller group, owned in 1919 by R. Ainslie and D. McCuaig, is situated at the head of Virgil Creek (Miller Creek).

The area is underlain by east-west layers of quartzitic siltstone of the Upper Triassic Slocan Group and granites of the Middle Jurassic Nelson Batholith. A north trending fault cuts the area. On the footwall side of a shear zone, 15 to 20 centimetres of ore occurs in a quartz vein. A sample taken in 1919 ran 2.7 grams per tonne gold, 545 grams per tonne silver, 18 per cent lead and 21 per cent zinc (Annual Report 1919, page 132). A vein sample taken in 1987, likely in the same area, assayed 400 grams per tonne gold, 120 grams per tonne silver, 0.028 per cent copper, 8.0 per cent lead and 10.05 per cent zinc. Another sample assayed higher in lead and zinc (EMPR Paper 1989-5, Table A).

BIBLIOGRAPHY

EMPR AR 1989-132
EMPR FIELDWORK 1987, pp. 31-48
EMPR OF 1988-11
EMPR P 1989-5

DATE CODED: 1999/08/25
DATE REVISED: / /

CODED BY: LDJ
REVISED BY:

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **082FNW207**

NATIONAL MINERAL INVENTORY: 082F14 Ag52

NAME(S): **SUN (L.6955)**, SILVER CUP

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 48 N
LONGITUDE: 117 07 22 W
ELEVATION: 2450 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5517884
EASTING: 491167

LOCATION ACCURACY: Within 500M

COMMENTS: The Sun property is located on Mount Kemball, one kilometre south of the Revenue mine (082FNW106), 25 kilometres east-northeast of Slocan City. See also Silver Cup (082FNW114).

COMMODITIES: Lead Silver

MINERALS

SIGNIFICANT: Pyrite Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Mesozoic
Jurassic-Cretaceous

GROUP

Slocan

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Granite
Metasedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Sun property is located on Mount Kemball, one kilometre south of the Revenue mine (082FNW106), 25 kilometres east-northeast of Slocan City. It was part of the Silver Cup property (082FNW114). The property is located within Kokanee Glacier Provincial Park.

The Sun claim was Crown granted in 1911 and the same year two cars of a good grade silver lead ore were sacked and ready for shipment. The focus of exploration appears to be veining associated with metamorphic rocks, intruded by the Nelson batholith. In 1917, D.H. Nellis shipped 31 tonnes of ore, yielding 84,600 grams of silver and 12,338 kilograms of lead.

This property lies at the head of 'Woodbury Creek on the ridge between it and Sawtooth Creek, a tributary of Keen Creek, at the 2408 metre elevation. It may be reached by approximately 8 kilometres of trail from where the Scranton road turns up Pontiac Creek.

The E.L., Silver Cup (Lot 6507), Moonlite, Evening Star, and Sun (Lot 6955) claims extend in a northeasterly direction along the strike of the vein outcrop. These claims lie near the western edge of a more or less rectangular block of 33 claims and fractional claims that is roughly 5 claims wide and 6 claims in length. All these claims were Crown-granted to D.H. Nellis, some in 1907, and the remainder in 1911.

Very little information is available on this property and it is not known when the claims were located. A 1911 report states that 3 men worked on the Sun claim from June to December and 2 cars of ore were sacked ready for shipment. In 1917 Mr. Nellis shipped 35 tons of ore, reported to be from the Sun claim. The main workings are on the Silver Cup claim (082FNW114). Here Mr. Nellis drove a crosscut in a westerly direction, about 30 metres below the outcrop, on the Woodbury side of the divide. The crosscut is 22 metres long and intersects the vein 10 metres from the portal. A winze has been sunk on the vein, and 5 metres below the adit level a sublevel has been driven on the vein to the north of the shaft for 11 metres. About 5 metres back from the face the stringer of galena has been underhand mined for a few metres. The winze is reported to be 14 metres deep with a 15-metre drift to the south off the bottom. This lower level

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
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PAGE: 666
REPORT: RGEN0100

CAPSULE GEOLOGY

was inaccessible when the workings were examined in 1949.
In 1940 J. Flagel of Ymir shipped 3 1/2 tons of ore from the Silver Cup. Three claims, the E.L, Silver Cup, and Moonlite, owned by Mrs. C.A. Nellis, were optioned to A.C. Neiman & associates late in 1949. The only work reported at this time was done on an access road to the property.

BIBLIOGRAPHY

EMPR AR 1911-131,290; 1917-155,187,448
EMPR BC METAL MM01422
EMPR FIELDWORK 1987, pp. 31-48
EMPR INDEX 3-215
EMPR OF 1988-11
EMPR P 1989-5, p. 23
GSC MAP 272A, 1091A

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW208**

NATIONAL MINERAL INVENTORY: 082F14 Pb6

NAME(S): **MARY**, JUMBO

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 48 13 N
LONGITUDE: 117 17 02 W
ELEVATION: 1465 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5516834
EASTING: 479572

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Quartz

ALTERATION: Clay Chlorite

COMMENTS: Clay altered fault gouge zones 150 metres northwest of portal.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Epigenetic

Hydrothermal

Mesothermal

TYPE: I05

Polymetallic veins Ag-Pb-Zn±Au

I01

Au-quartz veins

SHAPE: Tabular

MODIFIER: Faulted

Sheared

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Middle Jurassic

Nelson Intrusions

ISOTOPIC AGE: 165-169 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

LITHOLOGY: K-Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

Plutonic Rocks

RELATIONSHIP: Pre-mineralization

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver 190.0000 Grams per tonne

Gold 10.0000 Grams per tonne

Lead 3.4000 Per cent

Zinc 0.4800 Per cent

COMMENTS: Grab sample from oxidized dump material (Sample DB-303).

REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

A flat dipping shear zone strikes east and dips south on the south side of Enterprise Creek, immediately west of Timber Creek. Country rock is a feldspar porphyry of the Nelson Batholith.

There are at least three subparallel clay altered shear/fault zones within potassium feldspar porphyritic granite. These faults are exposed along the access road 100 metres northwest of the portal.

Production between 1973 and 1983 totalled 53 tonnes, yielding 22,930 grams silver, 531 grams gold, 2,665 kilograms lead and 1,891 kilograms zinc. A sample taken in 1987 assayed 190 grams per tonne silver, 10 grams per tonne gold, 3.4 per cent lead and 0.48 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EMPR AR 1973-A55

EMPR ASS RPT 12648

EMPR BC METAL MM01253

EMPR FIELDWORK 1987, pp. 31-48, 535-541

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 668
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR GEM 1973-74
EMPR IR 1984-3, p. 108; 1984-5, p. 115
EMPR OF 1988-11
EMPR P 1989-5

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/24

CODED BY: GSB
REVISED BY: DAB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW209**

NATIONAL MINERAL INVENTORY:

NAME(S): **FREDDY (L.4025)**, FREDDY FR.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 55 52 N
LONGITUDE: 117 20 23 W
ELEVATION: 823 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5531027
EASTING: 475618

LOCATION ACCURACY: Within 500M

COMMENTS: The southeast corner of the Freddy Reverted Crown grant (Lot 4025).

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Tetrahedrite Pyrargyrite Pyrite

Chalcopyrite
COMMENTS: Significant minerals inferred from the nearby Metallic occurrence (082FNW066).

ASSOCIATED: Quartz Calcite

COMMENTS: Associated minerals inferred from the nearby Metallic occurrence (082FNW066).

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Discordant

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Triassic

Middle Jurassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

ISOTOPIC AGE: 169 +/- 3 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

LITHOLOGY: Granite
Argillite
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist
Hornfels

CAPSULE GEOLOGY

The Freddy occurrence is located adjacent to the north bank of Hasty Creek, at 823 metres elevation. Silverton, British Columbia is 2 kilometres to the north. The Freddy Reverted Crown grant (Lot 4025) covers the ground hosting the occurrence which is developed by a short winze and a level near Hasty Creek.

Hostrocks of the Freddy occurrence are coarse-grained granite of the Middle Jurassic Nelson batholith. In the vicinity, metamorphosed quartzite and massive argillite of the Triassic Slocan Group form part of a large roof pendant.

The occurrence consists of an irregular lode, striking northerly and dipping easterly. The mineralogy is unknown, however, the nearby Metallic occurrence (082FNW066) contains sphalerite, galena with inclusions of tetrahedrite and pyrargyrite and minor pyrite and chalcopyrite.

Production records for the Freddy occurrence indicate 228 tonnes of ore mined between 1962 and 1973. This ore yielded 396,345 grams silver, 715 grams gold, 1245 kilograms lead and 1023 kilograms zinc. Some of this ore was hand-sorted and shipped directly to the Trail smelter.

BIBLIOGRAPHY

EMPR AR 1904-296; 1962-A50; 1963-A50; 1964-A55,126; *1968-251; 1969-A55; 1971-A55; 1973-A55
EMPR BC METAL MM01199
EMPR GEM *1969-326; 1971-29; *1973-77

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 670
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR INDEX 4-121
EMPR OF 1988-11
EMPR P 1989-5

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/30

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW210**

NATIONAL MINERAL INVENTORY:

NAME(S): **KOK**, KOKANEE CREEK, HOME

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 37 42 N
LONGITUDE: 117 08 16 W
ELEVATION: 1000 Metres

NORTHING: 5497318
EASTING: 490050

LOCATION ACCURACY: Within 500M

COMMENTS:

COMMODITIES: Zinc Gold Silver Lead

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite Pyrrhotite Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Skarn
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>
Triassic	Slocan	Unnamed/Unknown Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Schist
Calc-silicate Schist
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The main Kok showing consists of irregular quartz veinlets carrying pyrrhotite, pyrite, sphalerite and galena in a fine-grained to porphyritic granite rock. Schist, calc-silicate and gneisse (Slocan Group) form a metasedimentary remnant within granite of the Middle Jurassic Nelson Batholith.

Eagle Plains Resources Ltd. and Miner River Resources Ltd. drilled the property in 1997. See also Kokanee Creek (082FNW211).

BIBLIOGRAPHY

EMPR AR 1967-242, 1968-239
EMPR ASS RPT *25105
N MINER July 31, 2000
WWW <http://www.eagleplains.bc.ca/bc.htm>

DATE CODED: 1985/07/24
DATE REVISED: 1999/08/30

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 672
REPORT: RGEN0100

MINFILE NUMBER: **082FNW211**

NATIONAL MINERAL INVENTORY:

NAME(S): **KOKANEE CREEK**, KOK, HOME,
BIG M

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 37 12 N
LONGITUDE: 117 08 10 W
ELEVATION: 800 Metres

NORTHING: 5496391
EASTING: 490169

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Zinc Gold Silver Lead

MINERALS

SIGNIFICANT: Sphalerite Pyrrhotite Pyrite Galena Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein

CLASSIFICATION: Skarn

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>
Middle Jurassic	Slocan	Mount Nelson	
Triassic			Unnamed/Unknown Informal

LITHOLOGY: Schist
Calc-silicate Schist
Gneiss
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Schist, calc-silicate and gneiss (Slocan Group) form a metasedimentary remnant within granite of the Middle Jurassic Nelson Batholith. Cross fractures contain massive pyrrhotite and sphalerite. Eagle Plains Resources Ltd. and Miner River Resources Ltd. drilled 5 holes, totalling 430 metres in 1997. A 55-metre chip sample assayed 0.3 per cent zinc and a 5-metre sample assayed 2.26 grams per tonne gold (Press Release, Miner River Resources, January 28, 1997).

BIBLIOGRAPHY

EMPR AR 1967-242, 1968-239
EMPR ASS RPT 8725, *25105
N MINER July 31, 2000
PR REL Miner River Resources Ltd., Jan.28, Mar.20, 1997
WWW <http://www.eagleplains.bc.ca/bc.htm>; <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1999/08/30

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW211**

ORE ZONE: L.H. REPORT ON: Y
CATEGORY: Indicated YEAR: 1988
QUANTITY: 299375 Tonnes
COMMODITY _____ GRADE _____
Gold 17.1400 Grams per tonne
REFERENCE: GCNL June 29, 1988.

ORE ZONE: L.H. REPORT ON: Y
CATEGORY: Unclassified YEAR: 1945
QUANTITY: 54430 Tonnes
COMMODITY _____ GRADE _____
Gold 8.5700 Grams per tonne
COMMENTS: Internal reference is Consolidated Quebec Gold Mining and Metals
Corporation Annual Report; January 31, 1946.
REFERENCE: National Mineral Inventory 082F14 Au3.

CAPSULE GEOLOGY

The L.H. occurrence is located at 1645 metres elevation on Fingland (Vevey of L.H.) Creek, on the east side of Slocan Lake. Silverton, British Columbia lies 6.25 kilometres to the north.

The L.H. occurrence is covered by the L.H. claim group consisting of seven Crown-granted claims and fractions including the Baby Ruth (Lot 2229), L.H. (Lot 5738), Camden (Lot 5739), C.B. (Lot 5740), St. Joe (Lot 6908), Summit (Lot 6909), Basin Fr. (Lot 6910) and Harlem (Lot 6911).

The occurrence has a long history of ownership and development but little production. The claim was first located in 1895 by R.G. McConnell. In 1896, the L.H. claim was owned by J.M. Bredendum and Associates. In 1899, the Baby Ruth claim was Crown granted to E.J. Kendall and A.R. Fingland. The Camden and C.B. claims were Crown granted to Fingland and associates in 1902. Considerable development work was carried out from 1903 to 1904 by Fingland and Brand. The L.H. claim was Crown granted in 1905 to Fingland and Brand. Subsequent Crown granting was given to the St. Joe, Summit, Basin Fraction and Harlem claims. In 1911, British Columbia Copper Company acquired an option on the property but after a careful and systematic sampling program was carried out the option, was allowed to lapse. The owners resumed development work until 1925. Pacific Mines, Petroleum and Development Company Limited carried out some work on the property in 1936. The property was leased to A.H.W. Crossley and associates in 1938. A short bucket tramline was built from the No. 2 adit to the road and a shipment of 196 tonnes of ore was shipped in the following year, under the newly incorporated Fingland Mine Limited. Consolidated Quebec Gold Mining and Metals Corporation optioned the property in 1945. The subsidiary, Kenville Gold Mines Limited, carried out 610 metres of diamond drilling from the No. 3 level to define further mineralization. A 1946 Annual Report by Consolidated Quebec reports a resource of 54,430 tonnes of 8.57 grams per tonne gold. Anderado Resources Inc. acquired the property in 1980; their name was changed to Andaurex Resources Inc. Induced polarization and geochemical surveys and geological mapping were carried out. Additional geological mapping, geochemical and geophysical surveys and sampling were carried out under an option to Hudson Bay Oil and Gas Company Limited in 1981. Noranda conducted geophysics and geochemical surveys and diamond drilling between 1985 and 1987. Goldpac Investments Ltd. drilled the property in 1988. The George Cross Newsletter (June 29, 1988) reports an indicated resource of 299,375 tonnes of 17.14 grams per tonne gold (MR 223). Goldpac changed their name to Brimstone Gold Corp. in May 1994. Andaurex held the property in 1992, when their name changed to Andaurex Capital Resources Inc.

Mine workings include three adits totalling 518 metres. Most work was carried out on the Nos. 2 and 3 levels, which are 27 vertical metres apart and connected by a raise.

The L.H. occurrence is located within a roof pendant of Lower Jurassic Rossland Group metavolcanics and Early Jurassic subvolcanic equivalents. Lithologies comprising the Rossland Group at the L.H. occurrence include augite porphyry, greenstone, quartzite, arenite, sandstone and argillite. These rocks have been tentatively correlated with the Elise Formation and are strongly contact metamorphosed at the L.H. occurrence. Subvolcanic equivalents include quartz latite porphyry and feldspar porphyry. Altered aplite dikes crosscut Rossland Group rocks at the L.H. occurrence; quartz, calcite and sericite form the major constituents. These hostrocks are enclosed by medium grained biotite hornblende diorite and fine-grained granite of the Middle Jurassic Nelson batholith. Two major fracture orientations are

CAPSULE GEOLOGY

present in hostrocks. The first follows a prominent joint plane, striking 075 to 080 degrees and dipping 50 degrees to vertical. The other strikes 025 degrees and dips 65 degrees southeast.

Mineralization follows a zone of fracturing and faulting. The zone width is 6.1 to 13.7 metres, striking nearly west and dipping north at about 55 degrees. Ore consists of native gold, arsenopyrite, pyrite and pyrrhotite with minor chalcopyrite and native arsenic. A maximum width of 13.7 metres mineralization was intersected on the No. 2 level, with the best grades on the centre and western-half of the drift over 91 metres length. A narrow sericite-altered dike occupies the fissure for most of its length on the No. 2 level. The No. 1 level parallels the hangingwall of the ore zone. Hostrocks are silicified and the limits of mineralization within this zone are poorly defined. Disseminated mineralization is hosted in quartz lens-filling fractures 30 to 60 centimetres wide. Quartz also forms many small stringers or more commonly impregnates the wallrocks and varying proportions of ore mineralization. Higher grades are generally associated with more intense silicification and arsenopyrite. Minor calcite has also been reported.

From the 196 tonnes of ore mined in 1939, 1928 grams silver and 3452 grams gold were recovered.

BIBLIOGRAPHY

- EMPR AR 1896-69; 1899-688,842; 1902-149,297; 1903-137; 1904-173,202;
1905-252; 1911-176; 1913-125,142; *1915-122,127-129; 1917-158;
1925-246; 1933-206; 1935-E31; 1936-E49; 1939-38,79; 1945-105
EMPR ASS RPT 14138, *15747, 16665, *16738
EMPR BC METAL MM01269
EMPR EXPL 1985-A37; 1986-A59
EMPR FIELDWORK 1987, pp. 31-48,535-541; 1989, pp. 251-255, 1990, pp.
171-178
EMPR INDEX 3-202
EMPR OF 1988-11; 1990-18
EMPR P *1989-5
EMPR PF (Starr, C.C. (1925): Report of Examination of L.H. Mine,
3 p.; Starr, C.C. (1930): Report on the L.H. Mine, 4 p.; Details
of the L.H. Mine (Map - Scale 1"=30'), 1930; Plan and Projection
of the L.H. Mine (Scale - 1"=30'))
EMR MP CORPFILE (The British Columbia Copper Company, Limited (AR
1913); Consolidated Quebec Gold Mining & Metals Corporation;
Andaurex Resources Inc.)
EMR MR 223 B.C. 39
GSC ANN RPT 1897A, pp. 10-26
GSC EC GEOL 4, p. 75 (1927)
GSC MAP 272A
GSC MEM 173, Map 272A; *184, pp. 66,67,68; 308, p. 171
GSC SUM RPT 1917B, p. 33
CMH 1989-90, p. 42
GCNL #70, 1981; #14, 1982; #109, 1985; #239, 1986; #101, 1987;
June 29, 1988
N MINER Nov.20, 1980; Jan.28, 1982
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/28

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW213**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOMESTAKE (L.15283)**, HAMILTON, HAZELTON,
LITTLE CHIEF

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 49 12 N
LONGITUDE: 117 26 10 W
ELEVATION: 900 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5518709
EASTING: 468629

LOCATION ACCURACY: Within 500M

COMMENTS: The Homestake claim (Lot 15283) is centred on Memphis Creek 1.5 kilometres east of the Slocan highway, 6.5 kilometres north of Slocan. The main workings, on the north side of the creek are reached by a short access road from the highway. The property was previously known as the Hamilton. This claim may have also been covered by the Joyce (082FNW214).

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Tetrahedrite Arsenopyrite Silver Argentite

Galena

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Homestake claim (Lot 15283) is centred on Memphis Creek 1.5 kilometres east of the Slocan highway, 6.5 kilometres north of Slocan. The main workings, on the north side of the creek at the elevation of 1000 metres, are reached by a short access road from the highway. The property was previously known as the Hamilton. This claim may have also be covered by the Joyce (082FNW214).

The Homestake deposit outcrops where the mountain slope breaks over into Memphis creek valley. It has been developed, between 1968 and 1970, by two short adits and several raises. Significant gold and silver values are reportedly associated with mainly pyrite mineralization, accompanied by minor tetrahedrite, arsenopyrite, native silver and possibly argentite. These minerals are found in a narrow quartz vein which strikes northwesterly and dips steeply to the northeast. The principal structure hosting the vein is a shear zone about 3 metres wide that cuts a coarse porphyritic phase of the Nelson granitic batholith.

At the Hamilton, intermittent production from 1903 to 1915, totalled 33 tonnes of ore, yielding 115,299 grams of silver, 93 grams of gold and 1921 kilograms of lead. Production as the Homestake from 1968 to 1971 totalled 330 tonnes, yielding 861,491 grams of silver, 7370 grams of gold, 440 kilograms of lead and 503 kilograms of zinc.

BIBLIOGRAPHY

EMPR AR 1899-689; 1903-139,242; 1904-204; 1909-115; 1912-150;
1915-445; 1948-148; 1950-150; 1957-57; *1968-A54,249-250; 1969-A55;
1970-A55; 1971-A55
EMPR BC METAL MM001218 (Hamilton); MM01236 (Homestake)
EMPR FIELDWORK 1987, pp. 31-48
EMPR GEM 1969-325,429; 1970-449-450,482; 1971-29,411
EMPR INDEX 3-199

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 677
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR OF 1988-11
EMPR P 1989-5
GSC MAP 272A; 1091A
GSC MEM 173; *184, p. 175; 308, pp. 133,148

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW214**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOYCE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Open Pit Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 49 22 N
LONGITUDE: 117 26 05 W
ELEVATION: 1200 Metres

NORTHING: 5519017
EASTING: 468730

LOCATION ACCURACY: Within 1 KM

COMMENTS: The Joyce property is on the north side of Memphis Creek, immediately north of the Homestake claim (L. 15283)(082FNW164), 1.5 kilometres east of the Slocan highway, 7 kilometres north of Slocan. The main workings at the elevation of about 1200 metres, are reached by a short jeep road from the highway. Location of the Joyce claim is unclear; it may also cover the Homestake. See also the older workings of Coronation (082FNW162) and V. & M. (082FNW191).

COMMODITIES: Silver Lead Zinc Gold Silica

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 107 Silica veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Joyce property is on the north side of Memphis Creek, immediately north of the Homestake claim (L. 15283)(082FNW164), 1.5 kilometres east of the Slocan highway, 7 kilometres north of Slocan. The main workings at the elevation of about 1200 metres, are reached by a short jeep road from the highway. Location of the Joyce claim is unclear; it may also cover the Homestake. See also the older workings of Coronation (082FNW162) and V. & M. (082FNW191).

The Joyce property is similar in geological setting to the Homestake workings. It has been developed by one 9-metre adit, which was driven by the early prospectors. In 1971, bulldozer stripping uncovered a pocket of high grade gold-silver ore which was subsequently mined out and shipped to the Trail smelter. Production from 1967 to 1971 was 87 tonnes, yielding 260,643 grams of silver 1773 grams of gold 138 kilograms of lead and 120 kilograms of zinc.

BIBLIOGRAPHY

EMPR AR 1967-A55,249; 1968-A55,249; 1971-A55
EMPR BC METAL MM01252
EMPR GEM 1971-29,411
EMPR P 1989-5

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW215**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER RANCH**

MINING DIVISION: Slocan

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 082F14E
 BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 47 03 N
 LONGITUDE: 117 13 41 W

NORTHING: 5514659
 EASTING: 483583

ELEVATION: 2015 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS:

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite
 ASSOCIATED: Quartz
 ALTERATION: Chlorite Limonite
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
 CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
 SHAPE: Tabular
 MODIFIER: Faulted Fractured
 COMMENTS: Shape of deposit is tabular and irregular.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

ISOTOPIC AGE: 165-169 Ma
 DATING METHOD: Zircon
 MATERIAL DATED: Zircon

LITHOLOGY: K-Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N
 YEAR: 1987
 CATEGORY: Assay/analysis
 SAMPLE TYPE: Grab
 COMMODITY GRADE
 Silver 430.0000 Grams per tonne
 Gold 7.1000 Grams per tonne
 Copper 0.0450 Per cent
 Lead 7.8000 Per cent
 Zinc 7.6000 Per cent
 COMMENTS: Grab sample DB-391
 REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Silver Ranch is located east of Boomerange Mountain, within Kokanee Glacier Provincial Park. Mineralization and alteration occurs along northwest trending linears. The linears comprise clay and limonite altered potassium feldspar porphyritic granite. The quartz-pyrite-limonite alteration zone is up to about 5 metres wide. Quartz veins with coarse pyrite are up to 1 metre thick within the altered zone. The veins are discontinuous, cut by anastomosing shears. Minor galena and sphalerite occur in the quartz veins. A sample taken in 1987 assayed 430 grams per tonne silver, 7.1 grams per tonne gold, 0.045 per cent copper, 7.8 per cent lead and 7.6 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EMPR ASS RPT 4632
 EMPR FIELDWORK 1987, pp. 31-48, 535-541

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 680
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR GEM 1973-80
EMPR OF 1988-11
EMPR P 1989-5: pp. 15, 26

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/24

CODED BY: GSB
REVISED BY: DAB

FIELD CHECK: N
FIELD CHECK: Y

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 682
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1901-1027; 1935-A27,E33; 1936-E50; 1937-A38,E50; 1940-81;
1942-73; 1946-35,168; 1947-172; 1949-192; 1975-A95; 1979-130
EMPR BC METAL MM01316
EMPR INDEX 3-206
EMPR IR 1984-4, p. 121
EMPR MINING IN BC 1975, pp. 56, 71
EMPR P 1989-5
GSC MAP 1091A; 272A
GSC MEM 308, p. 159
N MINER Sept.12, 1974, p. 19
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1988/07/23

CODED BY: GSB
REVISED BY: GB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW217**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD REEF**, GOLD REEF 2, GOLDEN WEDGE FR. (L.3582),
LITTLE BONANZA FR. (L.3581), HINTON (L.3580), CALEDONIA FR. (L.3583),
GOLD WEDGE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:
LATITUDE: 49 43 54 N
LONGITUDE: 117 18 58 W
ELEVATION: 1166 Metres
LOCATION ACCURACY: Within 500M

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5508845
EASTING: 477219

COMMENTS: The Gold Reef property is situated 1 kilometre west of the
confluence of Mineral and Crusader creeks, 13 kilometres east of
Slocan. Access from the Slocan highway is via the Crusader and
Lemon creek roads.

COMMODITIES: Zinc Lead Silver

MINERALS

SIGNIFICANT: Pyrite Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Gold Reef property is situated 1 kilometre west of the
confluence of Mineral and Crusader creeks, 13 kilometres east of
Slocan. Access from the Slocan highway is via the Crusader and
Lemon creek roads.

Little is known about this property other than there was an
unsuccessful attempt to set up a small mill in 1922. The claims were
worked as the Golden Wedge in 1897 and 1898, when underground
workings totalled 190 metres. H. Avis trenched the claims in 1976
and 1978.

BIBLIOGRAPHY

EMPR AR 1897-535; 1898-1075,1076,*1077-1078; 1922-203
EMPR BULL 7, p. 3
EMPR EXPL 1976-E41; 1978-E61-E62
EMPR P 1989-5

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW218**

NATIONAL MINERAL INVENTORY:

NAME(S): **WINLAW**, SNOWDRIFT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:

Open Pit

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 36 01 N
LONGITUDE: 117 29 07 W
ELEVATION: 1524 Metres

NORTHING: 5494302
EASTING: 464934

LOCATION ACCURACY: Within 500M

COMMENTS: Quartz body (Open File 1987-15).

COMMODITIES: Silica

MINERALS

SIGNIFICANT: Silica
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Podiform
CLASSIFICATION: Pegmatite Hydrothermal Industrial Min.
TYPE: O04 Feldspar-quartz pegmatite
DIMENSION: 35 x 26 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Exposed quartz body.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Nelson Intrusions

LITHOLOGY: Pegmatite
Granite
Syenite

HOSTROCK COMMENTS: Nelson Intrusions are Middle to Late Jurassic in age.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: WIN

REPORT ON: Y

CATEGORY: Inferred	YEAR: 1976
QUANTITY: 100000 Tonnes	
COMMODITY: Silica	GRADE: 99.6000 Per cent

COMMENTS: Estimated reserves with assays up to 99.6 per cent.
REFERENCE: Exploration in British Columbia 1976, page 207.

CAPSULE GEOLOGY

The Winlaw occurrence is located on the south side of the north fork of Winlaw Creek, approximately 6 kilometres east of Winlaw.

The area is underlain by Middle to Late Jurassic Nelson Intrusions.

The Winlaw quartz body is a massive irregular pod of pegmatitic quartz exposed over an area approximately 35 by 26 metres. A perthite/quartz intergrowth, with euhedral perthite crystals reaching 15 centimetres in length, borders the quartz body on the south, west and northwest sides. Rocks surrounding the pegmatitic facies are mainly porphyritic syenites. The northeast extent of the quartz is limited by granitic rocks while the eastern margin is covered by overburden. Jointing is strongly developed in three directions within the quartz and some of the joints host fine-grained specularite and hematite staining. Large vugs, containing remnant fluorite and second generation quartz crystals, typically reach 15 by 15 by 4 centimetres in size.

In 1976, it was estimated that 100,000 tonnes of high-grade silica rock, with assays up to 99.6 per cent silica, were present (Exploration in British Columbia 1976, page 207). A small quarry (Snowdrift), 10 by 20 metres, produced 500 tonnes of silica in 1971.

BIBLIOGRAPHY

EMPR AR 1961-157; 1962-164; 1963-152
EMPR EXPL *1976-207

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 685
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK *1981, p. 10
EMPR OF *1987-15
GSC MAP 3-1956; 1090A
GSC MEM 308
GSC OF 481

DATE CODED: 1985/07/24
DATE REVISED: 1987/04/16

CODED BY: GSB
REVISED BY: GRF

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW219**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALEXANDRIA NO. 2 (L.2886)**, CHIEF, DRY RIDGE,
DELLEY (L.2887)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:
LATITUDE: 49 44 51 N
LONGITUDE: 117 17 18 W
ELEVATION: 200 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5510597
EASTING: 479228

COMMODITIES: Silver Lead Zinc Gold Copper
 Bismuth

MINERALS

SIGNIFICANT: Galena Silver Gold Pyrite Sphalerite
 Argentite Chalcopyrite

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic Nelson Intrusions

LITHOLOGY: Granite
 Granodiorite
 Lamprophyre

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Alexandria No. 2 is accessible by a good logging road up Lemon Creek and Crusader Creek for 20 kilometres, thence by an old logging road on Branch 5 for 3.5 kilometres to an elevation of 1600 metres on Tagart (Tiger) Creek and a foot trail for 2 kilometres to the mine on the south slope of Mount Rappel at an elevation of 2100 metres. The Alexandria No. 2 (Lot 2886) and Delley (Lot 2887) were Crown-granted in 1898 and worked from 1895 to 1899.

The host rock for the mineralization is granite to granodiorite of the Jurassic Nelson batholith. In the mine the vein is generally measured in centimetres, but in several locations widths of 0.6 metre were seen. Economic mineralization consists of galena, argentite, silver and chalcopyrite. Massive galena occurs on the eastern side of the first stope. The shaft probably was raised on the vein and galena is present on the west wall. Here the galena forms the matrix of a breccia as compared to the rest of the vein which is normal vein filling. Development in 1976 and 1977 from 6 tonnes of hand cobbled ore totalled 23,940 grams of silver, 27 grams of gold, 9 kilograms of copper, 288 kilograms of lead, 15 kilograms of zinc and 1 kilogram of bismuth. The ore came from a surface cut at an elevation of 2100 metres. Development also consists of a 24-metre shaft and 116 metres of drifting. A shipment was reported in 1941. In 1972, Hi-Ridge Resources Ltd. conducted a geophysical and geochemical survey on the Dry Ridge property.

A sample taken in 1987 assayed 1.6 per cent lead and 1.4 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EMPR AR 1896-70, 1898-1077, 1899-689; 1976-A104; 1977-116
EMPR ASS RPT 2392
EMPR BC METAL MM01142
EMPR BULL 7, p. 3
EMPR FIELDWORK *1977, p. 62; 1989, pp. 31-48
EMPR OF 1988-11
EMPR P 1989-5

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 687
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (*Sheppard, E.P. (1972): *Geological Report on the Dry
Ridge Property; Report on Chief Claim (1979); Notes by G. Addie
(1977))

DATE CODED: 1985/07/24
DATE REVISED: 1999/08/26

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW220**

NATIONAL MINERAL INVENTORY: 082F13 Ag1

NAME(S): **SILVER QUEEN**, GREY WOLF (L.2204), RED FOX,
BLACK FOX (L.2206), BLACK BEAR, GOLDEN HOPE (L.1797),
TL

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F13E
BC MAP:
LATITUDE: 49 58 00 N
LONGITUDE: 117 42 16 W
ELEVATION: 2350 Metres
LOCATION ACCURACY: Within 500M

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5535162
EASTING: 449480

COMMENTS: The Silver Queen property, comprising the Grey Wolf (Lot 2204), Red Fox, Black Fox (Lot 2206) and Black Bear Crown granted claims and fractions, is located on the ridge between Goat Creek Canyon Creek and Snow Creek, near the summit of Grey Wolf Mountain, 13 kilometres east-southeast of Burton. Access is from Burton via the Londonderry Creek road to the Tillicum mine (082FNW234) on Tillicum Mountain and thence southeast by alpine trail 3 kilometres to a point 1 kilometre southwest of the summit of Grey Wolf Mountain.

COMMODITIES: Lead Zinc Gold Silver

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite Pyrrhotite Tetrahedrite
Pyrargyrite Arsenopyrite
ASSOCIATED: Quartz Actinolite Biotite Carbonate Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Mesothermal Skarn
TYPE: K04 Au skarn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic	Slocan	Unnamed/Unknown Formation	Unnamed/Unknown Informal
Middle Jurassic			

LITHOLOGY: Greenstone
Quartzite
Siltstone
Arkose
Tuff
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE: Hornfels

CAPSULE GEOLOGY

The Silver Queen property, comprising the Grey Wolf (Lot 2204), Red Fox, Black Fox (Lot 2206) and Black Bear Crown granted claims and fractions, is located on the ridge between Goat Creek Canyon Creek and Snow Creek, near the summit of Grey Wolf Mountain, 13 kilometres east-southeast of Burton. Access is from Burton via the Londonderry Creek road to the Tillicum mine (082FNW234) on Tillicum Mountain and thence southeast by alpine trail 3 kilometres to a point 1 kilometre southwest of the summit of Grey Wolf Mountain.

The Silver Queen Mining Company, Limited Liability was organized in 1897 to acquire 8 claims in the Grey Wolf, Red Fox, Black Fox and Black Bear groups; the claims were Crown-granted (Lots 2204-2209, 2414, 2582) to the company in 1899. Development work included open cuts, a 9-metre shaft and about 107 metres of drifts and crosscuts in one adit on the south side of the mountain at about 1981 metre elevation.

The Golden Hope claim (Lot 1797), located about 0.8 kilometre west of the Grey Wolf, was Crown-granted to M.D. Shea in 1901. The Silver Queen property was owned in 1930's and early 1940's by H. Stones and J. Gayford, of Burton; some prospecting was reported.

The discovery in 1980 of high grade gold values on the nearby Tillicum Mountain property, subsequently acquired by the Esperanza Explorations Ltd and Welcome North Mines Ltd. joint venture, led to

CAPSULE GEOLOGY

additional claim staking (Til 1-4) to include the Silver Queen ground. Welcome North terminated the joint venture in March 1982. La Teko Resources Ltd in June 1982 optioned a 50.4 per cent interest in Esperanza Explorations Ltd. A geochemical survey on the Silver Queen in 1983 indicated a strong silver anomaly over a 45.7 x 914.4 metre area.

The property is underlain by highly deformed volcanic and sedimentary rocks of Triassic and older (?) age and younger aplite and feldspar porphyry dikes, and granitic intrusions. The volcanic rocks are the oldest units and are tentatively assigned to the Slocan or Kaslo Group, while the younger sedimentary rocks are correlated with the Slocan Group.

The Silver Queen workings consist of several open cuts, an adit and shaft, southwest of the summit of Grey Wolf Mountain. The ridge running westerly from the summit consists of impure tuffs and sandy sediments, striking east to northeast and dipping steeply south, intruded by numerous dikes. An open cut at a point 50 metres down the southern slope, at an elevation of 2350 metres, exposes a carbonate band, about 1 metre wide, in these sedimentary rocks. Concentrations of pyrite and black manganese oxide (?) in the band assayed 3.4 grams per tonne gold and 960 grams per tonne silver. A 10-metre shaft at 2100 metres elevation and an adit 100 metres to the southwest develop similar occurrences. The main adit is driven northeasterly for 35 metres then turns northerly about the same distance ending in aplitic granite. The adit is principally in limy and garnetiferous greenstone. A silicified sample from the portal of the adit assayed 3.4 grams per tonne gold and 1060 grams per tonne silver.

The gold and silver mineralization is thought to be related to hornfelsing episodes, associated with various dikes and sills and the Goatcanyon granitic stock of mid-Jurassic age.

BIBLIOGRAPHY

EMPR AR 1898-1071; 1899-842,846; 1901-1227; 1917-448; 1930-262;
*1935-E24-E25
EMPR ASS RPT 7692
EMPR P *1989-3, pp. 44-50

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW221**

NATIONAL MINERAL INVENTORY:

NAME(S): **YOSIE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:

Open Pit

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 43 54 N
LONGITUDE: 117 18 58 W
ELEVATION: 1463 Metres

NORTHING: 5508845
EASTING: 477219

LOCATION ACCURACY: Within 500M

COMMENTS: The Yosie property is centred 1 kilometre north of the confluence of Mineral and Crusader creeks, 14 kilometres east of Slocan. Access from the Slocan highway is via the Crusader and Lemon creek roads.

COMMODITIES: Lead Silver Zinc Gold

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Granodiorite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Yosie property is centred 1 kilometre north of the confluence of Mineral and Crusader creeks, 14 kilometres east of Slocan. Access from the Slocan highway is via the Crusader and Lemon creek roads.

Little is known about this property other than galena occurs on small shears in Nelson granodiorite as seen in a few open cuts and pits. Structural control of the mineralization is apparently related to faults trending northeast subparallel to Mineral Creek and VLF-EM 16 anomalies. C.C. Young worked the claims in 1978 and 1979; 4 tonnes were produced in 1985, yielding 1385 grams of silver, 2 grams of gold, 1205 kilograms of lead and 170 kilograms of zinc.

BIBLIOGRAPHY

EMPR ASS RPT 20296
EMPR EXPL 1978-E61; 1979-69
EMPR FIELDWORK 1978, pp. 89,91
EMPR MIN STATS 1985, p. 50
EMPR P 1989-5

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 691
REPORT: RGEN0100

MINFILE NUMBER: **082FNW222**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALBERTA**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:
LATITUDE: 49 43 42 N
LONGITUDE: 117 18 28 W
ELEVATION: 1463 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5508472

EASTING: 477818

COMMODITIES: Silver

Gold

Lead

MINERALS

SIGNIFICANT: Galena Sphalerite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epithermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP

Jurassic

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Alberta is located east of Crusader Creek, south of Mineral Creek. Gold and silver was produced from 19 tonnes mined between 1900 to 1904. No other information is available.

BIBLIOGRAPHY

EMPR AR 1897-535, 1900-831, 1901-1028, 1902-151, 1903-139, 1904-168,204, 1917-163,189
EMPR BC METAL MM01103
EMPR INDEX 3-187
EMPR P 1989-5

DATE CODED: 1985/07/24
DATE REVISED: 1999/08/26

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW222**

MINFILE NUMBER: **082FNW223**

NATIONAL MINERAL INVENTORY: 082F14 Pb5

NAME(S): **BLACK COLT (L.1721)**, BLACK COALT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 59 16 N
LONGITUDE: 117 16 13 W
ELEVATION: 1630 Metres

NORTHING: 5537307
EASTING: 480625

LOCATION ACCURACY: Within 500M

COMMENTS: Location of underground workings on Lot 1721. See also Silverte (082FNW011) and Palmita (082FNW012).

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Quartz Siderite

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Calcareous Argillite
Quartzite
Porphyritic Felsic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Black Colt property is situated on Shea Creek in the Slocan Mining Division. The underground workings are on Reverted Crown grant Lot 1721 at 1630 metres elevation above sea level.

The claim was granted in 1900 to the Hinckley and Black Colt Mining Company, Ltd. Little work was apparently done until 1919 when the first shipment of ore was made. Later work by E.J. Vandergrift was responsible for the claim being taken over in 1929 as part of the Consolidated Queen Bass holdings. From that time until 1937 development continued intermittently. A little exploratory work was done under option in 1949.

There are 2 adit levels on the claim, 31.6 metres apart at elevations of approximately 1417 and 1448 metres. The portal of the lower is on the Silver Ridge claim (082FNW011), and a third adit level on the Silver Ridge Fraction crosses into Black Colt ground. In 1949 the Black Colt levels were accessible by raises from the Silver Ridge Fraction adit (082FNW011).

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly black and locally calcareous argillite and quartzite of the Slocan Group. The

CAPSULE GEOLOGY

sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

A low angle anticlinal structure occupies the central part of the property and the dip of the strata is extremely variable and complicated by faulting. The sedimentary rocks are cut by numerous porphyritic felsic dikes probably related to the Nelson intrusions. Mineralization at the Black Colt occurs along a fracture zone some 20 metres wide. The zone generally strikes 055 degrees and has been explored by a branching adit driven southwesterly for about 135 metres. A raise connects the No. 2 level of the Black Colt with the underground workings on the Silverite property (082FNW011). Within the underground workings, argentiferous galena, sphalerite and pyrite occur in quartz and siderite veins. Mineralization is also present as coatings on joint surfaces. The mineralized veins vary greatly in widths and the wider parts of the veins are commonly brecciated.

Production from the Black Colt between 1919 and 1948 yielded about 1328 kilograms of silver, 257,385 kilograms of lead, 126,777 kilograms of zinc and 435 grams of gold from 718 tonnes mined.

BIBLIOGRAPHY

- EMPR AR 1900-981; 1919-170; 1920-125; 1922-200; 1923-222,228;
*1926-251; 1928-294; 1929-308; *1930-230,248; 1931-142;
1934-A26,E34; 1935-A26,E35; 1936-E53; 1937-A37,E51; 1946-164;
1948-144, *1949-187; 1951-172
EMPR ASS RPT *15444, 18570
EMPR BC METAL MM01130
EMPR BULL 29, pp. 68,96,117
EMPR EXPL 1987-A22
EMPR INDEX 3-189
EMPR P 1989-5
EMPR PF (See Palmita (082FNW012) - Plan of Black Colt mine, 1947;
Starr, C.C. (1926): Report of Examination of the Black Coalt Mine,
6 p., plan of workings 1"=40')
EMR MP RESFILE MC-167-Z1-2-21
GSC MAP 273A; 1090A
GSC MEM 173, p. 12; 184, p. 16; 309, pp. 118,128

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/11

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW224**

NATIONAL MINERAL INVENTORY:

NAME(S): **KIMBERLEY**, KIMBERLY, SPRUCE,
ARGENTITE FR.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 54 N
LONGITUDE: 117 23 04 W
ELEVATION: 1417 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5514427
EASTING: 472323

LOCATION ACCURACY: Within 5 KM
COMMENTS: Located on Springer Creek, about 6.5 kilometres east of the
community of Slocan.

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Quartz
COMMENTS: Assumed to be quartz vein-hosted mineralization.
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Kimberly is located along Springer Creek and is assumed to be quartz vein-hosted mineralization in granite of the Middle Jurassic Nelson intrusions. In 1906, some development work was done by C. Dempster resulting in a small shipment of ore (Minister of Mines Annual Report 1906, page H146).

BIBLIOGRAPHY

EMPR AR 1905-J162; 1906-H146, H249
EMPR BC METAL MM01257
EMPR INDEX *3-202
EMPR P 1989-5

DATE CODED: 1985/07/24
DATE REVISED: 1997/04/24

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW225**

NATIONAL MINERAL INVENTORY:

NAME(S): **PASSMORE DOME**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F12E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 35 27 N
LONGITUDE: 117 42 04 W
ELEVATION: 1830 Metres

NORTHING: 5493375
EASTING: 449328

LOCATION ACCURACY: Within 5 KM
COMMENTS:

COMMODITIES: Sillimanite Garnet

MINERALS

SIGNIFICANT: Sillimanite Garnet
ASSOCIATED: Biotite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Layered Stratabound Disseminated
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Unknown			Monashee Complex

LITHOLOGY: Sillimanite Garnet Biotite Gneiss
Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
RELATIONSHIP: Syn-mineralization
GRADE: Amphibolite

CAPSULE GEOLOGY

Coarse metapelitic gneisses containing abundant sillimanite and garnet are reported from the Valhalla and Passmore dome area west of Slocan Lake (Reesor, 1965). Valhalla and Passmore are two of a series of domal structures containing gneisses which form part of the core of the Shuswap Metamorphic Complex. The core of the Valhalla dome comprises orthogneisses which are mantled by hybrid gneisses predominantly metasedimentary in origin. Sillimanite locally comprises 20 to 25 per cent of sillimanite-garnet-biotite gneisses of the hybrid gneiss zone, particularly along the east flank of the Valhalla dome and may be very coarse. In the vicinity of the Passmore dome coarse sillimanite may occur in knots or groups of crystals over 2.5 centimetres long and 1 centimetre wide. These gneisses may also locally contain up to 30 per cent garnet, with an average crystal size of 0.5 centimetres or less. Garnet may also be present in interbedded amphibolitic rocks in amounts up to 40 per cent (Reesor, 1965).

BIBLIOGRAPHY

EMPR OF 1988-26
GSC BULL *129

DATE CODED: 1988/03/28
DATE REVISED: / /

CODED BY: JP
REVISED BY:

FIELD CHECK: N
FIELD CHECK:

MINFILE NUMBER: **082FNW226**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER LEAF**, SILVER LEAF NO. 2, ARGENTITE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 47 13 N
LONGITUDE: 117 21 29 W

UTM ZONE: 11 (NAD 83)

NORTHING: 5515004
EASTING: 474226

ELEVATION: 1550 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: The Silver Leaf claim adjoins the Arlington mine (082FNW152) on Speculator Creek, 8 kilometres east-northeast of Slocan. Access is from the Slocan highway via the Springer Creek road, to just east of the confluence of Springer and Speculator creeks.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
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>
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Silver Leaf claim adjoins the Arlington mine (082FNW152) on Speculator Creek, 8 kilometres east-northeast of Slocan. Access is from the Slocan highway via the Springer Creek road, to just east of the confluence of Springer and Speculator creeks.

The property is underlain by what is considered to be the extension of the Arlington shear. The principal workings are a 76-metre prospect crosscut adit to the shear on the Silver Leaf No. 2 and Argentite claims. The mineralization consists of small stringers that could not be extracted for a profit.

Small ore shipments for the period 1947 to 1951 were from a reserve that is reported to have been mined from the Arlington workings and dumped on the Silver Leaf No. 2 claim. Recovery from 40 tonnes of ore totalled 23,949 grams of silver, 2631 kilograms of lead and 2843 kilograms of zinc.

BIBLIOGRAPHY

EMPR AR *1947-A38,173; 1948-A39,148; 1951-43,178
EMPR BC METAL MM01398
EMPR INDEX 3-213
EMPR P 1989-5

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW227**

NATIONAL MINERAL INVENTORY: 082F14 Pb19

NAME(S): **SUNSET-TRADE DOLLAR**, SUNSET (L.1164), TRADE DOLLAR (L.1432)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 59 20 N
LONGITUDE: 117 10 01 W

NORTHING: 5537409
EASTING: 488033

ELEVATION: 2120 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Location of surface trace of vein on Sunset Crown grant (Lot 1164).
See also Bell (082FNW028).

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
 Calcareous Argillite
 Slate
 Argillite
 Felsic Porphyritic Intrusive

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Sunset-Trade Dollar occurrence is exposed on the Sunset and the Trade Dollar Crown grants (Lots 1164 and 1432). This property has been developed in conjunction with the Bell occurrence (082FNW028).

This property comprises a group of 6 Crown-granted claims extending across the divide at the head of Jackson Creek, between elevations of approximately 1830 and 2135 metres. Mining commenced here in the late 1890's and a considerable production, chiefly from the Sunset and Trade Dollar claims was obtained in the early years of this century. In the case of the Bell claim (082FNW028), the principal producing years were 1916, 1917 and 1918. After 1918 little work was done on any of the claims until the autumn and winter of 1926-27, when lessees shipped over 91 tonnes from old workings on the Trade Dollar.

The principal workings on the Sunset and Trade Dollar claims are 12 adits, 4 of which have been driven from the northern slope of the ridge on the Sunset claim, and the remainder from the southern slope on the Trade Dollar claim. The elevation of the main lode at the summit of the divide is 2127.5 metres, nearly 305 metres above the lowest or No. 8 Trade Dollar adit. Altogether at least 2347 metres of underground work, including drifts, crosscute and raises has been done on these claims. In 1927, these workings were partly inaccessible, particularly in what had proved the more productive sections.

Little or no work has been done on the Sunset and Trade Dollar claims since 1927. On the Bell claim, several hundred tonnes of high-grade zinc ore were recovered from old dumps, and pillar and stope remains in the underground workings during 1943, 1944 and 1945.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of

CAPSULE GEOLOGY

the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Sunset and Trade Dollar Crown grants are underlain by quartzite, calcareous argillite and slate of the Slocan Group. The strata generally strike northwest, dip 43 to 58 degrees southwest and are folded in a northwest-trending syncline. The central portion of the syncline is underlain by quartzite and calcareous argillite which host most of the ore. Beneath the core of the syncline are slate and thinly banded argillite which are cut by numerous felsic porphyritic intrusions.

The occurrence consists of a vein striking 073 degrees and dipping 60 degrees southeast. The vein varies from a few centimetres up to 2 metres in width and branches out into several subparallel veins. The vein was widest in the upper level of the mine within the more quartzitic beds and narrowed quickly within the thinly banded argillite. All veins have well-developed walls marked by gouge seams, some up to 30 centimetres thick. Sulphide minerals are crudely zoned with galena being more prominent in the upper levels of the mine and sphalerite dominating in the lower levels. Pyrite is common throughout. The main underground workings include five adits on the Sunset Crown grant and nine adits on the Trade Dollar Crown grant. At least 2350 metres of development work has been carried out on the vein in total.

Production from the Sunset-Trade Dollar between 1900 and 1927 yielded 10,737,751 grams of silver, 1,684,797 kilograms of lead and 58,114 kilograms of zinc from 2519 tonnes mined. Minor production between 1916 and 1918 was included with the Bell mine production

BIBLIOGRAPHY

- EMPR AR 1892-531; 1893-1057; 1896-64,65,560,561; 1898-1074; 1899-596, 700; 1900-827,988; 1901-1026; 1904-196,201; 1905-160; 1906-145, 249; 1907-100,214; 1908-99,247; 1911-134,285; 1912-149; 1917-156; 1926-251; 1927-275; 1967-254
EMPR BC METAL MM01423
EMPR BULL 29, p. 12
EMPR INDEX 3-189,215,216
EMPR P 1989-5
EMPR PF (See Bell 082FNW028 - Geology report on the Bell Group, 1967)
GSC MAP 273A; 1091A; 1667
GSC MEM 173, p. 86; *184, p. 141, Fig.13; 308, p. 130
CANMET IR 12 (1906), p. 181

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/22

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW228**

NATIONAL MINERAL INVENTORY:

NAME(S): **OMEGA (L.618)**, TEXAS (L.589), TWILIGHT (L.1854)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 20 N
LONGITUDE: 117 11 43 W
ELEVATION: 1738 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5537414
EASTING: 486002

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adit and dumps.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ASSOCIATED: Quartz Siderite Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Omega occurrence is situated on Crown grant Lot 618 at 1738 metres above sea level, in the Slocan Mining Division. The property is on the north side of Carpenter Creek about 1.5 kilometres north of the community of Cody.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Crown grant is underlain by argillite of the Slocan Group that are folded in an anticlinal structure. The beds generally strike southeast and dip 45 degrees southeast and southwest.

The occurrence is developed on a vein within a fissure zone that varies from a few centimetres up to one metre in width. The vein is the extension of the vein found on the Slocan Sovereign property (082FNW036) to the southwest and may correlate with the Reco No. 2 vein on the Reco property (082FNW035) to the northeast. The vein has been explored with one adit on the Omega Crown grant and three short adits on the Texas Crown grant (Lot 589). On the Omega property the vein consists of galena, sphalerite and pyrite usually concentrated in narrow bands, less than 10 centimetres wide, along the vein walls. The bands of massive sulphides are separated by crushed wallrock cemented by quartz, siderite and calcite. Crossfractures cutting the vein at high angles seem to have played a role in localizing the ore

CAPSULE GEOLOGY

and a number of post-mineral faults have caused small displacement of the vein.

Production from the Omega property between 1900 and 1983 yielded 246,809 grams of silver, 41,560 kilograms of lead and 14,496 kilograms of zinc from 132 tonnes mined. Production from the Twilight has been attached to this occurrence.

BIBLIOGRAPHY

EMPR AR 1893-1057; 1894-740; 1896-58,60,561; 1900-987,988; 1904-191;
1911-285; 1912-322
EMPR BC METAL MM01345; MM01443
EMPR BULL 29
EMPR INDEX 3-208,216
EMPR IR 1984-5, p. 115
EMPR P 1989-5
GSC MAP 273A; 1090A
GSC MEM 173, p. 14; *184, pp. 107,109; 309, p. 129

DATE CODED: 1996/01/16
DATE REVISED: 1996/01/16

CODED BY: GJA
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW229**

NATIONAL MINERAL INVENTORY:

NAME(S): **EARLY BIRD (L.1648)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 58 45 N
LONGITUDE: 117 14 43 W
ELEVATION: 1220 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adit.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5536343
EASTING: 482414

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartz Diorite
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Early Bird occurrence is situated on Reverted Crown Lot 1648 at 1220 metres elevation above sea level, on the south side of Carpenter Creek, in the Slocan Mining Division.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The occurrence consists of an adit driven on fissure veins hosted within a 60 metre wide quartz diorite body. The adit follows a narrow fissure that strikes southwest and dips 60 degrees northeast for about 25 metres from the portal. The adit then follows a fissure striking 165 degrees and dipping 60 degrees west for about 40 metres. The adit also intersects a fissure striking west and dipping 45 degrees south. All fissures are filled with gouge and calcite. Minor sphalerite and galena also occur within the fissure zones.

A total of 5 tonnes were mined from the occurrence between 1908 and 1934 to produce 20,964 grams of silver, 3920 kilograms of lead and 120 kilograms of zinc.

BIBLIOGRAPHY

EMPR AR 1900-983; 1908-247; 1934-A26,E34

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 702
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 23082
EMPR BC METAL MM01174
EMPR BULL *29, p. 126
EMPR INDEX 3-194
EMPR P 1989-5
GSC MAP 273A; 1091A
GSC MEM 173, p. 12; 184; 309

DATE CODED: 1990/01/29
DATE REVISED: 1995/12/29

CODED BY: DEJ
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW230**

NATIONAL MINERAL INVENTORY:

NAME(S): **KASLO (L.2432)**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 58 33 N
LONGITUDE: 117 10 42 W
ELEVATION: 1340 Metres

NORTHING: 5535959
EASTING: 487213

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Crown grant Lot 2432.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Argillite
Quartz Porphyritic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1971
SAMPLE TYPE: Grab
COMMODITY: Silver GRADE: 78.0000 Grams per tonne

COMMENTS: A grab sample of the western vein collected from the dump near the adit.
REFERENCE: Property File - The potential of Reco Silver Mines Ltd.

CAPSULE GEOLOGY

The Kaslo occurrence is located on Crown grant Lot 2432 at 1340 metres elevation above sea level, in the Slocan Mining Division. The claim is on Carpenter Creek, just east of Cody Creek.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The Kaslo property is underlain by argillite of the Slocan Group and several quartz porphyritic dikes which are probably related to the Nelson intrusions. Two narrow, north trending fissure veins have been explored on the Kaslo claim. The veins are 20 to 30 centimetres

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CAPSULE GEOLOGY

wide and about 75 metres apart. A short adit has been excavated on the western vein and a grab sample collected from the dump near the adit portal in 1971 assayed 78 grams per tonne silver (Property File - The Potential of Reco Silver Mines Ltd.). Although not mentioned specifically, the vein is probably similar to the vein found on the Chambers Crown grant (082FNW032) and probably contains mostly galena with minor sphalerite.

BIBLIOGRAPHY

EMPR AR 1900-985
EMPR BULL 29
EMPR P 1989-5
EMPR PF (*See Reco, 082FNW035 - Jefferson, L.M. (1971): The Potential of Reco Silver Mines Ltd.)
GSC MAP 273A; 1090A
GSC MEM 173; 184; 309

DATE CODED: 1995/11/29
DATE REVISED: 1995/11/29

CODED BY: GJA
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW231**

NATIONAL MINERAL INVENTORY:

NAME(S): **SMERALDA (L.2424)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 45 39 N
LONGITUDE: 117 24 51 W
ELEVATION: 1650 Metres

NORTHING: 5512122
EASTING: 470171

LOCATION ACCURACY: Within 500M

COMMENTS: The Smeralda property is west of the upper section of Dayton Creek, 3.5 kilometres east of Slocan. Access from the Slocan highway is via switchback jeep road that joins the Springer Creek road. The Smeralda adjoins, to the southeast, the Exchange (082FNW174).

COMMODITIES: Silver Zinc Lead

MINERALS

SIGNIFICANT: Galena Pyrite Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
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>
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Smeralda property is west of the upper section of Dayton Creek, 3.5 kilometres east of Slocan. Access from the Slocan highway is via switchback jeep road that joins the Springer Creek road. The Smeralda adjoins, to the southeast, the Exchange (082FNW174).

The adjoining Smeralda (Lot 2424), Silver Plate (Lot 1524) and Exchange (Lot 1523) Crown granted claims develop a vein system in Nelson granite.

A quartz vein in Nelson granite has been explored by three adits, a shaft and a 30-metre winze on the Exchange claim near the border with the Smeralda claim. The vein is 1.5 metres wide, banded with clear and milky white quartz and pyrite accompanied by some galena, sphalerite and ancillary silver-bearing minerals.

Production from the Smeralda claim in 1934 amounted to 2.7 tonnes, yielding 18,880 grams of silver, 141 kilograms of lead and 308 kilograms of zinc. Total production including the adjoining claims is estimated to be more than 50 tonnes, although records are incomplete.

BIBLIOGRAPHY

EMPR AR 1899-846; 1934-A26
EMPR BC METAL MM01412
EMPR INDEX 3-214
EMPR P 1989-5
GSC MAP 272A

DATE CODED: 1997/07/22
DATE REVISED: 1997/07/22

CODED BY: BNC
REVISED BY: BNC

FIELD CHECK:
FIELD CHECK: N

MINFILE NUMBER: **082FNW232**

NATIONAL MINERAL INVENTORY: 082F14 Ag39

NAME(S): **DUMAC**, MOUNT ROYAL, ROYALITE,
AUSTIN, ROYAL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 49 33 N
LONGITUDE: 117 20 13 W
ELEVATION: 1300 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5519321
EASTING: 475765

LOCATION ACCURACY: Within 1 KM

COMMENTS: The Dumac property is on the east side of Bondholder Creek, a northeast flowing tributary of Enterprise Creek, 10 kilometres northeast of Slocan. It is west of the old Enterprise Mine (082FNW148). Access from the Slocan highway is via the Enterprise Creek road.

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Mesothermal
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>
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Dumac property is on the east side of Bondholder Creek, a northeast flowing tributary of Enterprise Creek, 10 kilometres northeast of Slocan. It is northwest of the Enterprise (082FNW148) and Neepawa (082FNW147). Access from the Slocan highway is via the Enterprise Creek road.

The property was worked as the Royal in 1932 by R.F. Ainslie. A 2.3-metre chip sample across the vein assayed 384 grams per tonne silver, 2.8 per cent lead and 4 per cent zinc (Annual Report 1932, page 179).

In 1947, a mineralized zone was uncovered by ground-sluicing in and angling away from the bed of a small stream. The zone proved to be a strong shear, with considerable gouge, in Nelson granite. Sections of the zone are well mineralized with galena and sphalerite and some native silver. In 1948, Dumac Mines Ltd. produced 5 tonnes of ore, yielding 6469 grams of silver, 296 kilograms of lead and 660 kilograms of zinc.

Development on this property comprises open cuts and adits. In 1952 a new adit was collared about 90 metres northeast of the open cuts. It was driven 12 metres southerly as a crosscut to the shear zone then turned southwest 30 metres as a drift on the shear, but no ore was encountered. In 1956, L. Gormley worked the property as the Austin claims and produced 31 tonnes, yielding 5723 grams of silver, 585 kilograms of lead and 1135 kilograms of zinc.

BIBLIOGRAPHY

EMPR AR 1932-179; *1947-172; 1948-A38,147; *1952-180; 1956-A50, 97,98-99
EMPR BC METAL MM01117 (Austin); MM01171 (Dumac)
EMPR INDEX 3-194; 4-119
EMPR P 1989-5
EMPR PF (Starr, C.C. (1930): Notes on Mines on Springer and Ten-Mile Creeks, in 082FNW152)
GSC MAP 272A, 1090A, 1091A

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
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PAGE: 707
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 308, p. 148

DATE CODED: 1997/07/22
DATE REVISED: 1997/07/22

CODED BY: BNC
REVISED BY: BNC

FIELD CHECK:
FIELD CHECK: N

MINFILE NUMBER: **082FNW233**

NATIONAL MINERAL INVENTORY:

NAME(S): **AJAX FR. (L.1727)**, STARLIGHT NO. 3 (L.595)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 59 44 N
LONGITUDE: 117 12 22 W
ELEVATION: 2088 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5538157
EASTING: 485227

LOCATION ACCURACY: Within 500M
COMMENTS: Location of adits.

COMMODITIES: Silver Lead Copper

MINERALS

SIGNIFICANT: Galena Tetrahedrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
Argillaceous Quartzite
Slate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Ajax Fraction occurrence is situated on Crown grant Lot 1727 at 2088 metres elevation above sea level, in the Slocan Mining Division. The property is on the north side of Carpenter Creek east of Mount Payne. The property consists of the Ajax Fraction and Starlight No. 3 Crown grants (Lots 1727 and 595 respectively).

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The occurrence is hosted by quartzite and argillaceous quartzite of the Slocan Group. The sedimentary sequence generally strikes 120 degrees and dips 58 degrees southwest. For the most part, the sedimentary rocks are well bedded and banded. Southwest of the Ajax Fraction Crown grant, the quartzite and argillite that host the occurrence are overlain by black slate.

The occurrence consists of a fissure vein that strikes 025 degrees and dips steeply southeast. The vein follows a joint plane within argillaceous quartzite and is a mere crack to a few centimetres in width. It carries small amounts of silver-lead mineralization (probably as tetrahedrite and galena) sporadically concentrated along the vein.

The vein has been explored with two adits and a 15 metre deep

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 709
REPORT: RGEN0100

CAPSULE GEOLOGY

shaft. It has been followed along strike onto the Starlight No. 3 Crown grant to the northeast but could not be followed south of the slate contact.

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EMPR BULL 29
EMPR P 1989-5
GSC MAP 273A; 1090A; 1091A
GSC MEM 173; *184, p. 3; 308

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

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW234**

NATIONAL MINERAL INVENTORY: 082F13 Au1

NAME(S): **TILLICUM**, HEINO-MONEY, EAST RIDGE,
MONEY PIT, JENNY, BLUE,
GRIZZLY, ARNIE FLATS, CULTUS,
VALLEY VIEW, WOLF, HUGH,
SANDY, NEAR, TIL,
ESPERANZA GOLD

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F13E
BC MAP:
LATITUDE: 49 59 04 N
LONGITUDE: 117 42 45 W
ELEVATION: 2170 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Heino-Money zone, 147 metres north-northwest of Tillicum Mountain peak, 11.8 kilometres east of the village of Burton (Assessment Report 15700).

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5537144
EASTING: 448921

COMMODITIES: Gold Silver Lead Zinc Cadmium
Copper Tungsten

MINERALS

SIGNIFICANT: Gold Pyrrhotite Pyrite Galena Sphalerite
Arsenopyrite Marcasite Tetrahedrite Chalcopyrite Electrum
COMMENTS: Scheelite occurs in the Blue zone.
ASSOCIATED: Quartz Pyrrhotite Pyrite Arsenopyrite Magnetite
ALTERATION: Tremolite Actinolite Clinozoisite Plagioclase Diopside
Biotite Garnet Microcline

COMMENTS: Minor amounts of sericite and carbonate as well as graphite and hematite.

ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown
ISOTOPIC AGE:

DATING METHOD: Lead/Lead

MATERIAL DATED: Galena

DEPOSIT

CHARACTER: Stratabound Vein Disseminated
CLASSIFICATION: Skarn Mesothermal Epigenetic
TYPE: K04 Au skarn K02 Pb-Zn skarn
K05 W skarn

SHAPE: Cylindrical
MODIFIER: Faulted

DIMENSION: 182 x 91 x 2 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Shape modifiers refers to the Heino-Money zone. C.Godwin (Pers. Comm. to B. Dewonck) obtained a Jurassic lead-isotope age for galena mineralization from Money subzone. Dimensions are for Heino-Money.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Undefined Group	Elise	
Lower Jurassic	Undefined Group	Archibald	
Unknown			Unnamed/Unknown Informal

LITHOLOGY: Siliceous Calc-silicate Skarn
Basaltic Tuff
Meta Basalt
Tuffaceous Sediment/Sedimentary Rock
Argillite
Feldspar Porphyritic Diorite Sill
Feldspar Porphyritic Diorite
Quartzite
Siltstone
Quartz Biotite Gneiss

HOSTROCK COMMENTS: Elise Form. volcanic rocks and Archibald and Hall Form. sedimentary rocks form part of the Lower Jurassic Rossland Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Syn-mineralization
Post-mineralization

GRADE: Greenschist
Hornfels

INVENTORY

ORE ZONE: HEINO-MONEY

REPORT ON: Y

CATEGORY: Indicated YEAR: 1991
QUANTITY: 13600 Tonnes
COMMODITY _____ GRADE _____
Gold 34.7900 Grams per tonne

COMMENTS: Estimated reserves.
REFERENCE: Information Circular 1993-13, page 17.

ORE ZONE: EAST RIDGE

REPORT ON: Y

CATEGORY: Indicated YEAR: 1991
QUANTITY: 1184672 Tonnes
COMMODITY _____ GRADE _____
Gold 5.8200 Grams per tonne

COMMENTS: Includes 440,000 tonnes grading 10.26 grams per tonne gold.
REFERENCE: Information Circular 1993-13, page 17.

CAPSULE GEOLOGY

The property is located at about 2100 metres elevation on the north side of Tillicum Mountain, 11.8 kilometres east of the Lower Arrow Lake community of Burton.

The Tillicum group, comprising the Tillicum, Cultus and Valley View claims, was apparently located in this vicinity. Owners J.G. Reveler and L. Robson carried out exploration work in one or more short drift adits in the period 1917-21. Some 3.6 tons of sorted ore were stockpiled in 1921.

Metavolcanic rocks and a predominant metasedimentary succession form the highly deformed, east-trending Nemo Lakes Belt. To the north and west it is intruded by the Jurassic and/or Cretaceous Goatcanyon-Halifax Creeks quartz monzonite stock, while to the south it is invaded by the Eocene Nemo Lakes quartz monzonite stock. Supracrustal rocks of the Nemo Lakes Belt in the Tillicum Mountain area are dominated by metamorphosed siltstone, calcareous siltstone, arkose, and wacke, with lesser amounts of basalt, tuff, argillite, impure carbonate and marble layers. The supracrustal rocks underwent a post-Lower Jurassic phase of regional metamorphism and folding that predates the Middle to Upper Jurassic intrusion of the monzonitic stocks. This resulted in sillimanite grade metamorphism throughout most of the Nemo Lakes Belt, however, the metamorphic grade is lower around Tillicum Mountain and resulted in the formation of biotite, muscovite, chlorite and amphibole. In addition to the regional metamorphism, the rocks were locally subjected to two episodes of contact metamorphism. The first is associated with swarms of dioritic sills that probably accompanied the regional deformation, the second is hornfelsing related to the intrusion of the large monzonitic stocks and postdates the regional deformation.

On the Tillicum property the metamorphosed sedimentary rocks appear to correlate with the Lower and Middle Jurassic Archibald and Hall formations and the metamorphosed volcanic rocks with the older Lower Jurassic Elise Formation. All formations belong to the Lower Jurassic Rossland Group. These country rocks are intruded by swarms of deformed, often schistose feldspar porphyritic diorite to quartz diorite sills that vary from 1 to over 100 metres in width. These intrusive rocks are widely distributed and are spatially and probably genetically related to gold-rich skarn mineralization on the Tillicum property. The country rocks immediately adjacent to the sills are often weakly hornfelsed. Locally the margins of some diorite sills and country rock adjacent to them are overprinted with skarn alteration.

At the Heino-Money zone, stratabound gold-bearing siliceous calc-silicate skarn alteration is hosted in a thin, wedge-shaped package of basaltic tuff and tuffaceous sedimentary rocks which is bounded to the west by metabasalts and to the east by a large, altered feldspar porphyritic diorite body. The skarn is pinkish-green and is generally well layered with subparallel thin quartz veins and variable amounts of sulphides. The skarn assemblage includes quartz, tremolite-actinolite, clinozoisite, plagioclase, diopside, biotite, garnet and microcline, with minor amounts of sericite and carbonate. Free gold occurs as fine to coarse disseminations and fracture fillings within and along walls of the quartz sulphide veins; gold is generally associated with pyrrhotite, pyrite, galena and sphalerite. The zone is cut by north-trending, steeply dipping lamprophyre dykes which postdate both the skarn development and sulphide mineralization. A polished section study of this mineralization show that gold grains are generally free, but may also be intimately associated with pyrrhotite, arsenopyrite, sphalerite and pyrite-marcasite. Some pyrrhotite grains are rimmed with colloform pyrite-marcasite while others contain small masses of

CAPSULE GEOLOGY

hematite and graphitic material. Minor to trace amounts of tetrahedrite, chalcopyrite and possibly electrum also occur. Polished thin section studies and geochemical studies suggest that the mineralizing process at the Heino-Money zone involved two phases of precious metal deposition. The first phase included the introduction of gold, arsenopyrite and possibly sphalerite, accompanied by the crystallization of quartz, carbonate and calc-silicate minerals. This was followed by the deposition of argentiferous galena and the continued introduction of arsenopyrite and sphalerite. Gold and silver-bearing horizons are present in the skarns at the Heino-Money zone but they do not occur together. Silver is probably carried in galena.

High-grade gold was discovered in the "Money Pit" in September 1980 by Arnold and Elaine Gustafson, of Burton, on ground held as the Wolf, Hugh, Sandy and Near claim groups (12 units). Esperanza Explorations Ltd and Welcome North Mines Ltd., as a joint venture, optioned 100 per cent interest in the property from the Gustafson's by a September 20, 1980 agreement, subject to a percentage of net smelter returns. The existing claims and adjacent ground was over staked as the Til 1-4 claims (72 units). Work in 1981 included geochemical and geophysical surveys and trenching. A bulk sample of 58 tonnes shipped from the Money Pit averaged 78.8 grams per tonne gold.

Welcome North withdrew from the joint venture in March 1982. La Teko Resources Ltd., on June 23, 1982, acquired an option to purchase a 50.4 per cent share interest in Esperanza Explorations prior to December 31, 1984 for \$5,125,000. Additional staking expanded the property to some 237 units. Exploration activity in 1982 included 1128 metres of diamond drilling in 16 holes on the Heino-Money zone, 8 holes on the East Ridge zone and 1 hole on the Jenny zone. In 1983 a 60.9-metre crosscut adit was driven on the East Ridge zone and further geochemical surveys and trenching carried out. Diamond drilling was done in 18 holes on the Heino-Money zone. Drilling to date outlined a drill indicated 36,287 tonnes at 20.5 grams per tonne gold and a total inferred potential of 90,720 tonnes (George Cross News Letter, February 28, 1984). Drilling in 1983 totalled 2319 metres in 38 holes.

In 1984 a 60-metre adit was driven into the upper part of the Heino-Money zone; a 2268-tonne bulk sample was shipped to the Dankoe mill at Keremeos in 1985. Further diamond drilling was done in 5 holes on the East Ridge zone (total 25 holes to date). Based on work to date the East Zone has an inferred 4,536,000 tonnes at 1.7 grams per tonne gold (Northern Miner, November 15, 1984). La Teko provided financing of exploration to the end of 1985 (\$2.28 million) to earn a 39.6 per cent interest in Esperanza. La Teko was unable to provide further financing and the 1982 option agreement expired at the end of 1985.

The Heino-Money zone has been explored by drilling and underground exploration and has a reserve potential of 45,355 tonnes grading 34.28 grams per tonne gold. Within this reserve, a mining reserve has been calculated to be 15,874 tonnes with a diluted grade of 34.28 grams per tonne gold using a 11.99 grams per tonne gold cutoff grade. The mining reserve is outlined in four south raking shoots that occur in a near vertical gold-bearing skarn structure which averages about 2 metres in width along a strike length of approximately 200 metres and a vertical extent of 100 metres. Additional reserve potential occurs between the delineated shoots as well as along strike and depth projections of the skarn structure (Assessment Report 19437). Columbia Gold Mines (1991), formerly Esperanza, estimated reserves of the Heino-Money zone to be 13,600 tonnes grading 34.79 grams per tonne gold (Information Circular 1993-13, page 17).

The structure on the property is complex and is dominated by steep angle normal and reverse faults. Most faults have little offsets, however, several faults with major displacements divide the property into fault-bounded blocks. The metamorphic fabric of the rock closely parallels the bedding planes with minor or parasitic folding only very rarely observed. The Heino-Money zone is offset by a series of left-lateral, steep angle northeast striking faults that have displacements up to 9.0 metres. Within a 500 metre radius of the Heino-Money zone, three other significant mineralized zones have been discovered. These are the East Ridge zone, the Jenny zone and the Blue zone.

The East Ridge zone is 300 metres east of the Heino-Money zone. Gold mineralization occurs in a blanket-like zone that straddles the contact between porphyritic diorite and meta-arkose, quartzite, siltstone and minor argillite. The gold-bearing, near-vertical calc-silicate skarn structures occur within a 9.1 to 24.3 metre zone that strikes northeast and dips 70 degrees northwest. The skarn

CAPSULE GEOLOGY

structures have widths that vary from 1.5 to 4.6 metres, but average 2.1 metres. The East Ridge zone has been traced by drilling for 457 metres along strike, 365 metres down-dip at an average width of 1.5 metres. The East Ridge zone is comprised of two parallel upper skarn structures 0.9 to 1.5 metres thick and a lower skarn structure. Gold occurs in randomly distributed high grade pockets separated by areas of lower grade material. Within the zone, gold-bearing sulphide mineralization consists of pyrrhotite, pyrite-marcasite, arsenopyrite, chalcopyrite, sphalerite, galena and native gold with traces of tetrahedrite.

Exploratory underground drifting (300 metres) and drilling on the East Ridge zone has resulted in indicated reserves of 1,184,672 tonnes grading 5.82 grams per tonne gold. Within this reserve are measured geological reserves of 238,567 tonnes grading 13.36 grams per tonne gold using a minimum width of 1.5 metres and a 6.85 grams per tonne gold cutoff grade (Assessment Report 19437). Columbia Gold Mines (1991) estimated reserves of the East Ridge zone to be 440,000 tonnes grading 10.26 grams per tonne gold (Information Circular

The Jenny zone is 150 metres north and 100 metres lower in elevation than the Heino-Money zone. The Jenny zone consists of alternating bands of glassy quartz and sericitic quartzite overlain by pyritic, black, fine-grained thinly bedded argillite. Very fine-grained, galena, sphalerite and pyrite occur in the quartzite with euhedral magnetite and pyrite in the glassy quartz. Occasional cavity fillings of gold-bearing chalcedonic quartz and actinolite-rich bands are also evident. A chip sample across 0.4 metres returned 12.9 grams per tonne gold and 19.8 grams per tonne silver (Assessment Report 11161).

The Blue zone is 280 metres north-northeast of the Heino-Money zone. Three pits expose pyrite, pyrrhotite, galena and sphalerite massive stringers and lenses within a fractured and sheared thinly bedded quartz-biotite gneiss. Gold values range to 6.9 grams per tonne (Assessment Report 11161). Just above the pits, scheelite occurs disseminated in a siliceous matrix and along fractures.

As a result of mining the Heino-Money zone, a total of 5503 tonnes of ore with an estimated head grade of 24.4 grams per tonne gold was shipped to the Goldstream mill (082M 141) for processing. About 102,443 grams of gold and 149,546 grams of silver were recovered into concentrates which have been shipped to Japan for smelting (George Cross News Letter No. 237 (December 10), 1993).

In 1997, AMT Resources Ltd. worked the property. Mustang Gold is acquiring the property (Northern Miner, January 18, 1999).

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EMPR EXPL 1980-84; 1981-40; 1982-11,17,63; 1983-84; 1984-xvi;
1985-A38; 1986-A15,A58,A59; 1987-A6,A64
EMPR FIELDWORK 1980, p.84; 1981, pp. 39-45; 1983, pp. 19-21; 1984,
pp. 23-51; *1985, pp. 37-49; 1986, pp. 19,21; 1987, pp. 5,67-70,
79, 277
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pp. 41,43,47; 1987-1, pp. 17,29,55,56; 1988-1, pp. 4,19,59,60;
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EMPR MAP 65 (1989)
EMPR MIN STATS 1985, p. 50; 1980-1992, p. 12
EMPR OF 1991-17; 1992-1; 1994-1
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EMPR PF (Roberts, W. and McClintock, J. (1985): Gold Mineralization at
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Shot Review Progress Report on the Tillicum Gold Property; Notes
from CIM District 6, Kamloops, 1984; Columbia Gold Mines Ltd.,
May, 1990; Abstract by D.M. Peterson)
EMR MIN BULL MR 223 B.C. 37
EMR MP CORPFILE (Esperanza Explorations Ltd.; Welcome North Mines
Ltd.; La Teko Resources Ltd.; Columbia Gold Mines Ltd.)
GSC BULL 161, p. 40
GSC MAP 3-1956; 1090A; 1176A
CIM Sept., 1983
CJES Vol.18, 1981, pp. 944-958
GCNL #218,#221, 1980; #229, 1981; #137,#150,#168,#177,#182,#193,#200,
#204,#211,#215,#242, 1982; #24,#26,#64,#117,#140,#166,#168,#187,
#198,#205, 1983; #41,#125,#145,#181,#214, 1984; #92,#139,#169,
1985; #4,#6,#105,#155,#157,#184,#219, 1986; #81,#124,#130,#195,
#201,#231, 1987; #37,#131,#133,#145,#150,#175,#188,#197,#208,#211,
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#160(Aug.21),#163(Aug.24),#208(Oct.30), 1989; #5(Jan.8),#110(June

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IPDM Nov., 1985; Nov./Dec., 1982
N MINER Dec.10, 1981; Aug.12, Sept.8,23, Oct.14, Nov.4,18,
1982; Feb.17, June 23, July 28, Sept.23, Oct.20, 1983; Jan.5,
Apr.11, June 21, Aug.2, Oct.4, Nov.22, 1984; Sept.23, 1985;
Sept.8, 1986; Apr.27, July 20, 1987; Mar.7, Apr.18, July 4,
Oct.17, 1988; Feb.6, May 1, July 17, Nov.13, 1989;
Oct.14, 1991; June 15, 1992; May 17, Aug.16, Sept.13, Dec.20,
1993; Oct.23, 1995; Jan.18, 1999
NAGMIN June 7, 1985; Feb.15, Mar.30, July 6, 1984; June 1, 1983
NW PROSP 1985 (Winter) pp. 8,9
V STOCKWATCH Jan., Apr.22, May 22, Aug.17, Oct.9, Dec.1, 1987
W MINER Apr., 1984
WWW http://www.infomine.com/index/properties/TILLICUM_GOLD.html
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1991/12/31

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW235**

NATIONAL MINERAL INVENTORY:

NAME(S): **EMPIRE NO. 5 (L.1580)**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 58 44 N
LONGITUDE: 117 09 45 W
ELEVATION: 1646 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Reverted Crown grant Lot 1580.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5536296
EASTING: 488349

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
COMMENTS: Galena and sphalerite are inferred from the silver-lead-zinc mineralization and the other occurrences in the area.
ASSOCIATED: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Undefined Formation	Nelson Intrusions
Middle Jurassic			

LITHOLOGY: Argillite
Granitic Sill

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
YEAR: 1984
COMMODITY GRADE
Silver 685.0000 Grams per tonne
Lead 27.0000 Per cent
Zinc 22.0000 Per cent
COMMENTS: A grab sample from the dump near the adit.
REFERENCE: Assessment Report 13045.

CAPSULE GEOLOGY

The Empire No. 5 occurrence is situated on Reverted Crown grant Lot 1580, at 1646 metres elevation above sea level, in the Slocan Mining Division.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions, which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

CAPSULE GEOLOGY

The Empire No. 5 occurrence is underlain by argillite of the Slocan Group. The beds strike northwest and dip 45 to 60 degrees northeast. Granitic sills, up to 2 metres in width, cut the sedimentary sequence parallel to bedding. An adit was excavated on an east-trending, vertically-dipping shear within the argillite. Samples collected from the dump near the adit indicate that silver-lead-zinc mineralization is associated with pyrite. A grab sample from the dump assayed 685 grams per tonne silver, 27 per cent lead and 22 per cent zinc (Assessment Report 13045).

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EMPR ASS RPT *13045, *22791
EMPR BULL 29
EMPR EXPL 1984-65
EMPR P 1989-5
GSC MAP 273A; 1091A
GSC MEM 173; 184; 309

DATE CODED: 1995/11/24
DATE REVISED: / /

CODED BY: GJA
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW236**

NATIONAL MINERAL INVENTORY: 082F14 Pb29

NAME(S): **DEMOCRAT (L.1250)**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 58 24 N
LONGITUDE: 117 17 09 W
ELEVATION: 2072 Metres

NORTHING: 5535705
EASTING: 479504

LOCATION ACCURACY: Within 500M

COMMENTS: Short adits and opencuts, 1 kilometre east from the summit of Idaho Peak near the headwaters of the east tributary of Howson Creek, 6.75 kilometres east-southeast from the town of New Denver (Bulletin 29, page 77).

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Triassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Argillite
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Democrat occurrence is located at 2072 metres elevation, 1 kilometre on the east side of Idaho Peak. New Denver, British Columbia lies 6.75 kilometres to the northeast.

The Democrat claim was Crown granted in 1897 to W.B. Cash and J.G. Steel. Lessees conducted property work in 1903 with the development of three short adits and several opencuts. It was owned by P.M. Stuart in 1952. The Crown grant was forfeited February 15, 1994.

The area is underlain by folded and faulted argillites, limestones and quartzite of the Triassic Slocan Group. The Democrat showing is underlain by limestone where a large dragfold, 61 metres long, is locally shattered.

Erratic patches of galena occur in fractures in the steep limb of the dragfold.

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EMPR BULL *29, p. 77
EMPR P 1989-5
GSC MAP 3-1956; 1176A

DATE CODED: 1996/01/30
DATE REVISED: 1996/01/30

CODED BY: KJM
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW237**

NATIONAL MINERAL INVENTORY: 082F14 Ag55

NAME(S): **ROSE MARIE (L.4003)**, ROSEMARIE, MOWITCH GROUP,
MOWITCH (L.4558), ST. CLAIR (L.4559), HOME RUN,
GRAND STAND, RONALD FR.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 59 42 N
LONGITUDE: 117 19 28 W
ELEVATION: 1036 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The centre of the Rose Marie Crown grant (Lot 4003). See Mowitch (082FNW002).

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5538125
EASTING: 476746

COMMODITIES: Lead Zinc Silver Gold Copper

MINERALS

SIGNIFICANT: Tetrahedrite Galena Sphalerite
ASSOCIATED: Quartz Siderite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 2 Metres STRIKE/DIP: 020/60S TREND/PLUNGE:
COMMENTS: The lode is 90 to 180 centimetres wide, strikes 020 degrees and dips 60 degrees to the southeast on average.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Triassic Slocan Undefined Formation

LITHOLOGY: Slate
Quartzite
Limestone
Argillite
Feldspar Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

INVENTORY

ORE ZONE: STOCKPILE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1920
SAMPLE TYPE: Unknown
COMMODITY GRADE
Silver 1508.0000 Grams per tonne
Lead 37.0000 Per cent
Zinc 16.0000 Per cent
COMMENTS: Sample taken from the upper adit stockpile.
REFERENCE: Minister of Mines Annual Report 1920, page 125.

CAPSULE GEOLOGY

The Rose Marie occurrence is located on the west side of Clair Creek, 600 metres from its confluence with Carpenter Creek. New Denver is located 3 kilometres to the west. The Rose Marie occurrence was found on the former Rose Marie claim, and Crown-granted to Moran and Greenlea in 1900. In 1904, it was combined with the Mowitch claim group consisting of the Mowitch (Lot 4558), St. Clair (Lot 4559), Rose Marie (Lot 4003), Home Run, Grand Stand and Ronald Fraction claims. The Rosemarie claim apparently reverted to the Crown for it was Crown-granted to J. Cecheleco and associates in 1919. A small amount of work was done on the claim in 1920 and then it lay idle until 1949 when the upper tunnel was reopened and a small shipment of ore made. Workings consisted of four adits and explore two vein-lodes crosscutting Slocan Group metasediments, the lower referred to as the Mowitch lode (082FNW002) and the upper as the Rosemarie lode. The Rose Marie lode

CAPSULE GEOLOGY

was explored by two adits, 69 metres vertically above the upper adit of the Mowitch lode.

The Rose Marie occurrence is underlain by quartzite, limestone and interbedded argillite, predominantly massive. These strata strike northwest, dip steeply to the northeast and are intruded by feldspar porphyry dikes.

The Rose Marie lode is less well defined than the Mowitch lode but is 90 to 180 centimetres wide, crosscutting slate of the Slocan Group. It strikes about 020 degrees and dips 60 degrees southeast on average. The lode consists of bands and stringers of quartz, siderite and brecciated wallrock hosting tetrahedrite and more galena and sphalerite than the Mowitch lode. Some pyrite is also present.

Ore was intersected near the face of the 12-metre long upper adit. Production records are incomplete for the Rose Marie occurrence. Records show 10 tonnes of ore mined in 1949 with 8709 grams silver, 1144 kilograms lead and 818 kilograms zinc recovered. It is also reported that several tonnes of ore were mined from the upper adit in 1920. The ore was found to yield trace gold, 1508 grams silver, 37 per cent lead and 16 per cent zinc. Several tonnes of shipping-grade ore were also mined from the lower adit in this same year (Minister of Mines Annual Report 1920, page 125).

BIBLIOGRAPHY

EMPR AR 1900-987; 1904-180; 1919-370; *1920-125; 1949-189
EMPR BC METAL MM01380
EMPR INDEX 3-211
EMPR P 1989-5
GSC MAP 1090A; 1091A; 1667
GSC MEM *173, Map 273A; *184, pp. 90,91

DATE CODED: 1996/01/20
DATE REVISED: 1996/01/20

CODED BY: KJM
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW238**

NATIONAL MINERAL INVENTORY: 082F14 Ag61

NAME(S): **FAIRY (L.4508)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 58 29 N
LONGITUDE: 117 17 09 W
ELEVATION: 2073 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of adit and dumps.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5535859
EASTING: 479504

COMMODITIES: Zinc

MINERALS

SIGNIFICANT: Sphalerite
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Upper Triassic
Middle Jurassic

GROUP

Slocan

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Argillite
Limestone
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Fairy property is situated near the headwaters of Howson Creek at 2073 metres elevation above sea level, in the Slocan Mining Division. The underground workings are on Reverted Crown grant Lot 4508.

It was Crown-granted to J.G. Steel in 1900 and to H.H. Falding in 1917 and 1925. In about 1950 the claim became a part of the holdings of Silver Ridge Mining Co. Ltd.

An adit was driven 61 metres westerly at an elevation of 2039 metres. At 58 metres the drift turns to the southwest to follow light shearing into which the mineralized fracture swings at 21.3 metres from the portal. A branch extends 20 metres to the south in limy rock. The records do not indicate when or by whom this development work was done.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Permian and/or Triassic Kaslo Group metamorphosed volcanic rocks occur to the north of the Slocan Group rocks. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic to pegmatitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

The occurrence is hosted by predominantly interbedded black argillite, quartzite and limestone of the Slocan Group. The sedimentary rocks have been folded, fractured, faulted and regionally metamorphosed to greenschist facies. The regional northwest trending asymmetric Slocan syncline is thought to be Middle Jurassic and is the first recognizable deformation in the sequence. Several fault structures are evident and host vein mineralization. Later stage

CAPSULE GEOLOGY

normal and thrust faults and shearing have chopped, deformed and remobilized the veins and mineralization. Drag features are also present.

On the Fairy property the sedimentary rocks strike 145 degrees and dip 50 degrees northeast. The occurrence consists of a narrow brecciated shear zone within black argillite. The shear contains several calcite veins 10 to 15 centimetres in width. The calcite veins carry minor disseminated sphalerite.

BIBLIOGRAPHY

EMPR AR 1900-983; 1917-452; 1925-449
EMPR BULL *29, p. 78
EMPR P 1989-5
EMPR PF (See 082FNW - General: Geological plans of the Silverton area,
B.C. Department of Mine, 1966; Sandon area compilation - Detailed
geological map of the Idaho Peak area)
GSC MAP 273A; 1090A
GSC MEM 173; 184; 309

DATE CODED: 1996/01/08
DATE REVISED: 1996/01/08

CODED BY: GJA
REVISED BY: GJA

FIELD CHECK:
FIELD CHECK: N

MINFILE NUMBER: **082FNW239**

NATIONAL MINERAL INVENTORY: 082F14 Ag71

NAME(S): **BLACK EAGLE (L.6266)**, NORTH AMERICA (L.6269), NATIVE SILVER (L.6265),
ENTERPRISE (L.6001), LUCKY BILL (L.6276), KING SOLOMON MINES,
WOODBURY GLACIER, DORA (L.7473), FLORA,
KOTNEN (L.7472), BLACK BEAR (L.6262), GLASIER (L.6263),
NO. 1 (L.6002), GREY EAGLE (L.7470)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 46 43 N
LONGITUDE: 117 06 34 W
ELEVATION: 2200 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5514022
EASTING: 492120

LOCATION ACCURACY: Within 1 KM

COMMENTS: The Black Eagle property is located at the head of Woodbury
Creek near Grey Eagle Lake, 25 kilometres east of Slocan City.
Location of the property is uncertain and could not be confirmed in
1987 mapping. The property may include King Solomon (082FNW242).

COMMODITIES: Silver Lead

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Black Eagle property is located at the head of Woodbury Creek near Grey Eagle Lake, 25 kilometres east of Slocan City. Location of the property is uncertain and could not be confirmed in 1987 mapping. The property may include King Solomon (082FNW242). It is located in Kokanee Glacier Provincial Park.

The property comprises a group of some 35 claims and fractional claims lying on the headwaters of Woodbury and Landrum (South Fork of Woodbury) Creeks. The claims cover an area extending from Kane Peak east to Grey Eagle lake, north to Woodbury Creek at a point directly west of Sunset lake, and west to Woodbury Glacier. Three claims, the Dora, Flora, and Kotnen adjoin on the south, extending south from the east side of Kane Peak.

Seven claims and fractional claims lying along the north end of the area directly west of Sunset lake, were Crown-granted to the King Solomon Consolidated Mining Company, of Spokane, in 1904. Included among the seven claims are the Black Eagle (Lot 6266), Native Silver (Lot 6265) and Enterprise (Lot 6001). The Lucky Bill group, including the Lucky Bill (Lot 6276) claim, located just north and northwest of Grey Eagle Lake, was purchased by the company in 1901 from C.J. Johanson & associates, and Crown-granted in 1904.

Eleven other claims, mainly in the center of and to the south edge of the area were Crown-granted to D.H. Nellis, some in 1904, others in 1907 and 1911. Included among the Nellis claims are the Black Bear (Lot 6262), Glasier (Lot 6263), No. 1 (Lot 6002), North America (Lot 6269), Grey Eagle (Lot 7470), Kotnen (Lot 7472) and Dora (Lot 7473). It is not known who owned the remaining claims and fractions in the area, but probably they were held by either, or divided among both of the above parties.

There is no information on the nature of the showings or work done on the Nellis claims. It is not known if Mr. Nellis was in any way associated with the above company.

The King Solomon Consolidated Mining Company in 1904 owned about

CAPSULE GEOLOGY

60 Grown-granted claims on Woodbury Creek, a number of which were located at the mouth of the creek. The company is reported to have done considerable development work "upon some of the high-up claims". In 1902 it was reported that 76.2 metres of tunnel had been driven on the Black Eagle group. Development work was reported by the company from 1902 through 1912 and in 1910 they were reported to have considerable ore ready for shipment.

The target of exploration was quartz veining hosted by the Nelson granite.

BIBLIOGRAPHY

EMPR AR 1901-1030; *1902-152; 1904-157,199,295,297; 1905-158;
1906-143; 1907-96; 1909-106; 1910-97, 1912-147

EMPR P 1989-5, p. 26

GSC MAP 1090A

GSC MEM 308

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW240**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRON MASK (L.3520)**, BOB, CONDOR (L.3518),
SULTANA (L.3579), BALTIMORE (L.5755), BALTIMORE FR. (L.3522),
IRON MASK FR. (L.3521), SILVER WEDGE (L.5756)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 55 53 N
LONGITUDE: 117 15 36 W
ELEVATION: 1067 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of fracture zone and grab samples.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5531035
EASTING: 481340

COMMODITIES: Silver Zinc Lead Gold

MINERALS

SIGNIFICANT: Sphalerite Pyrite Galena
ASSOCIATED: Quartz Calcite Siderite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Argillite
 Quartzite
 Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1977
SAMPLE TYPE: Grab
COMMODITY GRADE

Silver	340.0000	Grams per tonne
Zinc	20.0000	Per cent

COMMENTS: Grab samples collected from the vein assayed 170 to 340 grams per tonne silver and 20 per cent zinc.
REFERENCE: Assessment Report 16247.

CAPSULE GEOLOGY

The Iron Mask property is situated on the north side of Silverton Creek at 1067 metres elevation above sea level in the Slocan Mining Division. The showing is on the Iron Mask Reverted Crown grant (Lot 3520).

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

On the Iron Mask property the Slocan Group comprises massive argillite, quartzite and limestone. The strata are tightly folded and faulted but generally the beds strike southeast and dip to the

CAPSULE GEOLOGY

northeast. The showing consists of a 50 metre wide fracture zone containing narrow veinlets of quartz, calcite, siderite and sphalerite. The fracture zone strikes northeast and dips 70 degrees northwest. The zone is brecciated and in-filled with quartz veins 1 to 15 centimetres wide. Grab samples collected from the mineralized portions of the shear in 1977 assayed 170 to 340 grams per tonne silver and 20 per cent zinc (Assessment Report 16247). No production is recorded for this occurrence.

BIBLIOGRAPHY

EMPR AR 1899-844
EMPR ASS RPT *16247
EMPR BULL 29
EMPR EXPL 1987-C56
EMPR FIELDWORK 1987, pp. 31-48
EMPR GEM 1973-76
EMPR OF 1988-11
EMPR P 1989-5
EMPR PF (See 082FNW General - Geological plan of the Silverton area
B.C. Department of Mines, 1966; Starr, C.C. (1929): Report of
Examination of the Condor Group, 6 p., sketch map)
GSC MAP 273A; 1091A
GSC MEM 173; 184; 309

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/17

CODED BY: GSB
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW241**

NATIONAL MINERAL INVENTORY: 082F11 Fsp1

NAME(S): **FIVEMILE POINT**, FIVE MILE POINT

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 33 00 N
LONGITUDE: 117 14 24 W
ELEVATION: 730 Metres

NORTHING: 5488627
EASTING: 482640

LOCATION ACCURACY: Within 500M

COMMENTS: The Fivemile Point deposit is just east of the Troup Junction near the southeast shore of the west arm of Kootenay Lake, 5 kilometres northeast of Nelson. Access from Nelson is via the Canadian Pacific Railway line.

COMMODITIES: Fluorite

MINERALS

SIGNIFICANT: Fluorite
ASSOCIATED: Barite Quartz
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Industrial Min.
TYPE: I11 Barite-fluorite veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Fivemile Point deposit is just east of the Troup Junction near the southeast shore of the west arm of Kootenay Lake, 5 kilometres northeast of Nelson. Access from Nelson is via the Canadian Pacific Railway line.

The mineralization was discovered in 1904 by George Huston and associates, of Sandon. A drift adit was driven about 23 metres. In the fall of 1904 Hall Mining and Smelting Company, Limited, operator of a smelter at Nelson, optioned the property and mined a bulk sample for test purposes.

The Fivemile Point fluorite deposit is a vein occupying a fissure in sheared Nelson granite. The vein strikes 120 degrees and dips 90 to 55 degrees northeast. The filling is a band of fluorite, crushed granite and gouge having a maximum thickness of 1.1 metres.

A band of bluish and purplish fluorite, up to 35 centimetres wide, occurs along and near the footwall, and smaller parallel streaks lie in the central and hangingwall parts of the vein, together with some light grey siliceous streaks. Vugs up to 0.3 metre in diameter, with concentrically banded borders are common. Barite is found locally as minute crystals and aggregates on the fluorite.

A few tonnes of fluorite were mined from an adit in 1904, but silica content proved to be higher than desirable.

BIBLIOGRAPHY

EMPR AR *1904-134
EMPR OF 1992-16
GSC ECON GEO SERIES NO 6-P28
GSC SUM RPT 1911-157

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW242**

NATIONAL MINERAL INVENTORY:

NAME(S): **KING SOLOMON**, KING SOLOMON MINES

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 47 25 N
LONGITUDE: 117 07 19 W
ELEVATION: 2200 Metres

NORTHING: 5515320
EASTING: 491223

LOCATION ACCURACY: Within 1 KM

COMMENTS: The King Solomon property (a second occurrence of the same name in the region; see 082FNW257) is at the head of Woodbury Creek, 24 kilometres east of Slocan. Access is from the Kaslo highway on the west shore of Kootenay Lake via the Woodbury Creek road and trail to the Wolf Cascade, southeast of Moonlight Peak. Location of the property is uncertain and could not be confirmed in 1987 mapping. See Black Eagle (082FNW239).

COMMODITIES: Silver Lead

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous			Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The King Solomon property (a second occurrence of the same name in the region; see 082FNW257) is at the head of Woodbury Creek, 24 kilometres east of Slocan. Access is from the Kaslo highway on the west shore of Kootenay Lake via the Woodbury Creek road and trail to the Wolf Cascade, southeast of Moonlight Peak. Location of the property is uncertain and could not be confirmed in 1987 mapping. The property is located in Kokanee Glacier Provincial Park.

Little is known about this property other than it was Crown granted in 1904 to D.A. Nellis. See Black Eagle (082FNW239) for early history. The area is underlain by the granitic rocks of the Nelson batholith.

This property might also be confused with the King Solomon on the west shore of Kootenay Lake (082FNE141).

BIBLIOGRAPHY

EMPR AR 1901-1030; 1904-157,199; 1905-158; 1906-143;
1907-96,218; 1909-106; 1910-97; 1912-147
EMPR P 1989-5, p. 26
GSC MAP 1090A
GSC MEM 308

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 728
REPORT: RGEN0100

MINFILE NUMBER: **082FNW243**

NATIONAL MINERAL INVENTORY:

NAME(S): **SLOCAN**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 41 00 N
LONGITUDE: 117 29 28 W
ELEVATION: 2000 Metres

NORTHING: 5503539
EASTING: 464573

LOCATION ACCURACY: Within 5 KM
COMMENTS:

COMMODITIES: Clay

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Industrial Min.
TYPE: B06 Fireclay

E07 Sedimentary kaolin

HOST ROCK

DOMINANT HOSTROCK:

LITHOLOGY:

GEOLOGICAL SETTING

TECTONIC BELT:
TERRANE:

BIBLIOGRAPHY

EMPR TEST RPT MPT-70-15, 1970

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

CODED BY: GSB
REVISED BY: GSB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW243**

MINFILE NUMBER: **082FNW244**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRYSTAL**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 33 00 N
LONGITUDE: 117 18 34 W
ELEVATION: 1640 Metres

NORTHING: 5488646
EASTING: 477617

LOCATION ACCURACY: Within 500M

COMMENTS: Northwest slope of Mt. Nelson.

COMMODITIES: Silica Uranium

MINERALS

SIGNIFICANT: Quartz Euxenite
ASSOCIATED: Orthoclase Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated
CLASSIFICATION: Magmatic Pegmatite Industrial Min.
TYPE: O04 Feldspar-quartz pegmatite O02 Rare element pegmatite - NYF family
SHAPE: Regular
DIMENSION: 0500 Metres STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic-Cretaceous Nelson Intrusions

LITHOLOGY: Pegmatite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

A 500-metre long, east-west trending pegmatite lens occurs in light-grey to white granite of the Jurassic/Cretaceous Nelson Plutonics. The core of the pegmatite is quartz, which analysed 98.84 per cent SiO₂, 0.42 per cent Al₂O₃, 0.04 per cent total iron, and 0.06 per cent CaO (Annual Report 1964). At the northwest limit the quartz lenses out into coarse-grained perthite. Here crystals of euxenite associated with magnetite occur in orthoclase.

The area to the south and east of the showing is high in uranium silts (over 50 parts per million) and uranium waters (up to 43.0 parts per billion) (Paper 1979-6).

BIBLIOGRAPHY

EMPR AR *1964-206
EMPR ASS RPT *8121
EMPR P 1979-6, pp. 60-67
EMPR PF (Blanchflower, J.D. (1978): Mineral Exploration Proposal of the Lardeau and Nelson Arms, Southeastern B.C., Canadian Superior Exploration Limited. in 082F General File)
GSC OF 514

DATE CODED: 1985/07/24
DATE REVISED: 1987/07/10

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW245**

NATIONAL MINERAL INVENTORY:

NAME(S): **VALHALLA DOME**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F12E 082F13E 082F14W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 45 00 N
LONGITUDE: 117 30 04 W
ELEVATION: 775 Metres

NORTHING: 5510956
EASTING: 463901

LOCATION ACCURACY: Within 5 KM
COMMENTS: Elevation ranges from 775 to 1830 metres.

COMMODITIES: Sillimanite Garnet

MINERALS

SIGNIFICANT: Sillimanite Garnet
ASSOCIATED: Biotite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Layered Stratabound Disseminated
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Unknown			Monashee Complex

LITHOLOGY: Sillimanite Garnet Biotite Gneiss
Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
RELATIONSHIP: Syn-mineralization
GRADE: Amphibolite

CAPSULE GEOLOGY

Coarse metapelitic gneisses containing abundant sillimanite and garnet are reported from the Valhalla and Passmore dome area west of Slocan Lake (Reesor, 1965). Valhalla and Passmore are two of a series of domal structures containing gneisses which form part of the core of the Shuswap Metamorphic Complex. The core of the Valhalla dome comprises orthogneisses which are mantled by hybrid gneisses predominantly metasedimentary in origin. Sillimanite locally comprises 20 to 25 per cent of sillimanite-garnet-biotite gneisses of the hybrid gneiss zone, particularly along the east flank of the Valhalla dome and may be very coarse. In the vicinity of the Passmore dome coarse sillimanite may occur in knots or groups of crystals over 2.5 centimetres long and 1 centimetre wide. These gneisses may also locally contain up to 30 per cent garnet, with an average crystal size of 0.5 centimetre or less. Garnet may also be present in interbedded amphibolitic rocks in amounts up to 40 per cent (Reesor, 1965).

BIBLIOGRAPHY

EMPR OF 1988-26
GSC BULL *129, pp. 18, 81

DATE CODED: 1988/03/28
DATE REVISED: / /

CODED BY: JPC
REVISED BY:

FIELD CHECK: N
FIELD CHECK:

MINFILE NUMBER: **082FNW246**

NATIONAL MINERAL INVENTORY:

NAME(S): **ANNE**, WINLAW

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F12E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 34 00 N
LONGITUDE: 117 32 04 W
ELEVATION: 1525 Metres

NORTHING: 5490590
EASTING: 461355

LOCATION ACCURACY: Within 5 KM

COMMENTS:

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic			Nelson Intrusions

LITHOLOGY: Granite
Syenite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The area is underlain by Middle Jurassic Nelson granites, with inclusions of older rocks. Copper mineralization, up to 1.67 per cent copper, occurs in the granites and inclusions. Mega Mineral Ltd. surveyed the area as the S.G., H.Y. M, V.M. and H claims in 1966. In 1968 the area, likely to the north of the Mega claims, was surveyed by Giant Explorations Limited.

BIBLIOGRAPHY

EMPR AR 1968-257
EMPR PF (Quinn, H.A. (1966): Report on Winlaw Copper Property for Mega Mineral Ltd.)

DATE CODED: 1985/07/24
DATE REVISED: 1999/09/02

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW247**

NATIONAL MINERAL INVENTORY: 082F11, F06, Fe1

NAME(S): **IRON KING (L.9289)**, BODIE (L.9290), BOSTON (L.9291),
NUMBER ONE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F11W 082F06W
BC MAP:
LATITUDE: 49 30 15 N
LONGITUDE: 117 29 17 W
ELEVATION: 1400 Metres
LOCATION ACCURACY: Within 500M

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5483619
EASTING: 464664

COMMENTS: The Iron King property, including the Iron King (Lot 9289),
Bodie (Lot 9290) and the Boston (Lot 9291) Crown granted claims, is
situated near Beasley, 12 kilometres west of Nelson. Access to the
property from the highway near Beasley is 8.5 kilometres via the
Smallwood Creek forestry road.

COMMODITIES: Iron Copper Gold Magnetite

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Magnetite Chalcopyrite
ASSOCIATED: Garnet Epidote Marcasite
ALTERATION: Limonite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn Industrial Min.
TYPE: K03 Fe skarn K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Mesozoic Rossland Unnamed/Unknown Formation Nelson Intrusions
Jurassic-Cretaceous

LITHOLOGY: Schistose Quartzite
Argillite
Granite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1933
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Gold 1.3700 Grams per tonne
COMMENTS: Intersection over 1.5 metres at 75 metres. Surface sampling in
1926 returned values up to 46.6 grams per tonne gold over 4.9 metres.
REFERENCE: Diamond Drill Hole Summary (1933) and Starr (1926) (Property File).

CAPSULE GEOLOGY

The Iron King property, including the Iron King (Lot 9289),
Bodie (Lot 9290) and the Boston (Lot 9291) Crown granted claims, is
situated near Beasley, 12 kilometres west of Nelson. Access to the
property from the highway near Beasley is 8.5 kilometres via the
Smallwood Creek forestry road.
The claims were Crown-granted to William Moore in 1909.
Exploration at the time consisted of trenches, shafts and adits at
intervals over 600 metres. The property was investigated in 1933 by
trenching and drilling of 4 holes totalling 351 metres.
The claims are at the contact of the Nelson plutonic rocks and
a pendant of volcanic and sedimentary rocks of the Rossland Group.
The plutonic rocks, exposed on the western part of the property, are
composed of banded, medium-grained granite - granodiorite, striking
035 degrees, dipping 65 degrees northwest. The sedimentary rocks
are mostly schistose quartzites and argillites trending northeast,
dipping 45 degrees southeast. The contact between the intensely
metamorphosed sedimentary rocks is characterized by skarn

CAPSULE GEOLOGY

development, mostly garnet and epidote, that may extend a considerable distance into the lime-rich metasedimentary units.

The garnet and epidote is accompanied locally by magnetite and small amounts of pyrrhotite, pyrite, marcasite and chalcopyrite. The magnetite occurs as disseminations in the skarn or as irregular masses varying from 1 to 20 metres in width. Although iron content of the skarn can range up to 50 per cent. Good but erratic gold values have been obtained. One grab sample yielded over 80 grams per tonne gold (Starr, 1926). A 1.5-metre section of drill core assayed 1.37 grams per tonne gold and a 4.9-metre chip sample returned 46.6 grams per tonne gold (1933 Drillhole Summary (Property File)).

The strongly mineralized zone had been traced (by 1926) for well over 600 metres in length, having a maximum width of 60 metres.

BIBLIOGRAPHY

EMPR AR 1909-276; 1933-220

EMPR ASS RPT 10583

EMPR PF (*Starr, C.C. (1926): Report of Preliminary Examination of the Iron King Group, 8 p.; Letter to O.C. Thompson regarding Iron King Mine (1933); Iron King Mine, Diamond Drillhole Summary and profile sketches (4 holes), (1933); Vertical sections through Diamond Drillholes (1933); Diagrammatic Plan of Claims, Great West Mining, 1962, showing geophysical (SP) anomalies in vicinity of Queen Victoria and Iron King Mine)

DATE CODED: 1985/07/24
DATE REVISED: 1997/07/22

CODED BY: GSB
REVISED BY: BNC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW248**

NATIONAL MINERAL INVENTORY:

NAME(S): **KALAPPA**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:
LATITUDE: 49 51 59 N
LONGITUDE: 117 27 37 W
ELEVATION: 640 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Kalappa occurrence (Paper 1989-5, Map 3).

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5523877
EASTING: 466922

COMMODITIES: Antimony Silver Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Mesothermal
TYPE: I09 Stibnite veins and disseminations I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Sheared
DIMENSION: Metres STRIKE/DIP: 030/32 TREND/PLUNGE: /
COMMENTS: A 10 centimetre wide quartz vein strikes 030 degrees and dips 32 degrees southwest.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 169 +/- 3 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			
Paleocene			Valhalla Complex
ISOTOPIC AGE: 56-60 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: K-Feldspar Porphyritic Granite
Granite
Biotite Quartz Monzonite
Rhyolite Dike
Andesite Dike

HOSTROCK COMMENTS: Nelson intrusions zircon age date (Carr et al., 1987).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 23.0000 Grams per tonne
Gold 0.9700 Grams per tonne
COMMENTS: Sample JL-200, a grab sample from a vein.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Kalappa occurrence is located on Enterprise Creek, approximately 500 metres from its mouth into Slocan Lake. Silverton, British Columbia lies 10 kilometres to the north-northeast. The Kalappa occurrence is hosted along the Eocene Slocan Lake fault. The east dipping normal fault separates foliated potassium feldspar porphyritic granite of the Middle Jurassic Nelson batholith from leucocratic biotite quartz monzonite to granite of the Paleocene Valhalla Complex. Locally, this granite is referred to as the

CAPSULE GEOLOGY

Ladybird granite. Younger rhyolite and andesite dikes intrude along the fault. The fault zone is 100 to 800 metres wide composed of 20 centimetre or less spaced brittle fractures and faults with lower to middle greenschist retrograde alteration. Granitic rocks of the Nelson batholith in the hangingwall are variably altered to clay-limonite, local quartz stockwork and zones of pyritization. The Ladybird granite is foliated and mylonitic. Older metasediments in the footwall show little retrograde or hydrothermal alteration.

The Kalappa occurrence consists of an altered and mineralized quartz stockwork to vein, striking 030 degrees and dipping 32 degrees to the southwest. Alteration consists of variable argillic and silicification restricted to the lode structure. The lode strikes 015 degrees and dips 35 degrees southeast.

Mineralization is composed of massive stibnite and pyrite. Ten kilometres further south along the Slocan Lake fault, sample J-74 taken from a fault-hosted quartz vein contained tetrahedrite and possibly native silver. Sample JL-200, a grab sample taken from a quartz vein on this occurrence, yielded 23.0 grams per tonne silver, 0.97 gram per tonne gold, 0.0072 per cent copper, 0.0040 per cent lead and 0.0088 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

- EMPR ASS RPT 15297
EMPR FIELDWORK 1987, pp. 31-48, 535-541; 1989, pp. 251-255, 1990, pp. 171-178
EMPR OF *1988-11; 1990-18
EMPR P 1989-5

DATE CODED: 1985/07/24
DATE REVISED: 1996/02/28

CODED BY: GSB
REVISED BY: KJM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW249**

NATIONAL MINERAL INVENTORY:

NAME(S): **THREE MILE POINT GRANITE** KOOTENAY

STATUS: Past Producer Open Pit

MINING DIVISION: Nelson

REGIONS: British Columbia

NTS MAP: 082F11W

BC MAP:

LATITUDE: 49 30 55 N

LONGITUDE: 117 15 16 W

ELEVATION: 549 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5484770

EASTING: 481582

LOCATION ACCURACY: Within 500M

COMMENTS: Located along C.P. Railway at Three Mile Point on Kootenay Lake (West Arm), 2.4 kilometres northeast of Nelson.

COMMODITIES: Granite Dimension Stone Building Stone

MINERALS

SIGNIFICANT: Unknown

COMMENTS: Commodity is granite.

ASSOCIATED: Feldspar Plagioclase Orthoclase Quartz Biotite

Magnetite Sphene

MINERALIZATION AGE: Jurassic

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Magmatic

TYPE: R03 Dimension stone - granite

DIMENSION: 36 x 8

COMMENTS: Largest quarry face.

Syngenetic

Metres

Industrial Min.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Jurassic

Nelson Intrusions

LITHOLOGY: Granodiorite

Medium Grained Feldspar Porphyritic Granodiorite

Coarse Grained Feldspar Porphyritic Granodiorite

HOSTROCK COMMENTS: Nelson Intrusions are Middle to Late Jurassic in age.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Granodiorite was quarried for dimension stone along the southeast side of the Canadian Pacific Railway at Three Mile Point, 2.4 kilometres northeast of Nelson.

This region, in the vicinity of the West Arm of Kootenay Lake, is underlain by plutonic rocks of the Middle to Late Jurassic Nelson Intrusions.

The quarried stone consists of medium to coarse grained porphyritic granodiorite containing scattered feldspar phenocrysts up to 2 by 4.5 centimetres, glossy grey to pink quartz grains 1 to 10 millimetres in diameter and black biotite flakes 1 to 2 millimetres. In thin section, the rock is comprised of fresh plagioclase and orthoclase, considerable quartz, minor biotite and a few grains of magnetite and sphene. The stone is of uniform texture and has a white to pink tone. Rare black knots are present. Stone used in buildings and monuments appears fresh and retains its attractive appearance.

The stone is cut by one major vertical dipping joint set striking 170 degrees and a second set striking 80 to 125 degrees and dipping 35 to 45 degrees north. Parks (1917) reports that the second joint set is spaced up to 1.2 metres apart, while White (1987) states these joints are widely spaced apart. Blocks up to 7.6 metres in length are reported to have been quarried from here. Considerable reserves of stone remain at the site. Physical properties are as follows (Parks, 1917, p. 112):

Specific gravity 2.656
Crushing strength (dry) (lbs/sq.in.) 29,406
Transverse strength (lbs/sq.in.) 1,708
Shearing strength (lbs/sq.in.) 1,790

Kootenay Granite and Monument Company Ltd. quarried granite from three sites in the early 1900's, with the largest face being 36

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RUN TIME: 16:27:53

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CAPSULE GEOLOGY

metres long and 8 metres high. The stone was sold across western Canada for use in the construction of various buildings and monuments, such as the Houston Monument in Nelson, the court house in Revelstoke and the Grand Forks Post Office. No production figures are available.

BIBLIOGRAPHY

EMPR FIELDWORK *1986, pp. 309-342
EMPR INF CIRC *1988-6, p. 7
GSC BULL 161
GSC MAP 3-1956, 1090A
GSC MEM 308
GSC OF 481, 1195
CANMET *Report 452, Vol. 5, pp. 111-113; 846, p. 174

DATE CODED: 1987/11/09
DATE REVISED: 1991/03/07

CODED BY: GW
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 738
REPORT: RGEN0100

MINFILE NUMBER: **082FNW250**

NATIONAL MINERAL INVENTORY:

NAME(S): **AIREY CREEK**, VALHALLA, AIRY CREEK

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F12W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 32 06 N
LONGITUDE: 117 45 04 W
ELEVATION: 760 Metres

NORTHING: 5487203
EASTING: 445653

LOCATION ACCURACY: Within 5 KM
COMMENTS: Located in the Valhalla Mountains.

COMMODITIES: Beryl Gemstones

MINERALS

SIGNIFICANT: Beryl
COMMENTS: Aquamarine; smokey grey quartz.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Pegmatite Industrial Min.
TYPE: O01 Rare element pegmatite - LCT family

Q GEMS AND SEMI-PRECIOUS STONES (diamonds and

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Unknown			Valhalla Complex

LITHOLOGY: Pegmatite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Undivided Metamorphic Assembl. Plutonic Rocks
METAMORPHIC TYPE: Regional RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE:

CAPSULE GEOLOGY

Beryl has been reported in pegmatite in the Valhalla Mountains. Gem-quality aquamarine has been found in pegmatite dykes. High quality black and smokey grey quartz crystals are also common.

BIBLIOGRAPHY

EM EXPL 1996-A24
EMPR INF CIRC 1994-19, p. 16; 1995-1, p. 16; 1995-9, p. 20; 1996-1, p. 20; 1997-1, p. 23
EMPR PF (Northcote, K.E. (1982): Slocan Valley Planning Area Program, Mineral Resources Technical Report, pp. 15, Figure 5, in 082FNW General File)
GSC MEM 308, p. 90

DATE CODED: 1985/07/24
DATE REVISED: 1996/06/06

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW250**

MINFILE NUMBER: **082FNW251**

NATIONAL MINERAL INVENTORY:

NAME(S): **MULVEY CREEK**, STEEP ROCK, DAVE,
PINE TREE, QUARRY

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:

LATITUDE: 49 44 25 N
LONGITUDE: 117 29 04 W
ELEVATION: 760 Metres

LOCATION ACCURACY: Within 1 KM
COMMENTS: EAST MOUTH OF MULVEY CREEK

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5509867
EASTING: 465095

COMMODITIES: Silver

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Eocene			Unnamed/Unknown Informal
Permian			Unnamed/Unknown Informal

LITHOLOGY: Granite
Para Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Paragneiss are in contact with granites. The property was staked as a silver property by Silver Benn Mines Ltd. in 1969.

BIBLIOGRAPHY

EMPR PF (Lorimer, M.K. (1969): Report on the Mulvey Creek Property for Silver Benn Mines Ltd.; *Lorimer, M.K. (1967): Report on the Mulvey Creek Property for Silver Benn Mines Ltd., in 082FNW154)
GSC MEM 308

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

CODED BY: GSB
REVISED BY: GSB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW252**

NATIONAL MINERAL INVENTORY:

NAME(S): **RED MOUNTAIN**, RED MOUNT

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 50 13 N
LONGITUDE: 117 12 35 W
ELEVATION: 2300 Metres

NORTHING: 5520523
EASTING: 484919

LOCATION ACCURACY: Within 5 KM
COMMENTS:

COMMODITIES: Silver Zinc Gold

MINERALS

SIGNIFICANT: Sphalerite Silver Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Triassic	Slocan	Unnamed/Unknown Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Hornblende K-Feldspar Porphyritic Granite
Quartzitic/Quartzose Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca Quesnel PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Plutonic Rocks

CAPSULE GEOLOGY

The Red Mountain claim, held by A. Ainslie and D. McCuaige, lies on the north side of Virgil Creek (Miller Creek), near Mount Revell.

The area is underlain by an east-west layer of quartzitic siltstone of the Upper Triassic Slocan Group and granites of the Middle Jurassic Nelson Batholith. Pyrritized sediments occur as inclusions in the granites. Oxidized minerals in quartz stringers carry values in silver and zinc. A sample accross 15 centimetres ran 17,623 grams per tonne silver and 1.37 grams per tonne gold. Another sample ran 1389 grams per tonne silver and 6 per cent zinc (Annual Report 1919, page 132).

BIBLIOGRAPHY

EMPR AR *1919-131-132
EMPR FIELDWORK 1987, pp. 31-48
EMPR OF 1988-11
EMPR P 1989-5

DATE CODED: 1985/07/24
DATE REVISED: 1999/08/25

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW253**

NATIONAL MINERAL INVENTORY:

NAME(S): **AL**, AL 3-8(WHEELER LAKE), WHEELER LAKE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

MINING DIVISION: Slocan

LATITUDE: 49 45 38 N
LONGITUDE: 117 01 30 W
ELEVATION: 1770 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5512009
EASTING: 498199

LOCATION ACCURACY: Within 500M

COMMENTS: Located south of Wheeler Lake in Kokanee Glacier Provincial Park.

COMMODITIES: Lead Zinc Silver Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ASSOCIATED: Quartz
ALTERATION: Clay Chlorite
COMMENTS: Within 15 centimetres of veins.
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
DIMENSION: 130 x 4 Metres STRIKE/DIP: 360/20E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 165-169 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: K-Feldspar Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1987	
SAMPLE TYPE: Grab		
<u>COMMODITY</u>	<u>GRADE</u>	
Gold	26.0000	Grams per tonne
Silver	170.0000	Grams per tonne
Lead	15.9000	Per cent
Zinc	3.3000	Per cent

COMMENTS: Sample DB-363.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The Al showing is located within Kokanee Glacier Provincial Park, approximately 1 kilometre south of Wheeler Lake. Chopper Mines Ltd. prospected, trenched and sampled the Al claims in 1983. Auckland Explorations Ltd. optioned the claims in 1984. The quartz veins, less than 5 centimetres thick, are hosted in potassium feldspar porphyritic granite. Two mineralized zones about 100 metres apart have been identified. The veins appear to trend northward but exposures are limited. Wallrock alteration is limited to 15 centimetres or less from the quartz veins. The veins contain galena, sphalerite and pyrite. A sample taken in 1987 assayed 26.0 grams gold, 170 grams silver, 15.9 per cent lead and 3.3 per cent zinc (Open File 1988-11).

BIBLIOGRAPHY

EMPR ASS RPT 11684
EMPR FIELDWORK 1987, pp. 31-48,535-541

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 742
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR INF CIRC 1985-1, p. 26
EMPR OF 1988-11
EMPR P 1989-5, p. 26
EMPR PF (Neelands, J.T. (1983): Geological Report on the Kokanee
Property (Al 3-8 claims) for Chopper Mines Ltd.; *Taylor, D.P.
(1984): Geological Report on the Wheeler Lake Property (Al 3-8
Claims) for Auckland Explorations Ltd.)

DATE CODED: 1985/07/24
DATE REVISED: 1988/02/23

CODED BY: GSB
REVISED BY: DAB

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW254**

NATIONAL MINERAL INVENTORY: 082F14 Ag22

NAME(S): **JAZMINE**, DELORAINE (L.3156), SILVER TIP FR. (L.4881),
CRISTEIN (L.5369), COLONIAL-SLOCAN, NELLIE,
CHRISTINE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:
LATITUDE: 49 57 36 N
LONGITUDE: 117 12 08 W
ELEVATION: 1814 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of mineralized shear in trench.

Underground
MINING DIVISION: Slocan
UTM ZONE: 11 (NAD 83)
NORTHING: 5534203
EASTING: 485495

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic Middle Jurassic	Slocan	Undefined Formation	Nelson Intrusions

LITHOLOGY: Argillite
Slate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Chip

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	972.0000	Grams per tonne
Lead	52.4200	Per cent
Zinc	1.4000	Per cent

COMMENTS: A 1 metre chip sample of a mineralized shear exposed in a trench.
REFERENCE: Assessment Report 13526.

CAPSULE GEOLOGY

The Jazmine property is located on the east side of the ridge that separates Cody and Sandon creeks at 1814 metres elevation above sea level, in the Slocan Mining Division. The property includes the Deloraine and the Silver Tip Fraction Reverted Crown grants (Lots 3156 and 4881 respectively).

The claims extend from the creek, at the 1310-metre elevation, to the summit of the north trending ridge at an elevation of about 1981 metres. The Airdrie Fraction, Freddie Lee (082FNW055), Colonial (082FNW069), and Cristein claims are located from north to south near the crest of the ridge.

In 1928 the Colonial, Freddie lee, Cristein, Airdrie Fraction, and Nellie claims were acquired under option by W.G. Wasmandorff of Vancouver. The Cristein claim (Lot 5369) had been Crown-granted to Messrs. McDonald and Taylor in 1904.

Colonial-Slocan Mines, Limited, was incorporated in May 1929 to acquire the claims and carry on exploration work. Work by the company ended in January 1930 and the company charter was surrendered in 1932.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper

CAPSULE GEOLOGY

Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

On the property, argillite and slate of the Slocan Group are folded in a broad synclinal structure in which the beds dip generally east. A mineralized shear zone has been identified on the northwestern part of the property near the eastern boundary of the Cristein Crown grant (Lot 5369).

The shear zone strikes 040 degrees, dips 70 to 80 degrees southeast and is exposed for about 3 metres in an old trench. An adit was excavated downhill from the trench, apparently to explore the downdip extension of the shear but it is not known if the shear was intersected in the underground workings. A 1 metre chip sample collected from the mineralized shear in the trench assayed 972 grams per tonne silver, 52.42 per cent lead and 1.4 per cent zinc. The sample contained galena in quartz (Assessment Report 13529).

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- EMPR ASS RPT 8871, 12529, *13529
- EMPR BULL 29
- EMPR EXPL 1985-C58
- EMPR P 1989-5
- EMPR PF (Starr, C.C. (1929): Report of Preliminary Examination of the Colonial-Slocan Group, 6 p., map of workings 1"=40', in 082FNW069)
- GSC MAP 273A; 1090A
- GSC MEM 173; 184; 309

DATE CODED: 1986/05/20
DATE REVISED: 1995/12/12

CODED BY: AFW
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW255**

NATIONAL MINERAL INVENTORY: 082F13 Ag3

NAME(S): **CARIBOU, HAILSTORM MOUNTAIN, STREBE,
STREBE GOLD, DISCOVERY, HAILSTORM (L.5875),
LONDONERRY (L.5876), GOLDEN RODD (L.5877), LONDON**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F13E
BC MAP:
LATITUDE: 49 58 08 N
LONGITUDE: 117 39 13 W
ELEVATION: 1995 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: On west side of branch of Caribou Creek.

Underground

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

NORTHING: 5535376
EASTING: 453128

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold Pyrite Sphalerite Galena Pyrrhotite
Arsenopyrite Chalcopyrite Stibnite
ASSOCIATED: Manganite Calcite Graphite Quartz Plagioclase
Garnet Biotite Tremolite
ALTERATION: Limonite Gypsum
COMMENTS: Manganese oxides are present.
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Podiform
CLASSIFICATION: Replacement Skarn
TYPE: K04 Au skarn
SHAPE: Irregular
MODIFIER: Faulted
DIMENSION: 200 x 200 Metres STRIKE/DIP: 020/40W TREND/PLUNGE:
COMMENTS: Stratiform control for 1000 metres.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Triassic Milford Undefined Formation

LITHOLOGY: Marble
Limestone
Siltstone
Tuff
Gneiss
Schist
Feldspar Porphyry

GEOLOGICAL SETTING

TECTONIC BELT:
TERRANE:

INVENTORY

ORE ZONE: STREBE REPORT ON: Y
CATEGORY: Inferred YEAR: 1988
QUANTITY: 156040 Tonnes
COMMODITY: Gold GRADE
8.5700 Grams per tonne
REFERENCE: Assessment Report 18638.

ORE ZONE: STREBE REPORT ON: Y
CATEGORY: Indicated YEAR: 1988
QUANTITY: 116120 Tonnes
COMMODITY: Gold GRADE
8.5700 Grams per tonne
REFERENCE: Assessment Report 18638.

CAPSULE GEOLOGY

The property is located at elevations of 1800 to 2200 metres on the south spur of Hailstorm Peak, 15 kilometres east of the Lower Arrow Lake community of Burton.
Three claims, the Hailstorm, Londonerry and Golden Rodd No. 2

CAPSULE GEOLOGY

(Lots 5875-5877 respectively) were held from 1899 or earlier by J.D. Jamieson and T. Matthews. The claims were Crown-granted in 1903. Exploration work was done in trenches and a short adit on the east slope of the mountain.

The Consolidated Mining and Smelting Company of Canada Limited, early in 1929, optioned the Crown-grants and 4 located claims. A crosscut adit at 2130 metres elevation on the west slope of the mountain was driven 275 metres during the year. Further crosscutting and some raising was done in 1930. This work failed to locate values similar to the main outcrop, although most of the crosscutting was from a raise directly under the outcrop; the option was abandoned.

The property was acquired by Roxwell Gold Mines Ltd. in about 1981. A geochemical survey was carried out in 1983.

Free gold has been found in the soil in a black graphitic manganese fault and in a marble. Numerous faults are present. It is suspected that where they intersect the limestone or marble that Bonanza type gold deposits will be found. A structural geology study indicates that the bearing of the limestone strikes 005 degrees, with a dip of 40 degrees west. At 400 metres and 1000 metres to the north there are gold geochemical anomalies with the following values: 550 parts per billion gold, 175 parts per billion gold and note that the Discovery Zone has 170 parts per billion gold (Assessment Report 12355). Geophysical tests using VLFEM, SP, IP and MAG have all responded positively.

Baron Gold Corp. drilled 5 holes totalling 762 metres in the area in 1997. Alex Strebchuck prospected the area since 1980 and in 1984 located bedrock mineralization, 5.35 grams per tonne gold over 2 metres (Assessment Report 18638). In 1985 and 1986, five tonnes of hardcobbed skarn ore resulted in 793 grams of gold. Esperanza Explorations Ltd. drilled 16 holes, totalling 2149 metres in 1988.

Drill indicated reserves are reported as 116,120 tonnes grading 8.57 grams per tonne gold and drill inferred as 156,040 tonnes grading 8.57 grams per tonne gold (Assessment Report 18638).

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1930-263
EMPR ASS RPT 11141, *12355, *18638, 25456
EMPR EXPL 1985-A57; 1986-B21-B24; 1987-A22,A64; 1988-A20; 1997-49
EMPR FIELDWORK 1984, p. 49; 1985, p. 337
EMPR INF CIRC 1986-1, p. 40; 1987-1, p. 18; 1988-1, pp. 19,42;
1989-1, p.
EMPR P *1989-3, pp. 44-45
EMPR PF (Esperanza Explorations Ltd. Press Release, Nov.27, 1987)
EMR MP CORPFILE (Cominco Ltd.)
GSC MAP 1234A
GCNL #154 (Aug.12), #165(Aug.27), #174(Sept.10), 1997
North American Gold Mining Industry News, Mar.15, 1984, p. 26

DATE CODED: 1986/02/12
DATE REVISED: 1987/09/02

CODED BY: GA
REVISED BY: JWP

FIELD CHECK: Y
FIELD CHECK: Y

MINFILE NUMBER: **082FNW256**

NATIONAL MINERAL INVENTORY:

NAME(S): **RKY-DKY**, RKY, DKY

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 48 50 N
LONGITUDE: 117 24 04 W
ELEVATION: 1798 Metres

NORTHING: 5518016
EASTING: 471143

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Algiers Creek on the north and west slopes of Ottawa Hill, approximately 3.7 kilometres northeast of Slocan.

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT:	Tetrahedrite	Argentite	Silver	Sphalerite	Galena
ASSOCIATED:	Quartz	Calcite	Fluorite		
ALTERATION:	Sericite	Epidote	Chlorite	Pyrite	
ALTERATION TYPE:	Propylitic		Sericitic	Argillic	
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Mesozoic			Nelson Intrusions

LITHOLOGY: Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The claims are underlain by the Mesozoic Nelson Intrusive comprised of porphyritic granite. The granite is crosscut by a series of felsite dykes and quartz veins with a network of calcite veinlets. In areas, the porphyry is slightly bleached with sericitic and argillic alteration. Minor propylitic alteration obscures the original texture with a network of calcite veinlets, abundant chlorite, some epidote, pyrite and a few fluorite veinlets.

In 1986, a diamond drill hole intersected a mineralized quartz vein hosting disseminated tetrahedrite and argentite. A sample from the vein assayed 0.07 gram per tonne gold, and 530.7 grams per tonne silver. Another drill hole intersected a weakly sericitized rhyolitic felsite dyke which assayed 0.034 gram per tonne gold and 219.08 grams per tonne silver. Trac Resources Inc. drilled the property (Assessment Report 15800).

BIBLIOGRAPHY

EMPR ASS RPT 12986, *15800
EMPR EXPL 1987-C60
EMPR OF 1992-16, pp. 70-71
EMPR P 1989-5
EMPR PF (Santos, P.J. (1984): Report on the Property of Trac Resources Inc., RKY-DKY Gold and Silver Prospect)

DATE CODED: 1987/08/28
DATE REVISED: 1987/09/11

CODED BY: LLC
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW257**

NATIONAL MINERAL INVENTORY: 082F11 Au3

NAME(S): **KING SOLOMON (L.14628)**, TWILIGHT EXTENSION

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 40 08 N
LONGITUDE: 117 15 31 W
ELEVATION: 2045 Metres

NORTHING: 5501849
EASTING: 481339

LOCATION ACCURACY: Within 500M

COMMENTS: The King Solomon is located 2 kilometres south of the Alpine (082FNW127), on the west slope of Stikum Creek.

COMMODITIES: Gold Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ASSOCIATED: Limonite Quartz
ALTERATION: Sericite Pyrite
ALTERATION TYPE: Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Mesothermal
TYPE: I01 Au-quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Faulted
DIMENSION: Metres STRIKE/DIP: 260/35N TREND/PLUNGE:
COMMENTS: 150 centimetre wide quartz vein strikes 260 degrees and dips 035 degrees north.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Nelson Intrusions
ISOTOPIC AGE: 165-169 Ma			
DATING METHOD: Zircon			
MATERIAL DATED: Zircon			

LITHOLOGY: Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca Kootenay PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: DUMP REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1987
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	55.0000 Grams per tonne
Gold	150.0000 Grams per tonne
Lead	3.0000 Per cent
Zinc	1.1000 Per cent

COMMENTS: Grab sample from ore pile, JL-406.
REFERENCE: Open File 1988-11.

CAPSULE GEOLOGY

The King Solomon is located 2 kilometres southwest of the Alpine (082FNW127), on the summit of the ridge between Sitkum and Duhamel creeks, some 18 kilometres north of Nelson.

The King Solomon claim (Lot 14628) was owned and operated during 1938-39 by T.L. Paris and A.D. Papazian, of Nelson. Hand steel was used to mine a small amount of ore.

Country rock is quartz monzonite, cut by pegmatitic quartz and potassium feldspar-rich dykes. A quartz vein occupies a shear zone averaging 0.15 metre in width, striking 260 degrees and dipping 35 degrees. The upper workings follow a sharp footwall; the lower workings are caved.

Ore mineralogy established from stockpiled ore comprises galena, sphalerite and lesser pyrite in a bullish white quartz gangue. The vein is moderately oxidized, minor limonite and hematite. A grab

CAPSULE GEOLOGY

sample taken in 1987 assayed 55 grams per tonne silver, 150 grams per tonne gold, 3 per cent lead and 1.1 per cent zinc (Open File 1988-11).
Vein characteristics very similar to the Alpine deposit (082FNW127). Production in 1938 and 1939, totalled 21 tonnes, yielding 622 grams of gold, 715 grams of silver and 49 kilograms of lead.

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EMPR AR 1938-A36; *1939-A39,A81
EMPR BC METAL MM01025
EMPR FIELDWORK 1987, pp. 31-48,535-541
EMPR INDEX 3-202
EMPR OF 1988-11
EMPR *P 1989-5, p. 25
GSC MAP 1090A
GSC MEM 308

DATE CODED: 1988/01/11
DATE REVISED: 1988/01/11

CODED BY: JL
REVISED BY: JL

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FNW258**

NATIONAL MINERAL INVENTORY:

NAME(S): **KEEN CREEK**, KASLO, F. ARCHER

MINING DIVISION: Slocan

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 55 17 N
LONGITUDE: 117 00 52 W
ELEVATION: 823 Metres

NORTHING: 5529891
EASTING: 498963

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Keen Creek, 8 kilometres west of Kaslo (CANMET Report 452, page 138).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite

MINERALIZATION AGE: Upper Triassic

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.

TYPE: R09 Limestone

SHAPE: Tabular

MODIFIER: Fractured

DIMENSION: 140 Metres

COMMENTS: Attitude of limestone at lower outcrop.

STRIKE/DIP: 110/40N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Upper Triassic Slocan

FORMATION
Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: OUTCROP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1934

SAMPLE TYPE: Grab

COMMODITY

GRADE

Limestone

53.4000

Per cent

COMMENTS: Grade given for calcium oxide.

REFERENCE: GSC Memoir 173, page 54, sample 1.

CAPSULE GEOLOGY

The Keen Creek limestone prospect is situated on Keen Creek, 8 kilometres west of Kaslo, in the Slocan Mining Division.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to lower greenschist facies.

South and west of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5).

The main outcrop is exposed for 140 metres in a westerly direction along the mountainside next to the creek. A series of partings that may represent bedding strike 100 degrees and dip 35

CAPSULE GEOLOGY

degrees northeast. A closely spaced joint set strikes 030 degrees and dips nearly vertical. The limestone is fine grained and uniform white to white with blue blotches and bands. A sample assayed 53.40 per cent CaO, 1.46 per cent MgO, 0.64 per cent insolubles, 0.15 per cent Al₂O₃, 0.15 per cent Fe₂O₃, 0.07 per cent P₂O₅, 0.25 per cent SO₃ and 43.00 per cent ignition loss (Geological Survey of Canada Memoir 173, page 54, Sample 1).

A smaller exposure further down the creek to the east displayed bluish mottled to light bluish white, fine grained limestone striking 110 degrees and dipping 40 degrees northeast.

The limestone was staked for marble by F. Archer and E. Timms sometime before 1917.

BIBLIOGRAPHY

EMPR BULL 29
EMPR P 1989-5
GSC MAP 273A; 603A
GSC MEM 173, pp. 54-55; 228, pp. 32-33
GSC OF 481; 929
CANMET RPT *452, Vol. 5, pp. 138-139; 811, Part 5, p. 211

DATE CODED: 1989/09/28
DATE REVISED: 1995/11/17

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW259**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLU STARR**, BLU STARR SAPPHIRE, RAINBOW SOUTH,
RAINBOW NORTH, NORTH RAINBOW

STATUS: Developed Prospect Open Pit
REGIONS: British Columbia

MINING DIVISION: Slocan

NTS MAP: 082F12E

UTM ZONE: 11 (NAD 83)

BC MAP:
LATITUDE: 49 32 54 N

NORTHING: 5488617

LONGITUDE: 117 38 57 W

EASTING: 453042

ELEVATION: 503 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Rocks exposed in a highway cut (Highway 6) and along the railway below the highway, 250 metres south of the confluence of Little Slocan and Slocan rivers, about 28 kilometres south of Slocan (Industrial Mineral File - Sketch map of outcrop locations). See also Blu Moon (082FNW263).

COMMODITIES: Corundum
Zirconium

Gemstones
Amethyst

Titanium
Sapphire

Ruby
Garnet

Beryl
Graphite

MINERALS

SIGNIFICANT: Corundum Tourmaline Titanite Garnet Pyrope
Almandine Quartz Graphite Cordierite Beryl
Rutile Spinel

COMMENTS: Sapphire, "Japan" quartz. Cordierite, as iolite or "water sapphire".

ASSOCIATED: Zircon Sphene Amphibole Feldspar Mica

ALTERATION: Zircon Sphene Amphibole

ALTERATION TYPE: Fenitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Magmatic Industrial Min. Placer

TYPE: Q10 Gem corundum hosted by alkaline rocks P04 Crystalline flake graphite

DIMENSION: 250 x 100 Metres STRIKE/DIP: TREND/PLUNGE:

COMMENTS: Outcrops with corundum extend along a length of about 250 metres and vertically between 50 and 100 metres.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Unknown Valhalla Complex

LITHOLOGY: Meta Sediment/Sedimentary Augen Gneiss
Quartz Tourmaline Pegmatite

HOSTROCK COMMENTS: The metasedimentary gneiss is syenitic or monzonitic in bulk composition.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Undivided Metamorphic Assembl. Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE:

CAPSULE GEOLOGY

Outcrops with corundum are exposed in a highway cut (Highway 6) and along the railway below the highway. The corundum-bearing outcrops extend over a length of about 250 metres, and vertically from the river bank up to the highway cut between 50 and 100 metres. See also Blu Moon (082FNW263).

Hostrocks at the Blu Starr occurrence consist of metasedimentary (augen) gneisses, mainly syenitic or monzonitic in bulk composition, of the Valhalla Complex. They contain abundant crystals of corundum; in some coarser zones, the crystals are up to 1 to 2 centimetres. The association with zircon and sphene with amphibole zones suggest affinity to fenite/nepheline syenite complexes known from similar environments north of Revelstoke and in the Blue River area (D. Hora, personal communication, 1993).

The corundum crystals are extracted, shaped and polished and the resulting cabochons are marketed as untreated, natural "star sapphires", mostly of a translucent grey-blue to sky-blue colour (Geological Association of Canada Joint Annual Meeting 1993, Edmonton, Alberta - Field Trip Guidebook (A-7), page 32).

Anglo-Swiss Industries Inc. has acquired the Blu Starr property and in 1996 carried out detailed mapping and bulk sampling of its extensive land holdings. It will utilize its crushing, milling and

CAPSULE GEOLOGY

laboratory facility located at its Kenville mine property (082FSW086), 30 kilometres by road from the Blu Starr deposit (Information Circular 1996-1, page 20).

Over 50,000 carats of rough sapphires have been extracted from a select high-grade showing (George Cross News Letter No.36 (February 20), 1996).

Anglo-Swiss Industries has trucked 150,000 kilograms of sapphire-bearing material to its Kenville minesite for processing. Apparently 'the best blue sapphires occur on the hinge of a recumbent fold, directly above a pegmatite sill and within the sill's metasomatic halo. The larger crystals occur within the core of the hinge zone'. The company estimates about 500,000 kilograms of probable reserves (T. Schroeter, personal communication, 1997).

In 1998, Anglo Swiss Resources Inc. discovered a garnet deposit. The garnet crystals frequently exceed 10 centimetres in diameter. Facet grade material, located in the centres, yielded several carat gemstones displaying excellent clarity and are an intense pinkish red in colour. Compositionally, the garnets are intermediate between almandine and pyrope, possible the variety known as rhodolite. The garnets occur within feldspar-rich pegmatite sills and dikes, hosted by garnet-amphibolite. A transparent gem-grade variety of feldspar known as moonstone also occurs with the garnet. Several other zones containing megacrystic garnet have been located and are being explored (GCNL #127 (July 3), 1998). Anglo Swiss shipped 1000 carats of rough, gem quality garnets to cutting facilities in Sri Lanka.

Anglo Swiss obtained approval in September 1998 to add placer designation to the property. They will explore for gemstones in alluvial gravels along the valley floor. The property also contains showings of crystalline graphite.

In November 1998, Anglo Swiss discovered a new iolite (cordierite) gemstone, often referred to as "water sapphire". Many crystals exceed 100 carats, with some over 1500 carats. Over 50,000 carats of iolite crystals were extracted.

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EMPR EXPL 1993-50; 1995-20; 1996-A24; 1997-50; 1998-72
EMPR INF CIRC 1993-13, p. 20; 1994-1, p. 21; 1994-19, p. 16; 1995-1, p. 16; 1995-9, p. 20; 1996-1, p. 20; 1997-1, p. 23; 1998-1, p. 24; 2000-1, p. 19
EMPR OF 1994-1
EMPR PF (Sketch map of outcrop location; *excerpt from Field Trip Guidebook (A-7) May 1993, p. 32 - Geological Association of Canada Joint Annual Meeting 1993, Edmonton, Alberta; Western Canadian Gemstone Newsletter, (Autumn/Winter 1999) Vol. 1, No. 1, 2 pages)
GSC BULL 129; 161
GSC MAP 3-1956
GSC MEM 308
GSC OF 481; 1195
GCNL #36(Feb.20), 1996; #100(May 26), #127(July 3), #132(July 10), #165(Aug.27), #177(Sept.15), #204(Oct.23), #222(Nov.19), *#238(Dec.11), 1998; #13 (Jan.20), #25(Feb.5), #46(Mar.8), #59(Mar.25), 1999; #88(May 8), 2000
NWMA Bulletin July 1995, p. 2
PR REL Anglo Swiss Industries Inc., Jan.20, May 22, July 15, 1997; June 29, Sept.14, Oct.21, Nov.18, 1998; Anglo Swiss Resources Inc., Feb.18, 2003
WWW <http://www.anglo-swiss.com>; <http://www.gemnews.net>;
<http://www.infomine.com/>
Excerpt from Field Trip Guidebook (A-7) May 1993, p. 32 - Geological Association of Canada Joint Annual Meeting 1993, Edmonton, Alberta

DATE CODED: 1993/10/26
DATE REVISED: 1997/08/25

CODED BY: DH
REVISED BY: TGS

FIELD CHECK: Y
FIELD CHECK: Y

MINFILE NUMBER: **082FNW260**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACK CRYSTAL**, MOLLY, BLACK CRYSTAL GRAPHITE

STATUS: Developed Prospect

MINING DIVISION: Nelson

REGIONS: British Columbia

NTS MAP: 082F13W

BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 46 30 N

LONGITUDE: 117 46 04 W

ELEVATION: 1676 Metres

NORTHING: 5513897

EASTING: 444720

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the headwaters of Hoder Creek, about 21 kilometres west of the community of Slocan (Assessment Report 23406).

COMMODITIES: Graphite

MINERALS

SIGNIFICANT: Graphite

ASSOCIATED: Biotite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Hydrothermal Industrial Min.

TYPE: P04 Crystalline flake graphite

DIMENSION: 500 x 500 x 100 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Mineralized zone covers an area 500 by 500 metres with a minimum thickness of 80 to 100 metres.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Unknown

Valhalla Complex

LITHOLOGY: Graphitic Marble
Siliceous Meta Sediment/Sedimentary
Para Gneiss
Granitoid

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Undivided Metamorphic Assembl.

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Inferred

YEAR: 1993

QUANTITY: 50000000 Tonnes

COMMODITY

GRADE

Graphite

2.5500

Per cent

COMMENTS: Geologic resource contained within this volume (500 by 500 by 80-100 metres) ranges from 50 to 62.5 million tonnes at an unknown grade.

REFERENCE: Assessment Report 23406.

CAPSULE GEOLOGY

The Black Crystal property is a large graphite deposit located near the headwaters of Hoder Creek, approximately 74 kilometres north of the community of Trail. The prospect was discovered by a Castlegar prospector, Steve Paszty, around 1960.

The property is within the central portion of the Valhalla Complex comprised of high metamorphic grade paragneiss structurally overlain and interlayered with thick granitoid sheets. Graphite mineralization in the form of disseminated fine to coarse grained flakes is associated with a locally very coarse grained, friable, graphitic marble and/or siliceous metasedimentary rock. The graphite occurs along and parallel to the foliation planes and/or metamorphic compositional bands. The mineralized zone defined to date appears to cover an area 500 by 500 metres and have a minimum thickness of 80 to 100 metres. The geologic resource contained within this volume ranges from 50 to 62.5 million tonnes at an unknown grade (Assessment Report 23406).

Based on a total of 18 samples, 11 of which were three metre continuous channel samples, the average arithmetic grade of the deposit is 2.55 per cent graphite with a range of 0.39 to 6.95 per

CAPSULE GEOLOGY

cent graphite. The 11 channel samples had a weighted average grade of 2.55 per cent; the high grade assay of 6.95 per cent is an average of four separate samples from the same sample location (Assessment

Industrial Mineral Park Mining Corporation (IMP) mined a 3000 to 4000 tonne bulk sample and shipped it to a nearby site, where a flotation mill for the recovery of crystalline graphite will soon be built; start-up is forecast for spring 1996 (Information Circular 1996-1, page 20).

Sampling and evaluation continued at Black Crystal in 1996. IMP estimates a resource of flake graphite of over 27 million tonnes. The company stockpiled graphite at the mill which is nearing completion (Information Circular 1997-1, page 23).

In 1996, I.M.P. processed 5.5 tonnes (Information Circular 1997-1, page 23). In 1997, I.M.P. drilled 891 metres in 22 short, vertical core holes. In 1998, the company estimates 1,500,000 tonnes of graphite in an 1800 by 85 metre zone.

A 362-kilogram bulk sample was taken in 1998. Results were 5.4 per cent crystalline graphite.

Crystal Graphite Corporation was granted mining leases No. 392322 and No. 390937 and mining permit No. M-211 in June and July 2002. The mining leases are for 30 years, with an option to renew for another 30, and the mining permit allows the company to process graphite at its Kock Creek plant at a maximum rate of 250,000 tonnes per year.

In 2002 Crystal Graphite engaged AMEC E&C Services Ltd. to review the work completed to date on the property and prepare a technical report, as defined by National Instrument 43-101, to disclose the results of drilling on the project and the resource estimate. The database used to estimate the mineral resource at Black Crystal consists of samples and geological information from 64 drill holes, 176 slit trenches and 1,855 metres of linear trench. The amount of graphite mineralization has been determined indirectly by measuring the quantity of Fixed Carbon in a sample using the Leco method. Petrographic and X-ray diffraction analyses show the graphite to be very coarse by international standards, high-rank graphite with high reflectance and a high degree of crystallographic order. Upon segregation, it produces very pure coarse flake graphite and impure fine graphite. The graphite grains are mostly undeformed (PR REL Crystal Graphite Corp., August 7, 2002).

To date, most of the test work has been conducted on various composite samples of the regolith. Metallurgical performance from the pilot plant at a 20-tonne to 25-tonne per hour feed rate of screened regolith material has been 90 to 95 per cent graphite concentrate grade at 75 to 80 per cent recovery. The measured mineral resource category is only supported in the regolith unit, and at a trench spacing of about 25 metres. The indicated mineral resource category is supported by the present trench and drill grid on the regolith and calc-silicate units (about 50 metres). The mineralization of the Black Crystal Graphite project as of July 5, 2002, is classified as measured, indicated and inferred mineral resources. The classified mineral resources are shown below. The mineral resource is reported at a 0.7 per-cent Fixed Carbon cutoff grade to reflect preliminary metallurgical work and expected long-term pricing for high-purity graphite mineralization (PR REL Crystal Graphite Corp., August 7, 2002).
Black Crystal Graphite project mineral resource summary

Ton Fixed Carbon	
(per	
Regolith	
Measured mineral	
Resource	292,000 1.95
Indicated mineral	
Resource	356,000 1.71
Measured * indicated	
mineral resources	848,000 1.82
Inferred mineral	
Resource	516,000 1.69
Calc-silicate	
Indicated	
Resources	4,763,000 1.21
Inferred mineral	4,591,000 1.24
Resource	

NOTES:

Calculated at a 0.7 per cent Fixed Carbon cutoff; bulk density values used: Regolith, 1.67; and calc-silicate, 2.80; the measured mineral resource excludes the 10,400 tonnes at 4.3 per cent Fixed Carbon stockpiled at the Crystal Graphite Corp. processing plant

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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PAGE: 756
REPORT: RGEN0100

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EM EXPL 1994-58; 1996-E4,A24; 1997-50; 2001-45-53
EM INF CIRC 1999-1, pp. 12, 14
EMPR ASS RPT *23406
EMPR INF CIRC 1995-9, p. 20; 1996-1, p. 20; 1997-1, p. 23; 1998-1,
p. 24
EMPR PF (Report by D.A. Howard)
GCNL #244(Dec.21), 1994; #48(Mar.9), #99(May24), #119(June 21), #161
(Aug.22), #168(Aug.31), 1995; #209(Oct.30), #239 (Dec.12), 1997;
#214(Nov.6), #237(Dec.10), 1998
PR REL Crystal Graphite Corporation, Jul.17, Aug.7, 2002
WWW <http://www.impgraphite.com/>; <http://www.infomine.com/>

DATE CODED: 1995/12/11
DATE REVISED: 1996/06/06

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW261**

NATIONAL MINERAL INVENTORY:

NAME(S): **WINONA**, SHADOW, NORJACK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 56 52 N
LONGITUDE: 117 20 17 W
ELEVATION: 850 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5532879
EASTING: 475746

LOCATION ACCURACY: Within 500M

COMMENTS: Location of trench and grab sample.

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Triassic	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Quartzite
Slate
Graphitic Argillite
Porphyritic Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1973
SAMPLE TYPE: Grab
COMMODITY GRADE

Silver	1.3700	Grams per tonne
Lead	0.3300	Per cent
Zinc	0.4900	Per cent

COMMENTS: A grab sample from the mineralized shear exposed in a trench.
REFERENCE: Assessment Report 4609.

CAPSULE GEOLOGY

The Winona property is situated on the south side of Silverton Creek about 1.5 kilometres southeast of the town of Silverton in the Slocan Mining Division. The showing is at 850 metres elevation above sea level.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by very fine grained clastic sedimentary rocks of the Upper Triassic Slocan Group that include locally weakly metamorphosed argillite, quartzite, limestone and some tuffaceous rocks. These sedimentary rocks are intruded by dikes, sills and stocks of varied composition and origin. Middle Jurassic Nelson intrusions are immediately south of the Slocan Group and are inferred to be the source of granitic sills and dikes found in the area. The Nelson intrusions comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite (Paper 1989-5).

On the Winona property the Slocan Group comprises massive to graphitic argillite, slate and quartzite. The strata are tightly folded, faulted and cut by a porphyritic granite stock probably

CAPSULE GEOLOGY

related to the Nelson intrusions. The occurrence is hosted within a shear zone that strikes east. The shear contains minor silver-lead-zinc mineralization and oxidized pyrite. It has been explored with trenches and two short adits. A grab sample collected from a trench in 1973 assayed 1.37 grams per tonne silver, 0.33 per cent lead and 0.49 per cent zinc (Assessment Report 4609). Although not mentioned specifically, the lead and zinc values are probably due to minor galena and sphalerite veins within the oxidized shear zone.

BIBLIOGRAPHY

EMPR ASS RPT 4033, 4537, 4649, *8237, 9588
EMPR BULL 29
EMPR EXPL 1980-88
EMPR GEM 1972-57; 1973-77
EMPR P 1989-5
EMPR PF (See 082FNW, General - Geological plan of the Silverton area,
B.C. Department of Mines, 1966)
GSC MAP 273A; 1090A
GSC MEM 173; 184; 309

DATE CODED: 1996/01/16
DATE REVISED: 1996/01/23

CODED BY: GJA
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW262**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAT**

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 54 46 N
LONGITUDE: 117 02 27 W
ELEVATION: 1220 Metres

NORTHING: 5528934
EASTING: 497068

LOCATION ACCURACY: Within 500M

COMMENTS: Location of trench and chip sample (Assessment Report 17954).

COMMODITIES: Silver Lead

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
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	Slocan	Undefined Formation	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Staurolite Schist
Argillite
Quartzite
Argillaceous Limestone
Quartz Porphyritic Dike
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional Contact RELATIONSHIP:
COMMENTS: Staurolite grade of greenschist facies. GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 58.0000 Grams per tonne
Lead 0.2400 Per cent

COMMENTS: A 1.7 metre wide chip sample across a mineralized quartz vein.
REFERENCE: Assessment Report 17954.

CAPSULE GEOLOGY

The Cat occurrence is situated south of Keen Creek, between Deer and Nashton creeks at 1220 metres elevation above sea level, in the Slocan Mining Division.

Regionally, the area lies on the western margin of the Kootenay Arc, in allochthonous rocks of the Quesnel Terrane. In the vicinity of the occurrence, the Quesnel Terrane is dominated by the Upper Triassic Slocan Group, a thick sequence of deformed and metamorphosed shale, argillite, siltstone, quartzite and minor limestone. Rocks of the Slocan Group are tightly and disharmonically folded. Early minor folds are tight to isoclinal with moderate east plunging, southeast inclined axial planes and younger folds are open, southwest plunging with subhorizontal axial planes. The sedimentary sequence has been regionally metamorphosed to middle greenschist facies.

About 2.5 kilometres west of the occurrence, the Slocan Group has been intruded by the Middle Jurassic Nelson intrusions which comprise at least six texturally and compositionally distinct phases ranging from diorite to lamprophyre. The most dominant phase is a medium to coarse grained potassium feldspar porphyritic granite. Several feldspar porphyritic granodiorite dikes, apparently related to

CAPSULE GEOLOGY

the Nelson intrusions, also cut the sedimentary sequence near the occurrence (Paper 1989-5). The sedimentary sequence has been affected by contact metamorphism from the emplacement of the nearby Nelson intrusions.

Rocks on the property are massive staurolite schist, argillite, quartzite, limestone and argillaceous limestone of the Slocan Group. The rocks strike between 075 and 150 degrees and dip between 40 degrees northeast to 40 degrees southeast. A large north trending quartz porphyritic dike, up to 200 metres wide, cuts the sedimentary sequence in the western part of the claims.

Lenticular quartz veins a few centimetres to more than two metres wide are common, mostly within or peripheral to the quartz porphyritic dike. Most veins are barren except for in the area east of Deer Creek. Here, disseminated argentiferous galena occurs in a vein 0.5 to 2 metres wide. The vein strikes 070 degrees and dips 40 degrees southeast. It has been exposed in a surface trench. A 1.7 metre wide chip sample collected in 1988 assayed 58 grams per tonne silver and 0.24 per cent lead (Assessment Report 17954). The vein has been exposed for 10 metres of strike length in the trench. The vein is hosted within the intrusion near its northern contact with a limestone bed of the Slocan Group.

BIBLIOGRAPHY

EMPR ASS RPT 16556, *17954, 19256
EMPR EXPL 1987-C56; 1988-C38
EMPR P 1989-5
GSC MAP 273A; 1090A
GSC MEM 173; 184; 309

DATE CODED: 1996/01/25
DATE REVISED: 1996/03/11

CODED BY: GJA
REVISED BY: GJA

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW263**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLU MOON**, SAPPHIRE HILL

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F12E
BC MAP:

MINING DIVISION: Slocan

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 33 40 N
LONGITUDE: 117 39 49 W
ELEVATION: 500 Metres

NORTHING: 5490046
EASTING: 452010

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Lot 12299, on the north side of the confluence of Little Slocan and Slocan rivers, about 28 kilometres south of Slocan. See also Blu Starr (082FNW259).

COMMODITIES: Corundum Gemstones Sapphire

MINERALS

SIGNIFICANT: Corundum
COMMENTS: Sapphire, "Japan" quartz.
ASSOCIATED: Zircon Sphene Amphibole Feldspar Mica
ALTERATION: Zircon Sphene Amphibole
ALTERATION TYPE: Fenitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic Industrial Min.
TYPE: Q10 Gem corundum hosted by alkalic rocks

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Unknown			Valhalla Complex

LITHOLOGY: Meta Sediment/Sedimentary Augen Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PLUTONIC ROCKS: Plutonic Rocks	PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Undivided Metamorphic Assembl.	RELATIONSHIP:	GRADE:
METAMORPHIC TYPE: Regional		

CAPSULE GEOLOGY

Hostrocks at the Blu Moon occurrence consist of metasedimentary (augen) gneisses, mainly syenitic or monzonitic in bulk composition, of the Valhalla Complex. They contain crystals of corundum. The showing is similar to the Blu Starr (082FNW259), about 2 kilometres to the southeast.

Anglo Swiss Industries Inc. reported that United Radiant Applications of California has successfully heat treated 100 per cent of the initial test runs of rough sapphires to varying colours of blue. United Radiant will continue tests to determine the exact parameters of temperature, atmospheric conditions and time duration to maximize the percentage of gem quality sapphires. To date, Anglo Swiss has sorted over 150,000 kilograms of bulk sample material for the extraction of sapphire crystals. Select hand-cobbed samples have produced 10 to 200 carats per kilogram, including one rough crystal over 150 carats. The company is concentrating only on those crystals larger than 2 carats; to date it has recovered over 3000 carats of rough sapphires (T. Schroeter, personal communication, 1997).

A sapphire showing, named Sapphire Hill, was discovered in 1998. The sapphire-bearing zone is 400 by 50 metres. A 20-kilogram sample yielded over 6000 carats of sapphire crystals. Over 15,000 carats of rough sapphire has been extracted.

BIBLIOGRAPHY

EM EXPL 1997-50; 1998-72
EM INF CIRC 1998-1, p. 23
GSC BULL 129; 161
GSC MAP 3-1956
GSC MEM 308
GSC OF 481; 1195
GCNL #204(Oct.23), #222(Nov.19), 1998
PR REL Anglo Swiss Industries Inc., Jan.20, May 22, July 15, Sept.18, 1997; Oct.21, Nov.18, 1998

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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BIBLIOGRAPHY

WWW <http://www.anglo-swiss.com>

DATE CODED: 1996/07/15
DATE REVISED: 1996/07/15

CODED BY: DJ
REVISED BY: TGS

FIELD CHECK: Y
FIELD CHECK: Y

CAPSULE GEOLOGY

0.91 per cent zinc, and 0.09 per cent bismuth. Another sample assayed 184.8 grams per tonne silver, 0.24 per cent lead, 0.78 per cent tungsten and 0.12 per cent bismuth (Assessment Report 18934). R.M. Mackenzie held and examined the property in 1967, 1988 and 1991.

BIBLIOGRAPHY

EMPR AR 1896-72; 1898-1077; 1901-1226; 1902-300; 1920-350
EMPR ASS RPT *18934, 20950
EMPR OF 1994-8
EMPR PF (Memos by R.M. Mackenzie (1982, 1983); *Bradley, O.E. (1967): MacKenzie Tungsten Prospect, Monument Creek)
GSC MAP 1090A

DATE CODED: 1999/08/30
DATE REVISED: 1999/09/15

CODED BY: LDJ
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW265**

NATIONAL MINERAL INVENTORY:

NAME(S): **CST**, C.S.T.

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 38 39 N
LONGITUDE: 117 21 35 W
ELEVATION: 1800 Metres

NORTHING: 5499131
EASTING: 474030

LOCATION ACCURACY: Within 500M

COMMENTS: Location of mineralized vein (Assessment Report 12907).

COMMODITIES: Silver Lead Gold

MINERALS

SIGNIFICANT: Galena

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

North-trending mineralized quartz veins occur in granite of the Middle Jurassic Nelson Intrusions. A sample taken in 1984 of a vein assayed 2325 grams per tonne silver, 8.1 grams per tonne gold and 1.7 per cent lead (Assessment Report 12907).

BIBLIOGRAPHY

EMPR ASS RPT 12907
EMPR OF 1994-8
EMPR PF (Tellington, W. (1984): The C.S.T. Claims, a Geomorphic Analysis)

DATE CODED: 1999/08/31
DATE REVISED: / /

CODED BY: LDJ
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW266**

NATIONAL MINERAL INVENTORY:

NAME(S): **CROWN POINT NO. 6 (L.2216)**, CROWN POINT FR. (L.2217), NELSON NO. 5 (L.2215)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F11E
BC MAP:

MINING DIVISION: Slocan

LATITUDE: 49 41 51 N
LONGITUDE: 117 13 32 W
ELEVATION: 2100 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5505023
EASTING: 483734

LOCATION ACCURACY: Within 500M

COMMENTS: Location of sample in Paper 1989-5, east of Alpine (082FNW127).

COMMODITIES: Zinc Copper Lead

MINERALS

SIGNIFICANT: Sphalerite Chalcopyrite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Triassic
Middle Jurassic

GROUP

Slocan

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Granite
Quartzitic/Quartzose Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Grab

COMMODITY

GRADE

Zinc

4.8000

Per cent

Lead

0.0140

Per cent

Copper

0.0940

Per cent

REFERENCE: EMPR Paper 1989-5, Table 5.

CAPSULE GEOLOGY

The Crown Point is located about 2 kilometres east northeast of the Alpine (082FNW127), on the southern boundary of Kokanee Glacier Provincial Park. The claims were Crown-granted in 1899.

The area is underlain by layers of quartzitic siltstone of the Upper Triassic Slocan Group and granites of the Middle Jurassic Nelson Batholith. Veins contain values in zinc, copper and lead. A sample taken in 1987 assayed 4.8 grams per tonne zinc, 0.094 per cent copper and 0.014 per cent lead (Paper 1989-5).

BIBLIOGRAPHY

EMPR AR 1899-843,845
EMPR BULL 7, p. 3
EMPR FIELDWORK 1987, pp. 31-48
EMPR OF 1988-11
EMPR P 1989-5, Table A

DATE CODED: 1999/08/31
DATE REVISED: / /

CODED BY: LDJ
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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PAGE: 768
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GSC MAP 1091A

DATE CODED: 1999/09/02
DATE REVISED: 1999/09/02

CODED BY: LDJ
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW268**

NATIONAL MINERAL INVENTORY:

NAME(S): **PBX**, PANDORA'S BOX, MAURIER CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F14W
BC MAP:

Underground

MINING DIVISION: Slocan

LATITUDE: 49 53 44 N
LONGITUDE: 117 17 20 W
ELEVATION: 1490 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5527058
EASTING: 479251

LOCATION ACCURACY: Within 500M

COMMENTS: Location of PBX showing from Assessment Report 17265.

COMMODITIES: Zinc Silver Lead Cadmium

MINERALS

SIGNIFICANT: Sphalerite Galena Arsenopyrite Pyrite
ASSOCIATED: Quartz
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE:

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Channel

YEAR: 1987

COMMODITY	GRADE	
Silver	10.1000	Grams per tonne
Zinc	3.3900	Per cent
Cadmium	0.0216	Per cent
Lead	0.0190	Per cent

COMMENTS: Sample of vein over 25 centimetres.
REFERENCE: Assessment Report 17265.

CAPSULE GEOLOGY

The PBX showing exposes a 15-metre length of a near vertical vein striking 087 degrees in granite of the Middle Jurassic Nelson Intrusion. A small adit occurs on the south side of a creek, east of Maurier Creek. The silicified vein, from 10 to 25 centimetres wide, contains sphalerite, galena, pyrite and arsenopyrite.

A 0.25 metre sample assayed 10.1 grams per tonne silver, 3.39 per cent zinc, 0.0216 per cent cadmium and 0.019 per cent lead (Assessment Report 17265).

BIBLIOGRAPHY

EMPR ASS PRT *17265, 19463
EMPR EXPL 1988-C39
EMPR P 1989-5
GSC MAP 1091A

DATE CODED: 1999/09/02
DATE REVISED: 1999/09/02

CODED BY: LDJ
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
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PAGE: 771
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK 1987, pp. 31-48
EMPR OF 1988-11
EMPR P 1989-5, Table A
GSC MEM 308

DATE CODED: 1999/09/07
DATE REVISED: / /

CODED BY: LDJ
REVISED BY:

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **082FNW270**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAY**, ROBERTSON CREEK

MINING DIVISION: Slocan

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F12E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 44 20 N
LONGITUDE: 117 35 24 W
ELEVATION: 1335 Metres

NORTHING: 5509767
EASTING: 457488

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Silver Barite

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Barite
ASSOCIATED: Quartz Fuchsite Chalcedony
ALTERATION: Kaolinite

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Epithermal
TYPE: H04 Epithermal Au-Ag-Cu: high sulphidation
DIMENSION: 75 x 60 x 3 Metres

STRIKE/DIP: 160/70W TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Pennsylvan.-Permian
Cretaceous

GROUP

Unnamed/Unknown Group

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Unnamed/Unknown Informal

LITHOLOGY: Para Gneiss

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

McCrory relocated and trenched an arsenopyrite showing in 1987. Rea Gold Corp. and Verdstone Gold Corp. optioned and drilled the property in 1988. Bryndon Ventures Inc. explored and drilled the property in 1989.

The area is underlain by Permian to Carboniferous paragneiss, intruded by Cretaceous granitic gneiss. An epithermal quartz vein with pyrite, arsenopyrite and barite occurs in the paragneiss. The vein, which measures about 75 metres in length and 60 metres down dip, strikes 160 degrees and dips 70 degrees west. Values in silver and gold are low.

BIBLIOGRAPHY

EMPR ASS RPT 17335, *18196, *19617
EMPR EXPL 1988-C38
EMPR OF 1994-8
GSC MEM 308

DATE CODED: 1999/09/07
DATE REVISED: / /

CODED BY: LDJ
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FNW271**

NATIONAL MINERAL INVENTORY:

NAME(S): **CARIBOO**, GOLD MEDAL, KOKANEE NO. 1,
KOKANEE NO. 2

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F11E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 42 13 N
LONGITUDE: 117 08 58 W
ELEVATION: 1800 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5505688
EASTING: 489224

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east side of the West Fork of Kokanee Creek about 35 kilometres from Nelson (Starr, 1929 (Property File)). The property is reported to be about 10 kilometres from the lower end of the Molly Gibson (082FNW121) tramway which was located near Kootenay Lake.

COMMODITIES: Gold Silver Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Sphalerite
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic Porphyry

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Middle Jurassic

ISOTOPIC AGE: 165 - 169 Ma

DATING METHOD: Zircon

MATERIAL DATED: Zircon

Nelson Intrusions

LITHOLOGY: Feldspar Porphyritic Granite
Granitic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1929

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

30.8600

Grams per tonne

Gold

0.6900

Grams per tonne

Copper

0.1300

Per cent

COMMENTS: A chip sample taken across 6 metres.

REFERENCE: Starr, C.C. (1929): Report of a Brief Examination (Property File).

CAPSULE GEOLOGY

The Cariboo showing is located in porphyritic granite of the Nelson Intrusions. Several later phase granitic dikes striking around 350 degrees with near vertical dip occur. Mineralization consists of irregular disseminations of pyrite, pyrrhotite and small amounts of chalcopyrite and sphalerite throughout the dikes. Larger concentrations of these minerals also occur in numerous streaks and bunches throughout the dike rock over considerable area but separated by much larger areas of sparsely mineralized rocks.

Prior to 1929, the property had been developed by five opencuts, a 9-metre tunnel, a 30-metre tunnel (a crosscut through barren ground), and a 3.7-metre shaft. The workings are described as being an opencut about 150 metres north of an old cabin, an opencut and shaft 213 metres north of the cabin, an opencut 150 metres northwest of the cabin and a 9-metre tunnel about 365 metres south of the cabin. A 3.7-metre shaft is located about 90 metres northwest of the 9-metre tunnel. The location of the 30-metre tunnel was not reported.

A chip from the 9-metre tunnel assayed 0.69 gram per tonne gold, 30 grams per tonne silver and 0.13 per cent copper across 6 metres (Starr, 1929 (Property File)). Samples from the shaft to the

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RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 774
REPORT: RGEN0100

CAPSULE GEOLOGY

northwest of the tunnel and from the workings north of the cabin yielded similar values.

BIBLIOGRAPHY

EMPR PF (*Starr, C.C. (1929): Report of a Brief Examination of the Cariboo Group)
GSC MAP 1090A, 1091A
GSC MEM 308

DATE CODED: 1985/07/24
DATE REVISED: 1999/11/01

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 775
REPORT: RGEN0100

MINFILE NUMBER: **082FSE001**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALPHA**, MAGOG

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 18 00 N
LONGITUDE: 116 33 52 W
ELEVATION: 2066 Metres

NORTHING: 5460897
EASTING: 531666

LOCATION ACCURACY: Within 500M
COMMENTS: Common boundary of claim groups.

COMMODITIES: Silver Lead Copper

MINERALS

SIGNIFICANT: Galena Tetrahedrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Undefined Formation	

LITHOLOGY: Sediment/Sedimentary

HOSTROCK COMMENTS: Rocks belong to the upper Purcell Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist
COMMENTS: Assume veins are related to post-metamorphic pluton.

CAPSULE GEOLOGY

The Alpha (Magog) showing is poorly located, and very little is recorded about it. Minister of Mines Annual Reports for 1894 to 1898 state that the showings are on the Duck Creek trail in the Goat River area and the character of the ore is galena and tetrahedrite. The area is underlain by sedimentary rocks of the Purcell Supergroup of Middle Proterozoic age.

BIBLIOGRAPHY

EMPR AR 1894-739; 1897-573,569; 1898-1188
GSC MAP 603A; 1714A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/29

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE001**

MINFILE NUMBER: **082FSE002**

NATIONAL MINERAL INVENTORY:

NAME(S): **STAR, SKY-STAR, KYDD,
KID, BOO, GOBI**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01E
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 12 16 N
LONGITUDE: 116 14 56 W
ELEVATION: 1130 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5450455
EASTING: 554713

LOCATION ACCURACY: Within 500M

COMMENTS: The location of the Star property is centred on diamond-drill hole S90-1 (Assessment Report 20571).

COMMODITIES: Lead Zinc Copper Silver

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrrhotite Pyrite Chalcopyrite
 Arsenopyrite
ASSOCIATED: Quartz Carbonate
ALTERATION: Chlorite Muscovite Biotite Tourmaline
ALTERATION TYPE: Chloritic Tourmalin'z'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stratiform
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartz Wacke
Turbidite Siliceous Clastic
Gabbro Sill
Lamprophyre Sill

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1990
SAMPLE TYPE: Drill Core	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	30.0000 Grams per tonne
Lead	8.5200 Per cent
Zinc	2.3800 Per cent

COMMENTS: Intersection over 2 metres.
REFERENCE: Assessment Report 20571.

CAPSULE GEOLOGY

The location of the Star prospect is centred on diamond-drill hole S90-1 (Assessment Report 20571). This prospect lies approximately 7 kilometres northeast of Kitchener, on the west side of Kid Creek.

This occurrence extends from diamond-drill hole S90-5 in the north to just south of drillhole S90-1 and includes strata contained within a structural panel bounded by the Spider and Carroll Creek faults (to the east and west).

Regionally, the area is underlain by the peri-cratonic Middle Proterozoic Purcell Supergroup, a thick succession of siliciclastic and lesser carbonate rocks. The Purcell Supergroup is well known for hosting a number of significant deposits that include the Sullivan (082FNE052) sedimentary exhalative lead-zinc deposit and the Troy copper-silver deposit in Montana.

The area of interest is underlain by the Aldridge Formation. The Aldridge Formation is the lowermost division of the Purcell

CAPSULE GEOLOGY

Supergroup and is composed of turbiditic siliciclastic rocks and numerous gabbro sills. The focus of exploration in the Aldridge Formation is the contact between the Lower Aldridge and the Middle Aldridge which corresponds to the time of deposition of the Sullivan deposit. In this particular area of the Purcell basin, the contact between the Lower and Middle Aldridge is somewhat enigmatic in that there is no recognizable facies change.

The Star prospect occurs within Middle Aldridge sedimentary rocks. Mineralization occurs below the lowermost of a group of sills (Middle Proterozoic Moyie intrusions) which are repeated by reverse faulting south of Kid Creek. Only the two lower sills are exposed in the fault block containing the mineralized zone. Dips are steep (averaging 65-70 degrees) and bedding trends north subparallel to the strike of the faults bounding this structural block.

Mineralization at surface consists of steeply dipping, east to northeast striking quartz veins in fine grained quartz wacke. Mineralization intersected in drill core includes 4.08 per cent zinc over 1 metre; and 8.52 per cent lead, 30.0 grams per tonne silver and 2.38 per cent zinc over 2 metres (Assessment Report 20571). Veins consist of quartz, galena, sphalerite and pyrrhotite with minor pyrite, chalcopyrite and arsenopyrite. Strongly altered sedimentary rocks occur within the mineralized zone. Patchy to pervasive chlorite and muscovite, locally associated with quartz-carbonate veining, overprints very fine grained biotite. Numerous lamprophyre sills, believed to be Cretaceous or Tertiary, occur in the mineralized zone. Widespread tourmalinization of argillaceous intervals were intersected in diamond drilling downdip from surface exposures.

In 1990, Kokanee Explorations Ltd. explored and drilled the property.

In 1996, Pacific Mariner Exploration Ltd. drilled one hole (152.4 metres).

BIBLIOGRAPHY

EM GEOS MAP 1998-2
EMPR AR 1900-985; 1967-248,276; 1968-272
EMPR ASS RPT 1069, 1625, 1642, 7469, 7481, 12856, 15021, 16635,
16769, 17893, 18121, 19274, 19564, 20568, *20571, 21230, 22667,
22770, 24259
EMPR EXPL 1978-E47; 1979-54
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125; 1997, pp.
9-1-9-22
EMPR PF (Hagen, A.S. (1990): Star Property
GSC MEM 228
GSC OF 2721
GCNL #203, 1995
WWW <http://www.infomine.com/index/properties/STAR.html>

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD REPORT: Y

MINFILE NUMBER: **082FSE003**

NATIONAL MINERAL INVENTORY:

NAME(S): **CARIBOO, ZINC, EAGLE,
GOLD BAR, CND**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 22 50 N
LONGITUDE: 116 10 19 W
ELEVATION: 1980 Metres

NORTHING: 5470091
EASTING: 560103

LOCATION ACCURACY: Within 500M
COMMENTS: South side of the basin at the head of North Moyie Creek.

COMMODITIES: Lead Zinc Tungsten Uranium Silver
 Gold Molybdenum

MINERALS

SIGNIFICANT: Galena Sphalerite Scheelite
ASSOCIATED: Quartz Chlorite Serpentine
ALTERATION: Siderite
ALTERATION TYPE: Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Epigenetic Hydrothermal
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres STRIKE/DIP: 112 W veins TREND/PLUNGE: 025/35
COMMENTS: Attitude of bedding.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Helikian Purcell Creston

LITHOLOGY: Quartzitic/Quartzose Siltstone
Argillaceous Quartzite
Sericite Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1969
SAMPLE TYPE: Chip
COMMODITY GRADE
Lead 0.3400 Per cent
Uranium 0.0220 Per cent
Tungsten 1.1700 Per cent
Zinc 0.6800 Per cent

COMMENTS: A 4.3 metre sample. Equivalent uranium.
REFERENCE: Geology, Exploration and Mining in British Columbia 1969, page 347.

CAPSULE GEOLOGY

The Cariboo showing is located at about 1980 metres elevation at the headwaters of North Moyie Creek; it has been explored as the Zinc (Eagle) claims (Assessment Report 20936), the Gold Bar claims (Assessment Report 22493) and is mentioned in Assessment Report 16656 on the CND claims.

The Helikian Creston Formation (Purcell Supergroup) consists of quartzitic siltstone and argillaceous quartzite with a strong 025 degree trending, steeply east-dipping cleavage. The bedding, which trends northeast and dips northwest, is tightly folded on a 30 to 40 degree north-plunging axis.

The Cariboo main showing consists of an irregular mass of iron carbonate and sericite schist cut by a fine stockwork of white quartz veinlets and irregular veinlets of chlorite or serpentine. Galena and sphalerite occur in the quartz veins and scheelite occurs disseminated and in fractures. A 4.3-metre sample assayed 0.34 per cent lead, 0.68 per cent zinc, 1.17 per cent tungsten and 0.022 per

CAPSULE GEOLOGY

cent equivalent uranium. A grab sample assayed 48 grams per tonne silver, 4.58 per cent lead, 1.09 per cent zinc, 0.34 per cent tungsten and 0.025 per cent equivalent uranium (Geology, Exploration and Mining in B.C. 1969).

Assessment Reports 20936 and 23121 describe the showing as a carbonatite occurrence, consisting of a medium grained, buff coloured, rusty weathering dolomite dike striking north and dipping 70 degrees east, parallel to foliation, but lensing out along bedding. Trenching showed anomalous cobalt values to 800 parts per million but low gold; two diamond-drill holes yielded gold values up to 1000 parts per billion and 3470 parts per million molybdenum.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR AR 1954-145; 1955-68
EMPR ASS RPT *16656, 20936, 23121, 22493
EMPR GEM *1969-347
EMPR MAP 22
EMPR OF 1990-32; 1991-17
EMPR PF (Maps by J.T. Fyles)
GSC OF 551

DATE CODED: 1985/07/24
DATE REVISED: 1995/09/15

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE004**

NATIONAL MINERAL INVENTORY: 082F2 Pb2

NAME(S): **TOPAZ**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 48 N
LONGITUDE: 116 45 52 W
ELEVATION: 900 Metres

NORTHING: 5443787
EASTING: 517178

LOCATION ACCURACY: Within 500M

COMMENTS: Common boundary of "Topaz" #1-3 claims.

COMMODITIES: Copper Lead Zinc Nickel Tin
 Silver

MINERALS

SIGNIFICANT: Chalcopyrite Galena Sphalerite Pyrrhotite Cassiterite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 M02 Tholeiitic intrusion-hosted Ni-Cu

H07 Sn-Ag veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Meta Sediment/Sedimentary
Diorite Sill

HOSTROCK COMMENTS: Rocks mapped as Aldridge Formation by Brown et al. (Fieldwork 1994).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Amphibolite

COMMENTS: On boundary between staurolite and kyanite-sillimanite facies.

CAPSULE GEOLOGY

The Topaz showing is located very close to Highway 3 and just west of the confluence of Topaz Creek with Summit Creek, about 19 kilometres west-northwest of Creston.

The Topaz and Toby groups, comprising 15 claims, were owned in 1969 by Magog Mining Co. Ltd. Work included magnetic and electromagnetic surveys over Topaz 1-5 and trenching.

The showing is hosted by relatively high grade metamorphic rocks (near the boundary between staurolite-kyanite facies to the west and kyanite-sillimanite facies to the east), developed from sedimentary rocks of the Aldridge Formation (Middle Proterozoic Purcell Supergroup). The original showing consisted of galena, sphalerite and cassiterite in a quartz vein; chalcopyrite and pyrrhotite are disseminated in a diorite sill. Traces of nickel and silver are reported.

This showing was covered by a magnetic and electromagnetic survey in 1968 for Magog Mining Ltd.; several magnetic anomalies were found worthy of follow-up, likely due to concentrations of pyrrhotite. The area was subjected to a geochemical survey in 1984 for Greenwich Resources, which did not locate the original showing, and disclosed only weak anomalies for copper and zinc.

Greenwich Resources Inc. held the property in 1984; a geochemical silt survey was reported.

BIBLIOGRAPHY

- EMPR ASS RPT 2062, 12356
- EMPR EXPL 1984; p. 35
- EMPR FIELDWORK 1994, pp. 135-155
- EMPR GEM 1969-321
- GSC MAP 603A; 1714A
- GSC MEM 228

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 781
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/15

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE005**

NATIONAL MINERAL INVENTORY:

NAME(S): **WILDS CREEK**, LEG, LIZ B,
LEGION, TAG

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F02E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 12 24 N
LONGITUDE: 116 34 28 W
ELEVATION: 915 Metres

NORTHING: 5450517
EASTING: 530997

LOCATION ACCURACY: Within 500M

COMMENTS: Location of main showing (West zone) in Wilds Creek at 915 metres elevation (Brown and Klewchuck, Fieldwork 1994, page 159).

COMMODITIES: Zinc Lead Silver Tungsten Molybdenum
Copper

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena Chalcopyrite Tetrahedrite
COMMENTS: Not known how the tungsten and molybdenum occur in the skarn portion of the deposit; likely either scheelite or wolframite, and molybdenite.

ASSOCIATED: Quartz Dolomite Barite Magnetite Epidote
Diopside

COMMENTS: Magnetite, epidote and diopside are associated with the skarn portion of the deposit.

ALTERATION: Silica Dolomite
COMMENTS: Silica, carbonate and barite may be syngenetic (exhalations) rather than alteration minerals.

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

DEPOSIT

CHARACTER: Stratabound Stratiform
CLASSIFICATION: Exhalative Skarn
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag J01 Polymetallic manto Ag-Pb-Zn
I05 Polymetallic veins Ag-Pb-Zn±Au K02 Pb-Zn skarn

COMMENTS: The stratabound main zone at Wilds Creek is intensely foliated and probably remobilized.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Dutch Creek	
Middle Cretaceous			Bayonne Batholith

LITHOLOGY: Dolomite
Dolomitic Siltstone
Mafic Volcanic
Pillow Basalt
Argillite
Quartzite
Sericite Chlorite Phyllite
Biotite Granite

HOSTROCK COMMENTS: Host to mineralization is either Dutch Creek or Kitchener formations; Nicol Creek mafic lavas intercalated; Duck Lake stock nearby.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional Contact RELATIONSHIP: Post-mineralization GRADE: Greenschist
COMMENTS: Metamorphism believed to be post-exhalative mineralization.

INVENTORY

ORE ZONE: MAIN REPORT ON: Y

CATEGORY: Indicated YEAR: 1964
QUANTITY: 150000 Tonnes

COMMODITY	GRADE
Zinc	6.0000 Per cent

COMMENTS: Main (west) zone tonnage is contained within a block 1.8 metres wide by 360 metres long by 61 metres deep; parts of the zone contain up to 0.5 per cent lead.

REFERENCE: Brown, D.A. and Klewchuck, P.: Northwest Geology, October, 1994.

CAPSULE GEOLOGY

The Wilds Creek (Leg, Legion, Liz B, Tag) deposit is located at about 915 metres elevation (over a range from 850 to 1250 metres elevation), mainly in the small valley of Wilds Creek that drains southwesterly into Kootenay River between Duck Lake and Wynndel, about 12 kilometres north-northwest of Creston.

The Wilds Creek deposit is one of a series of stratabound zinc-lead-barite prospects and mines in upper Purcell Supergroup stratigraphy along the western edge of the Purcell anticlinorium, typically hosted in dolomitic units of the Dutch Creek Formation near the contact of the overlying Mount Nelson Formation, intercalated with mafic volcanics of the Nicol Creek Formation. All these units are part of the Middle Proterozoic Purcell Supergroup, although the stratigraphic nomenclature and correlation varies with different workers. The rocks are all foliated and structurally complex, with the mineral occurrences lying in the hangingwall (west) of the Hall Lake fault. The occurrences have received various amounts of exploration as illustrated by the Mineral King (082KSE001) about 100 kilometres north of Wilds Creek. It produced 1.21 million tonnes of ore with an average grade of 4.12 per cent zinc, 1.76 per cent lead and 24.8 grams per tonne silver (Minister of Mines Annual Reports 1956 to 1964). Other properties with anomalous lead-zinc-silver geochemistry lie to the north (adjacent Ace or Rob claims: Assessment Reports 12919, 18834).

The first recorded exploration activity on the prospect occurred in 1924 when prospectors trenched and sank two short shafts. The first reported drilling was by Newmont in 1954 when 6 core holes were drilled, intersecting a mineralized zone about 2.0 metres thick with a strike length of approximately 335 metres. Holes S-1 and S-2 intersected greater than 5.0 per cent zinc over about 2.0 metres. Four holes drilled to the northeast of the original zone, holes S-3 to S-6, intersected 1.0 to 2.0-metres thick zones of 2.0 per cent to 4.0 per cent zinc, with up to 0.5 per cent lead. In 1961 the ground was re-staked by Sheep Creek Gold Mines Ltd. Two core holes were drilled to the southwest of the Newmont drilling. Drill hole Liz B-1 intersected 1.52 metres of 14.88 per cent zinc at a depth of 61 metres, and diamond drill hole Liz B-2 was terminated before reaching the zone penetrated in the first hole. The property was briefly examined by Canex later in 1961, and by Cominco in 1962. In 1963 evaluation of the property led to a preliminary reserve estimate. In 1964 the property was optioned to Aspen Grove Copper Mines Ltd., and exploration extended the mineralization approximately 100 metres to the south of the main showing. The entire Main Zone was trenched and 5 drill holes (A-1 to A-5) were completed by the end of 1965. Hole A-4 intersected 9.0 metres of 2.13 per cent zinc. From 1968 to 1970, VLF-EM and ground magnetic surveys were completed over the Main showing. In 1977 Cominco staked adjacent ground and in 1978 conducted a soil survey along Wilds Creek. In 1982 and 1984, Aspen Grove Mines Ltd. extended soil geochemical coverage and in 1988 line-cutting, geological mapping, geochemistry and IP geophysics were conducted. In 1989 Legion Resources Ltd. completed additional line-cutting and ground magnets, followed by diamond drilling (5 holes). From 1990 to 1992 Kokanee Explorations (Quest) completed fourteen diamond drill holes tracing mineralization for about 2.0 kilometres along strike and following the base metals down to a depth of 130 metres. In 1993 Kokanee completed soil geochemical and geophysical surveys, extending the mineralized horizon 3.5 kilometres along strike to the northeast.

The property geology has recently been described in detail by Brown and Klewchuck (Northwest Geology, October 1994; Fieldwork 1994). Two separate carbonate units contain the mineralization, known as the East zone and West zone. The carbonate units are described as dolomite and dolomitic siltstone, hosted in argillite, quartzite and sericite chlorite phyllite; minor mafic volcanics, rarely pillowed basalt, are intercalated. These rocks are intruded nearby by the Duck Lake stock, massive biotite granite (part of the middle Cretaceous Bayonne batholith, and probably responsible for the minor magnetite-epidote-diopside-tungsten-molybdenum skarn mineralization found on the property).

The Main or West mineralized zone is at least 300 metres long by 2 to 3 metres thick as defined by drilling (indicated ore reserves in 1964 of 136,000 to 150,000 tonnes of 6 per cent zinc, with up to 0.5 per cent lead and unspecified silver content, in a block 1.8 by 360 by 61 metres: Assessment Report 22771). It lies within the western dolomitic horizon and comprises at least two intervals of stratabound sulphide-rich material, 30 to 75 per cent pyrite and sphalerite. These intervals are bedding-parallel, fine grained pale yellow to red-brown sphalerite and fine to medium-grained pyrite within laminated baritic dolomite and calcareous quartzite and argillite. The semimassive and layered sulphides form narrow zones less than 25

CAPSULE GEOLOGY

centimetres thick in the silicic rock; alternating pyrite and sphalerite-rich layers may be a primary structure with a prominent, superimposed penetrative tectonic foliation. Disseminated pyrite is ubiquitous; minor galena occurs sporadically in dolomite layers. At surface, the mineralization is intensely oxidized and poorly exposed; mineralization is banded in the south and becomes more silicified and massive to the north (Assessment Report 19902).

The East zone was explored by drilling in 1989; the best intersection was 0.78 per cent zinc over 0.75 metre (Assessment Report 19902). The East zone is more intensely silicified than the Main zone, with abundant quartz veinlets and stockwork hosted within the eastern dolomitic siltstone unit. Mineralization comprises pyrite with sporadic sphalerite, galena, tetrahedrite and chalcopyrite. Minor silver (up to 23 grams per tonne, with 5.9 per cent lead and 7.1 per cent zinc) is reported over 0.6 metre in the 1992 drilling by Kokanee Explorations.

Irregular patches of pyrite with reaction rims of magnetite and associated narrow intervals of epidote and diopside occur locally in the dolomitic sediments; these patches have associated tungsten and molybdenum (up to 200 and 130 parts per million respectively), and are interpreted to be superimposed calcsilicate hornfels assemblages in the thermal aureole of the Duck Lake stock (Brown and Klewchuck, Fieldwork 1994).

The stratabound main zone at Wilds Creek is foliated and probably remobilized. The two most probable models of ore deposition are sedimentary exhalative (Sedex) or manto replacement. The stratabound zinc-lead-barite mineralization hosted by dolomite lies adjacent to mafic volcanic rocks that thicken rapidly to the north, possibly indicating synvolcanic growth faults developed during rifting. Such block faulting may have provided conduits for a hydrothermal system associated with volcanic activity that could have produced Sedex-style mineralization; the East zone could be a stringer feeder zone.

The Legion property is held by Quest International Resources Corporation (now Standard Mining Corporation) (55 per cent) and Legion Resources Ltd. (45 per cent).

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EMPR FIELDWORK 1994, pp. 135-155, 157-164
EMPR GEM 1969-322; 1973-53
EMPR OF 2000-22
EMPR PF (Keys, M.R. (1962): Geology Map, Liz B Property;
MineMarket.com Website (May 1999): Legion Prospect, 3 p.)
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721
GCNL #195, 1989; #145, #183, 1990; #38, 1991; #163, #170, #185, 1992
WWW http://www.minemarket.com/legion_prospect.htm;
<http://www.infomine.com/>
Brown, D.A. and Klewchuk, P. (1994): Pb-Zn-Ba Mineralization at Wilds Creek: Relevance to Stratabound deposits along the western Purcell Anticlinorium, in Northwest Geology, October, 1994

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/15

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE006**

NATIONAL MINERAL INVENTORY:

NAME(S): **LEADVILLE** STAR NO. 1, STAR

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 13 00 N
LONGITUDE: 116 19 16 W
ELEVATION: 1035 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5451764
EASTING: 549440

LOCATION ACCURACY: Within 1 KM

COMMENTS: Common boundary, "Star" and "Sun" #1 claims. See Star (West), 082FSE089.

COMMODITIES: Silver Lead Zinc Copper Gold

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzite
Schist
Gabbro Sill
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1923

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	720.0000	Grams per tonne
Gold	1.4000	Grams per tonne
Copper	0.0500	Per cent
Lead	61.1000	Per cent
Zinc	10.2000	Per cent

COMMENTS: Grab sample of dump material.
REFERENCE: Minister of Mines Annual Report 1923.

CAPSULE GEOLOGY

The Leadville or Star property is on the east side of Goat River, 6 kilometres north of Kitchener. Several exposures of veins have been found extending from the river bottom up the east slope to an elevation of 1370 metres.

The veins are described as being hosted in quartzites of the Aldridge Formation intruded by gabbro of the Moyie intrusions, both units belonging to the Purcell Supergroup of Middle Proterozoic age. Thinly bedded quartzites strike east-northeast and dip 20 degrees to the north. The veins, described variously as quartz-filled fissures and quartz-calcite veinlets, are up to 0.5 metre wide and cut the sedimentary rocks on the dip but are parallel in strike, in close proximity or in places within the gabbro sill. In 1925, the vein had been exposed over a continuous length of 23 metres, dipping 72 degrees to the south.

The veins are irregularly mineralized with galena and minor amounts of sphalerite, chalcopyrite and a little pyrite. Carbonate

CAPSULE GEOLOGY

alteration of the wallrock, likely calcite, accompanies the vein in places and may account for the locally schistose character of the hostrock. Maximum assays from dump material are up to 720 grams per tonne silver, 61.1 per cent lead, 10.2 per cent zinc, 0.05 per cent copper and 1.4 grams per tonne gold (Minister of Mines Annual Report 1923, page 220).

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1956-A50; 1957-61; 1965-A55,198; 1966-217
EMPR BC METAL MM01030
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
EMPR GEM 1969-322,427
EMPR INDEX 3-203; 4-125
GSC MEM 228, p. 60
GSC OF 2721

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

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FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 788
REPORT: RGEN0100

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1949-193; 1950-152; 1951-41,180; 1952-43,195
EMPR BC METAL MM00950
EMPR GEM 1969-322; 1970-446
EMPR INDEX 3-187
EMR MP CORPFILE (Porcupine Goldfields Development and Finance Co.)
GSC MAP 603A
GSC MEM 228, p. 76
GSC OF 929; 2721
GSC P 38-17, p. 15

DATE CODED: 1985/07/24
DATE REVISED: 1995/10/11

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE008**

NATIONAL MINERAL INVENTORY: 082F8 Cu1

NAME(S): **STORM KING (L.3625)**, SUPERIOR, WHISKEY JACK,
GOLDEN KING (L.3624), GEM (L.3631), ANNIE G (L.6339)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F08W
BC MAP:
LATITUDE: 49 29 48 N
LONGITUDE: 116 27 04 W
ELEVATION: 2130 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 3625; claim map.

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5482815
EASTING: 539746

COMMODITIES: Silver Lead Tin Copper Gold
 Tungsten Antimony

MINERALS

SIGNIFICANT: Chalcopyrite Arsenopyrite Pyrite Tetrahedrite Galena
 Scheelite
ASSOCIATED: Quartz Carbonate
ALTERATION: Sericite Diopside
ALTERATION TYPE: Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Replacement
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I13 Sn veins and greisens
 I02 Intrusion-related Au pyrrhotite veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Kitchener	
Middle Cretaceous			Bayonne Batholith

LITHOLOGY: Dolomitic Siltstone
Dolomite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Storm King (Lot 3625) is located at 2130 metres elevation at the head of Goat River, some 3 kilometres south of the summit of White Grouse Mountain and 45 kilometres north of Creston. The Superior claim was also located in this vicinity.

The Superior claim, owned in 1901 by W.J. Garbutt, was apparently located in this vicinity. A considerable amount of work was done (in 1900?) and several tons of ore were packed out a distance of 48 kilometres in order to make a smelter test. Leech (1952) mentions a water filled shaft and trenches on the Storm King property, which may be the old Superior working. The Golden King (Lot 3624), Storm King (Lot 3625), Gem (Lot 3631), and Annie G (Lot 6339) claims were Crown-granted in 1905 to J.A. Gibson, Pugh Sutherland, H.H. Nell, and C.R. Holmes.

Hostrocks are Kitchener Formation dolomitic siltstones (Middle Proterozoic Purcell Supergroup); the sediments strike north and have moderate to steep dips to the west. The property is located 1.5 kilometres from the southeast corner of the Bayonne batholith, an Early Cretaceous granodiorite. The intrusive rocks are medium to coarse grained and contain pink feldspar and minor black tourmaline.

Regional metamorphism is biotite facies of greenschist grade; one small area of diopside, possibly a contact metamorphic effect, was noticed in recent work. Quartz veining is common on the property, occurring in large swarms which are subparallel to the stratigraphy and up to 50 metres wide. Individual veins are up to 1 metre in width and locally contain fine-grained carbonate; the mineralized veins are bounded by weathered brown sericite alteration up to 1 metre in width.

A shaft was sunk on mineralized quartz; the dump contains a small pile of sorted ore heavily mineralized with pyrite,

CAPSULE GEOLOGY

tetrahedrite, galena, and a little chalcopyrite and arsenopyrite. A selected sample rich in galena and tetrahedrite analysed 0.31 per cent tin; recent samples of such material yielded assays of up to 4.5 grams per tonne gold and 310 grams per tonne silver, but barren quartz veins, host dolomites and granodiorite contain no precious metals.

Efforts to find extensions of the zone in trenches do not appear to have been successful. The property was also explored as the Whiskey Jack by Lacana Mining in 1985 for its precious metal and tin potential; mineralization was found to be restricted to local areas within extensive quartz veining, with no interesting values obtained from either the altered wallrocks or in barren-looking quartz veins. No samples yielded positive tin assays, but local high grade antimony assays may be of further interest; furthermore, small occurrences of arsenopyrite north of the Whiskey Jack claim contain scheelite.

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EMPR OF 1999-3; 2000-8
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GSC OF 820
GSC P 52-15, p. 6
GSA Buddington Volume, Leech and Wanless, p. 278

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/08

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE009**

NATIONAL MINERAL INVENTORY:

NAME(S): **COLUMBIA, T.J., GOLDEN FLEECE,
GOLDEN BUG, SCORGIE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

Underground

MINING DIVISION: Fort Steele

LATITUDE: 49 28 00 N
LONGITUDE: 116 07 22 W
ELEVATION: 1700 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5479705
EASTING: 563560

LOCATION ACCURACY: Within 500M

COMMENTS: Detailed location given in Property File (Report by W.V. Smitheringale, 1932) at 1650 to 1710 metres elevation, 1.3 kilometres northwest of Perry Creek.

COMMODITIES: Gold Lead Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Creston	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Quartzite
Argillite
Diorite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1932
SAMPLE TYPE: Chip
COMMODITY GRADE
Gold 1.7000 Grams per tonne

COMMENTS: Average assay over 1 metre; Scorgie tunnel.
REFERENCE: Property File (Report by W.V. Smitheringale, August 1932).

CAPSULE GEOLOGY

The old Columbia showing is located at an elevation of 1710 metres, on the northwest side of Perry Creek, about 300 metres above the valley floor and 1.4 kilometres northwest of Perry Creek. The old workings consisted of the Scorgie tunnel and Columbia shaft, with attendant opencuts.

The main showings consist of a large quartz zone containing irregular and low grade disseminations of pyrite on the hangingwall; to the southeast is a zone of sheared rock with narrow veinlets of quartz carrying mostly irregular lenses of pyrite with some chalcopyrite and galena. The veins are hosted in sedimentary rocks of the Creston Formation (banded quartzite with argillite partings) intruded by dioritic dikes of the Moyie intrusions. Both these units belong to the Purcell Supergroup of Middle Proterozoic age. The diorite is pervasively altered to chlorite and a stockwork of quartz veinlets in places.

Assays range from 0.35 gram per tonne gold over 1.8 metres to 27 grams per tonne gold over 0.4 metre in the Scorgie tunnel, averaging about 1.7 grams per tonne gold over 1 metre; in the Columbia shaft, assays range from 0.35 to 8.6 grams per tonne gold over widths of 1

RUN DATE: 25-Jun-2003
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CAPSULE GEOLOGY

to 1.5 metres, averaging near 3 grams per tonne over 1 metre
(Property File-Report by W.V. Smitheringale, August 1932).

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EMPR AR 1900-797; 1909-275; 1911-288; 1915-109; 1923-207; 1925-230;
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EMPR PF (*Report by W.V. Smitheringale, August 1932; Chapleau
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GSC OF 820
GSC SUM RPT 1932, p. A88

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/08

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE009**

MINFILE NUMBER: **082FSE010**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAKEVIEW (L.14227)**, SANCA

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F07E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 22 12 N
LONGITUDE: 116 43 40 W
ELEVATION: 643 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5468624
EASTING: 519763

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Lot 14227 (Forfeited).

COMMODITIES: Silver Lead Zinc Gold Copper
 Cadmium

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite Pyrite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	
Cretaceous			Bayonne Batholith

LITHOLOGY: Quartzite
Siliceous Limestone
Quartz Diorite
Porphyry Dike

HOSTROCK COMMENTS: Sedimentary rocks are roof pendants in the Bayonne batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional Contact

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Lakeview (Lot 14277) is located on the east shore of Kootenay Lake about 0.5 kilometre south of the mouth of Sanca Creek. The old adit is driven under Highway 3A. The Crown grant was forfeited in June of 1990; the area was recently explored as the Sanka #5 claim (Assessment Report 11988).

The claims are underlain by sedimentary rocks of the Creston Formation, part of the Purcell Supergroup of Middle Proterozoic age. These rocks comprise quartzite and siliceous limestone, and form a roof pendant that is underlain at some depth by quartz diorite of the Cretaceous Bayonne batholith. A narrow porphyry dike is found with the mineralization in places.

On the old Crown grant, a lens of massive sulphide 7 metres long and 1.3 metres wide formed the main part of a system of lensy quartz and calcite veins mineralized with galena, sphalerite and minor pyrite and chalcopyrite. The veins occur in a northerly trending shear zone, some 100 to 150 metres north of the contact of the roof pendant with the surrounding batholith. The dip of the mineralization is steep to the east; the shear zone is from 3 to 6 metres wide.

Intermittent production from 1935 to 1953 resulted in 738 tonnes, yielding 136,698 grams of silver, 155 grams of gold, 231 kilograms of cadmium, 82,687 kilograms of lead and 175,185 kilograms of zinc.

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EMPR ASS RPT 11998
EMPR BC METAL MM01027
EMPR GEM 1970-445
EMPR INDEX 3-202

RUN DATE: 25-Jun-2003
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GSC MEM 228, p. 75
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/24

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE011**

NATIONAL MINERAL INVENTORY:

NAME(S): **GIANT, MIDGET**

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 42 N
LONGITUDE: 116 56 10 W
ELEVATION: 1220 Metres

NORTHING: 5428755
EASTING: 504672

LOCATION ACCURACY: Within 500M

COMMENTS: Vein outcrop, immediately north of Nun Creek and at the west edge of the Priest River canyon, at an elevation of 1220 metres (Minister of Mines Annual Report 1968).

COMMODITIES: Copper Silver Lead

MINERALS

SIGNIFICANT: Pyrite Tetrahedrite Galena
ASSOCIATED: Quartz
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>
Middle Proterozoic	Purcell	Mount Nelson	

LITHOLOGY: Schist

HOSTROCK COMMENTS: Geology from Brown et al. (Fieldwork 1994, page 138).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Selkirk Mountains	
TERRANE: Ancestral North America		
METAMORPHIC TYPE: Regional	RELATIONSHIP:	GRADE: Greenschist
COMMENTS: At boundary from chlorite to biotite-almandine facies.		

CAPSULE GEOLOGY

The Giant (Midget) showing is exposed immediately north of Nun Creek and at the west edge of the Priest River canyon, at an elevation of 1220 metres. The vein strikes northerly and dips very steeply to the west. The vein is composed chiefly of white quartz and is about 3 metres thick where exposed. Scattered grains and masses of sulphides, including pyrite, tetrahedrite and galena are present in the vein.

The wallrocks are described as schists conformable in attitude to the vein; recent mapping shows that they belong to the Mount Nelson Formation, part of the Middle Proterozoic Purcell Supergroup (see Brown et al., Fieldwork 1994). They are regionally metamorphosed to greenschist grade, near the boundary between chlorite and biotite-almandine facies (Geological Survey of Canada Map 1714A).

A small (50 tonne-per-day) mill was set up on the property in 1968, but production was limited to trial runs, and no results are available except that "the vein appeared to contain about 1 per cent each of copper and lead where mining was done" (Minister of Mines Annual Report 1968).

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DATE CODED: 1985/07/24
DATE REVISED: 1995/12/15

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE012**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOMESTAKE**, T.J. 3-6, LUKE

MINING DIVISION: Fort Steele

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 28 12 N
LONGITUDE: 116 07 04 W
ELEVATION: 1566 Metres

NORTHING: 5480080
EASTING: 563918

LOCATION ACCURACY: Within 1 KM

COMMENTS: From description in GSC Summary Report 1932 Part A, page 88.

COMMODITIES: Gold Lead Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Creston	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Slate
Diorite Sill
Limy Sediment/Sedimentary
Quartzite
Phyllitic Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Gold 10.3000 Grams per tonne
COMMENTS: Best results of drilling program over 1.0 metre.
REFERENCE: Assessment Report 15649.

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1932
SAMPLE TYPE: Chip
COMMODITY GRADE
Gold 3.4000 Grams per tonne
COMMENTS: Average assays over a width of 1.5 metres.
REFERENCE: Property File (Report by W.V. Smitheringale, 1932).

CAPSULE GEOLOGY

The Homestake showings are located on the west side of Perry Creek between Liverpool and Manchester creeks at about 1570 metres elevation. The old showings, first reported on in 1915, have recently been explored for gold as part of the Perry Creek property of Gallant Gold Mines Ltd. (specifically, on the Luke claims). The area is underlain by sedimentary rocks of the Middle Creston Formation intruded at their (faulted) contact with Kitchener Formation by Moyie diorite sills; all these units belong to the Purcell Supergroup of Middle Proterozoic age.

The showings consist of numerous irregular quartz veins and lenses with a little carbonate and predominantly disseminated pyrite

CAPSULE GEOLOGY

(plus minor galena and chalcopyrite), lying in a shear zone mainly in a dioritic sill or dike. The dike intersects thinly bedded slates, limy sediments and minor quartzite beds of the Middle Creston Formation and phyllitic argillites, or slate, of the Kitchener Formation. The dike is pervasively chloritized and silicified with a network of quartz veinlets in places.

Quartz veins assay up to 1.7 grams per tonne gold over a width of 3 metres, although picked material yields as much as 10 grams per tonne gold (Minister of Mines Annual Report 1915). Sampling by W.V. Smitheringale (report in Property File, dated August 1932) gives values from 0.3 to 69.6 grams per tonne gold, averaging 3.4 grams per tonne gold, over a width of 1.5 metres. Recent drilling by Gallant Gold Mines defined the silicified fault system anomalous in gold for at least 200 metres with a true width of about 7 metres; best results yielded a 1.0 metre assaying 10.3 grams per tonne gold.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR AR *1915-108; 1916-190; 1921-127,166; 1922-188; *1923-207;
*1925-230; 1926-243; *1929-297; 1930-242; 1938-E15
EMPR ASS RPT 7103, 7723, 8598, *13007, 14212, *15649, 23022
EMPR EXPL 1978-E58; 1979-64
EMPR GEM 1973-66
EMPR PF (*Report by W.V. Smitheringale, 1932)
GSC MEM 228, p. 68
GSC OF 820
GSC SUM RPT 1932 Part A, p. 88
GCNL #161,#190, 1993

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/08

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE013**

NATIONAL MINERAL INVENTORY:

NAME(S): **KID 3**, BOO, GOBI,
LINC

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 12 00 N
LONGITUDE: 116 14 58 W
ELEVATION: 1125 Metres

NORTHING: 5449960
EASTING: 554677

LOCATION ACCURACY: Within 500M
COMMENTS: Centre of "Kid" #3, (Assessment Report 1069).

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrrhotite
ASSOCIATED: Quartz
ALTERATION: Sericite
COMMENTS: Sericite alteration is assumed from description of "bleaching".
ALTERATION TYPE: Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Kid 3 prospect is adjacent to the Star (082FSE002) on the west; regional and detailed geology are as described for the Star. On the Kid property, galena, sphalerite and pyrrhotite are disseminated in argillaceous quartzite of the Middle Proterozoic Purcell Supergroup and as lenses in quartz veins. There are also minor amounts of galena and sphalerite as replacements and fracture filling, and in quartz veins. The quartzites are bleached in proximity to the mineralization, assumed to be sericitic alteration.

BIBLIOGRAPHY

EM GEOS MAP 1998-2
EMPR AR 1967-248
EMPR ASS RPT 1069, 1625, 1642, 7481, 12856
EMPR EXPL 1978-E47
EMPR FIELDWORK 1993, pp. 129-151; 1997, pp. 9-1-9-22
EMPR PF (Report by Master, P.P. (1974): LINC claims)

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/24

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE014**

NATIONAL MINERAL INVENTORY: 082F1 Fe1

NAME(S): **GOLDEN CAP (L.5544)**, CPR, KITCHENER IRON ORE DEPOSITS,
IRON RANGE SHOWINGS

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08W 082F01W
BC MAP:
LATITUDE: 49 15 12 N
LONGITUDE: 116 24 40 W
ELEVATION: 1750 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Tunnel; GSC Economic Geology Series 3.

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5455785
EASTING: 542854

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Hematite Magnetite Pyrite

ASSOCIATED: Quartz Hematite

ALTERATION: Chlorite Hematite

COMMENTS: Chloritic shearing is generally associated with the margins of the dike and hematitization.

ALTERATION TYPE: Chloritic Hematite
MINERALIZATION AGE: Middle Proterozoic

DEPOSIT

CHARACTER: Stockwork Vein
CLASSIFICATION: Industrial Min. Hydrothermal Epigenetic

TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

COMMENTS: Mineralized zone strikes 350 degrees and dips 75 degrees west, associated with a subparallel gabbro dike.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Quartzite
Siltstone
Argillite
Gabbro
Gabbro Dike
Gabbro Sill

HOSTROCK COMMENTS: Iron Range mineralization believed to be related to Moyie intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

COMMENTS: Iron Range mineralization likely pre-Middle Proterozoic metamorphism.

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: Post-mineralization

GRADE: Greenschist

CAPSULE GEOLOGY

The Golden Cap (Lot 5544) is at the extreme north end of the Iron Range fault which, as described by Stinson and Brown (1994), is closely associated with a dike or dikes of Moyie gabbro intruding quartzite, siltstone and argillite of the Aldridge Formation and with chloritic alteration. Both these rock groups belong to the Purcell Supergroup of Middle Proterozoic age.

Mineralization exposed in an adit on the Golden Cap consists of veins of hematite and quartz cutting a Moyie gabbro dike containing crystals of magnetite. Shearing along the margins of the dike is associated with chloritic alteration of both sedimentary rocks and the dike, and minor pyrite.

BIBLIOGRAPHY

EM FIELDWORK 1999, pp. 267-272
EMPR AR 1901-1033; 1902-298; 1910-107; 1919-137; 1921-147
EMPR FIELDWORK 1993, pp. 129-151; 1994, p. 126
GSC EC GEOL 3, p. 135
GSC MEM 228, p. 61
GSC P 38-17, p. 12
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE014**

MINFILE NUMBER: **082FSE015**

NATIONAL MINERAL INVENTORY: 082F1 Fe1

NAME(S): **UNION JACK (L.5765)**, CPR, KITCHENER IRON ORE DEPOSITS,
IRON RANGE SHOWINGS

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08W 082F01W
BC MAP:
LATITUDE: 49 15 12 N
LONGITUDE: 116 24 28 W
ELEVATION: 1725 Metres

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5455787
EASTING: 543096

LOCATION ACCURACY: Within 500M
COMMENTS: Showings on Lot 5765; GSC Economic Geology Series 3. Although this showing is on map 082FO8W, it is immediately adjacent to other showings on map 082FO1W that are listed as 082F1 Fe1.

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Hematite
ALTERATION: Chlorite
COMMENTS: Chloritic alteration is regionally associated with the Iron Range fault.
ALTERATION TYPE: Chloritic
MINERALIZATION AGE: Middle Proterozoic

DEPOSIT

CHARACTER: Stockwork Vein
CLASSIFICATION: Industrial Min. Hydrothermal Epigenetic
TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$
COMMENTS: Associated with the Iron Range fault, which strikes 350 degrees and dips 75 degrees west.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Mineralization believed to be pre-metamorphism.

PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP: Post-mineralization
GRADE: Greenschist

CAPSULE GEOLOGY

Relatively little is known about the Union Jack (Lot 5765) showings, which lie at the north end of the Iron Range fault and associated chloritic alteration. The showings are hosted in altered Aldridge Formation quartzite (Middle Proterozoic Purcell Supergroup) that contain thin veins and seams of hematite.

BIBLIOGRAPHY

EMPR AR 1901-1033; 1910-107; 1919-137; 1921-147
EMPR FIELDWORK 1993, pp. 129-151; 1994, p. 126
GSC EC GEOL 3, p. 136
GSC MEM 228, p. 61
GSC P 38-17, p. 12

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Formation in the vicinity of the northern showings consists of well bedded quartzofeldspathic wacke and laminated siltstone, which develop a phyllitic sericite foliation near the fault. Locally, sericite alteration extends preferentially along specific bedding horizons. The gabbro dikes and/or sills in the area, which belong to the Middle Proterozoic Moyie intrusions, are preferentially mineralized.

Mineralization consists of massive to disseminated hematite, locally with magnetite, in steeply dipping, 0.3-0.6 metre wide veins, broader stockworks of thin veinlets, breccia matrix and disseminated grains. Gabbro hostrocks are strongly albitized and the siltstones exhibit sericitic +/- silicic alteration. Sulphide mineralization is sparse except in the area north of the American Flag occurrence where pyrite clots occur within a foliated mafic dike. The zone of mineralization pinches and swells along strike from narrow (0.5 metre wide) veins within sheared rock, to a broad (100 metres or more) zone of multiple veining and alteration. Depth and downdip extension of this system is unknown.

A sample taken across 3 metres of the American Flag shaft contained 55 per cent metallic iron (Geological Survey of Canada, Economic Geology Series 3, page 132).

Crosscutting relationships suggest multiple phases of hydrothermal fluids injected into the fault zone. Early quartz veins are commonly brecciated, with fragments enclosed in a hematite matrix. Early albitization is crosscut by hematite veining and angular albitized clasts float in later hematite veining. Later stage white and colourless quartz veinlets commonly crosscut both albite alteration and hematite veining.

BIBLIOGRAPHY

EMPR AR 1901-1033; 1910-107; 1919-137; 1921-147
EMPR FIELDWORK *1993, pp. 129-151; 1994, p. 126
GSC EC GEOL *3, p. 132
GSC MEM 228, p. 61
GSC OF 2721
GSC P 38-17, p. 12

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

having an irregular outcrop pattern and width of 0.3 to 1 metre. It contains abundant, rounded inclusions of carbonate, possible ultramafic lithologies, and xenoliths of Aldridge Formation. There are petrographic similarities to diatreme breccias in the Golden area, which are ultramafic lamprophyre and alnoite. One of the dikes on the northern part of the Iron Range yielded a Late Carboniferous potassium-argon date of 301 +/- 10 million years.

At this occurrence, the iron zone is 5.5 metres wide and a representative sample contained 55.2 per cent iron (Geological Survey of Canada Economic Geology Series 3). The wallrock on both sides of the mineralized zone is quartzite heavily impregnated with iron.

BIBLIOGRAPHY

EMPR AR 1901-1033; 1910-107; 1919-137; 1921-147
EMPR FIELDWORK *1993, pp. 129-151; 1994, pp. 119,126
GSC EC GEOL *3, p. 132
GSC MEM 228, p. 61
GSC OF 2721
GSC P 38-17, p. 12

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 806
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1898-1084; 1901-1033; 1902-300; 1910-107; 1919-137; 1921-147
EMPR FIELDWORK *1993, pp. 129-151; 1994, pp. 111-125, 126-131
GSC EC GEOL *3, p. 132
GSC P 38-17, p. 12
GSC OF 2721
GSC MEM 228, p. 61

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSE019**

NATIONAL MINERAL INVENTORY: 082F1 Fe1

NAME(S): **KEEPSAKE (L.5774), CPR, IRON RANGE SHOWINGS,
KITCHENER IRON ORE DEPOSITS**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 13 54 N
LONGITUDE: 116 24 10 W
ELEVATION: 1859 Metres

NORTHING: 5453381
EASTING: 543479

LOCATION ACCURACY: Within 500M

COMMENTS: The Keepsake occurrence is centred on an opencut on the southern portion of the Keepsake claim (Geological Survey of Canada Economic Geology 3).

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Hematite Magnetite
ALTERATION: Sericite Albite Silica

COMMENTS: Inferred from nearby American Flag occurrence (082FSE016).

ALTERATION TYPE: Sericitic Albitic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia Disseminated
CLASSIFICATION: Hydrothermal Industrial Min.
TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Middle Proterozoic
Middle Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Quartzite
Quartzofeldspathic Wacke
Siltstone
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1930

SAMPLE TYPE: Channel

COMMODITY

GRADE

Iron

46.0000 Per cent

COMMENTS: Sample across 2.4 metres.

REFERENCE: Geological Survey of Canada, Economic Geology 3, page 132.

CAPSULE GEOLOGY

The Keepsake occurrence is part of the Iron Range showings, located near the crest of the ridge that is west of and parallel to the Goat River. The location is centred on an early 1920s opencut within the southern portion of the Keepsake claim, at the headwaters of Crackerjack Creek.

The regional geology, deposit description and local geology for this occurrence is similar to that of the American Flag occurrence (082FSE016) which lies approximately 1500 metres to the north.

The hematite is partly massive and partly a mixture of minute grains of quartz in a hematite matrix. This zone is hosted in the Middle Proterozoic Middle Aldridge Formation along the north trending, subvertical Iron Range fault zone. The Aldridge Formation in the vicinity of the showings consists of well bedded quartzofeldspathic wacke, laminated siltstone and quartzite, intruded by the Middle Proterozoic Moyie intrusions (gabbro).

At this occurrence, the iron zone is 2.4 metres wide at the north end and 1.2 metres at the south end. A sample taken across 2.4 metres of iron mineralization contained 46 per cent iron (Geological

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 808
REPORT: RGEN0100

CAPSULE GEOLOGY

Survey of Canada Economic Geology Series 3). Quartz veining is common in the immediate area and the surrounding country rock has a brecciated appearance.

BIBLIOGRAPHY

EMPR AR 1898-1084; 1901-1033; 1902-300; 1910-107; 1919-137; 1921-147
EMPR FIELDWORK *1993, pp. 129-151; 1994, pp. 126-131
GSC EC GEOL *3, p. 132
GSC MEM 228, p. 61
GSC OF 2721
GSC P 38-17, p. 12

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE020**

NATIONAL MINERAL INVENTORY: 082F1 Fe1

NAME(S): **RHODESIA (L.5775), CPR, IRON RANGE SHOWINGS,
KITCHENER IRON ORE DEPOSITS**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 13 48 N
LONGITUDE: 116 24 10 W
ELEVATION: 1875 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5453196
EASTING: 543481

LOCATION ACCURACY: Within 500M

COMMENTS: The Rhodesia occurrence is centred on a trench about 229 metres south of the Keepsake opencut (082FSE019) (Geological Survey of Canada Economic Geology 3).

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Hematite
ALTERATION: Sericite Albite Silica

COMMENTS: Inferred from nearby American Flag occurrence (082FSE016).

ALTERATION TYPE: Sericitic Albitic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia Disseminated
CLASSIFICATION: Hydrothermal Industrial Min.
TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzite
Quartzofeldspathic Wacke
Siltstone
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Rhodesia occurrence is part of the Iron Range showings, located near the crest of the ridge that is west of and parallel to the south flowing portion of the Goat River. The location is centred on an early 1920s trench at the headwaters of Crackerjack Creek.

The regional geology, deposit description and local geology for this occurrence is similar to that of the American Flag occurrence (082FSE016) which lies approximately 2000 metres to the north.

The hematite is partly massive and partly a mixture of minute grains of quartz in a hematite matrix. This zone is hosted in the Middle Proterozoic Middle Aldridge Formation along the north trending, subvertical Iron Range fault zone. The Aldridge Formation in the vicinity of the showings consists of well bedded quartzofeldspathic wacke, laminated siltstone and quartzite, intruded by Middle Proterozoic Moyie intrusions (gabbro).

This occurrence consists of two trenches that reveal mineralized rock along strike of the Keepsake occurrence (082FSE019).

BIBLIOGRAPHY

EMPR AR 1898-1084; 1901-1033; 1902-300; 1910-107; 1919-137; 1921-147
EMPR FIELDWORK *1993, pp. 129-151; 1994, pp. 126-131
GSC EC GEOL *3, p. 132
GSC MEM 228, p. 61
GSC OF 2721
GSC P 38-17, p. 12

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSE021**

NATIONAL MINERAL INVENTORY: 082F1 Fe1

NAME(S): **LA GRANDE (L.5776)**, CPR, IRON RANGE SHOWINGS,
KITCHENER IRON ORE DEPOSITS

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 13 24 N
LONGITUDE: 116 24 04 W
ELEVATION: 1890 Metres

NORTHING: 5452456
EASTING: 543608

LOCATION ACCURACY: Within 500M

COMMENTS: The La Grande occurrence is centred on a mineralized outcrop on the La Grande claim (Geological Survey of Canada Economic Geology 3).

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Hematite

ALTERATION: Silica Sericite Albite

COMMENTS: Inferred from nearby American Flag occurrence (082FSE016).

ALTERATION TYPE: Silicific'n Sericitic Albitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia Disseminated

CLASSIFICATION: Hydrothermal Industrial Min.

TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzofeldspathic Wacke
Siltstone
Quartzite
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The La Grande occurrence is part of the Iron Range showings, located near the crest of the ridge that is west of and parallel to the south flowing portion of the Goat River. The location is centred on a mineralized zone a couple of metres thick at the headwaters of Crackerjack Creek.

The regional geology, deposit description and local geology for this occurrence is similar to that of the American Flag occurrence (082FSE016) which lies approximately 2750 metres to the north.

The mineralization occurs as a zone of siliceous hematite that is a couple of metres thick and has an outcrop length of 76 metres. This zone is hosted in the Middle Proterozoic Middle Aldridge Formation along the north trending, subvertical Iron Range fault zone. The Aldridge Formation in the vicinity of the showings consists of well bedded quartzofeldspathic wacke, laminated siltstone and quartzite, intruded by the Middle Proterozoic Moyie intrusions (gabbro).

BIBLIOGRAPHY

EMPR AR 1898-1084; 1901-1033; 1902-300; 1910-107; 1919-137; 1921-147
EMPR FIELDWORK *1993, pp. 129-151; 1994, pp. 126-131
GSC EC GEOL *3, p. 132
GSC MEM 228, p. 61
GSC OF 2721
GSC P 38-17, p. 12

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSE022**

NATIONAL MINERAL INVENTORY: 082F1 Fe1

NAME(S): **CRACKER JACK (L.5778)**, CPR, IRON RANGE SHOWINGS,
KITCHENER IRON ORE DEPOSITS

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 13 12 N
LONGITUDE: 116 24 04 W
ELEVATION: 1844 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5452085
EASTING: 543611

LOCATION ACCURACY: Within 500M

COMMENTS: The Cracker Jack occurrence is centred on an exposure of mineralized quartzites on the Cracker Jack claim (Geological Survey of Canada Economic Geology 3).

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Hematite

ASSOCIATED: Quartz

ALTERATION: Sericite Albite Silica

COMMENTS: Inferred from the American Flag occurrence (082FSE016).

ALTERATION TYPE: Sericitic Albitic Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia Disseminated
CLASSIFICATION: Hydrothermal Industrial Min.
TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzite
Quartzofeldspathic Wacke
Siltstone
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Cracker Jack occurrence is part of the Iron Range showings, located near the crest of the ridge that is west of and parallel to the south flowing portion of the Goat River. The location is centred on mineralization at the headwaters of Crackerjack Creek.

The regional geology, deposit description and local geology for this occurrence is similar to that of the American Flag occurrence (082FSE016) which lies approximately 3000 metres to the north.

The mineralization occurs as several small exposures of quartzite impregnated with vein quartz and hematite. The hematite forms seams up to 18 centimetres thick. This zone is hosted in the Middle Proterozoic Middle Aldridge Formation along the north trending, subvertical Iron Range fault zone. The Aldridge Formation in the vicinity of this showing consists of well bedded quartzofeldspathic wacke and laminated siltstone intruded by Middle Proterozoic Moyie intrusions (gabbro).

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GSC MAP 603A
GSC MEM 228, p. 61
GSC OF 929; 2721
GSC P 38-17, p. 12

DATE CODED: 1985/07/24
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FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSE022**

MINFILE NUMBER: **082FSE023**

NATIONAL MINERAL INVENTORY: 082F1 Fe1

NAME(S): **DAKOTA (L.5783), CPR, IRON RANGE SHOWINGS,
KITCHENER IRON ORE DEPOSITS**

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 12 30 N
LONGITUDE: 116 23 58 W
ELEVATION: 1831 Metres

NORTHING: 5450789
EASTING: 543743

LOCATION ACCURACY: Within 500M

COMMENTS: The Dakota occurrence is centred on an opencut on the Dakota claim (Geological Survey of Canada Economic Geology 3).

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Hematite
ALTERATION: Sericite Albite Silica
COMMENTS: Inferred from the American Flag occurrence (082FSE016).
ALTERATION TYPE: Sericitic Albitic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia Disseminated
CLASSIFICATION: Hydrothermal Industrial Min.
TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzofeldspathic Wacke
Siltstone
Gabbro
Quartzite
Gabbro Sill
Gabbro Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The Dakota occurrence is part of the Iron Range showings, located near the crest of the ridge that is west of and parallel to the south flowing portion of the Goat River. The location is centred on an opencut at the headwaters of Crackerjack Creek.

The regional geology, deposit description and local geology for this occurrence is similar to that of the American Flag occurrence (082FSE016) which lies approximately 4200 metres to the north.

The opencut exposes altered rock veined with quartz and bearing films and seams of hematite. This zone is hosted in the Middle Proterozoic Middle Aldridge Formation along the north trending, subvertical Iron Range fault zone. The Aldridge Formation in the vicinity of this showing consists of well bedded quartzofeldspathic wacke, laminated siltstone and quartzite. Gabbroic sills and dikes of the Middle Proterozoic Moyie intrusions also occur in the area.

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GSC MAP 603A
GSC MEM 228, p. 61
GSC OF 929; 2721
GSC P 38-17, p. 12

DATE CODED: 1985/07/24
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REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSE024**

NATIONAL MINERAL INVENTORY: 082F1 Fe1

NAME(S): **IDAHO (L.5784)**, CPR, IRON RANGE SHOWINGS,
KITCHENER IRON ORE DEPOSITS

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:
LATITUDE: 49 12 18 N
LONGITUDE: 116 23 58 W
ELEVATION: 1707 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Idaho occurrence is centred on an exposure containing iron mineralization on the Idaho claim (Geological Survey of Canada Economic Geology 3).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5450419
EASTING: 543745

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Hematite
ALTERATION: Sericite Albite Silica
COMMENTS: Inferred from the American Flag occurrence (082FSE016).
ALTERATION TYPE: Sericitic Albitic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia Disseminated
CLASSIFICATION: Hydrothermal Industrial Min.
TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Quartzofeldspathic Wacke
Siltstone
Gabbro
Quartzite
Gabbro Sill
Gabbro Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Idaho occurrence is part of the Iron Range showings, located near the crest of the ridge that is west of and parallel to the south flowing portion of the Goat River. The location is centred on an open cut on the eastern slope, near the ridge between Crackerjack Creek and Six Mile Creek.

The regional geology, deposit description and local geology for this occurrence is similar to that of the American Flag occurrence (082FSE016) which lies approximately 4500 metres to the north.

Hematite mineralization occurs within a quartz-seamed zone that outcrops for a length of 30 metres in a north-south direction. This zone is hosted in the Middle Proterozoic Middle Aldridge Formation along the north trending, subvertical Iron Range fault zone. The Aldridge Formation in the vicinity of the showings consists of well bedded quartzofeldspathic wacke, laminated siltstone and quartzite. Gabbroic sills and dikes of the Middle Proterozoic Moyie intrusions also occur in the area.

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GSC MAP 603A
GSC MEM 228, p. 61
GSC OF 929; 2721

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FIELD CHECK: Y

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GSC MAP 603A
GSC MEM 228, p. 61
GSC OF 929; 2721
GSC P 38-17, p. 12

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
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FIELD CHECK: N
FIELD CHECK: Y

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BIBLIOGRAPHY

GSC P 38-17, p. 12

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSE027**

NATIONAL MINERAL INVENTORY: 082F1 Fe1

NAME(S): **NIAGARA**, CPR (L.12535), IRON RANGE SHOWINGS,
KITCHENER IRON ORE DEPOSITS

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:
LATITUDE: 49 10 34 N
LONGITUDE: 116 23 50 W
ELEVATION: 1509 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Niagara occurrence is centred on a showing of hematite-bearing igneous rocks (Geological Survey of Canada Economic Geology 3).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5447208
EASTING: 543933

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Hematite
ALTERATION: Sericite Albite Silica
COMMENTS: Inferred from the American Flag occurrence (082FSE016).
ALTERATION TYPE: Sericitic Albitic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia Disseminated
CLASSIFICATION: Hydrothermal Industrial Min.
TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Gabbro
Quartzofeldspathic Wacke
Siltstone
Quartzite
Gabbro Sill
Gabbro Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Niagara occurrence is part of the Iron Range showings, located near the crest of the ridge that is west of and parallel to the south flowing portion of the Goat River. The location is centred on a showing of hematite-bearing igneous rocks on the eastern slope of the ridge, south of Six Mile Creek and north of Highway 3. The regional geology, deposit description and local geology for this occurrence is similar to that of the American Flag occurrence (082FSE016) which lies approximately 8 kilometres to the north. Iron mineralization occurs as hematite within gabbroic sills and dikes of the Middle Proterozoic Moyie intrusions. This zone is hosted in the Middle Proterozoic Middle Aldridge Formation along the north trending, subvertical Iron Range fault zone. The Aldridge Formation in the vicinity of the showings consists of well bedded quartzofeldspathic wacke, laminated siltstone and quartzite.

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GSC MEM 228, p. 61
GSC OF 929; 2721
GSC P 38-17, p. 12

DATE CODED: 1985/07/24
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FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSE028**

NATIONAL MINERAL INVENTORY: 082F1 Fe1

NAME(S): **CONSTELLATION (L.9699)**, CPR, IRON RANGE SHOWINGS,
KITCHENER IRON ORE DEPOSITS

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 10 24 N
LONGITUDE: 116 23 33 W
ELEVATION: 1433 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5446902
EASTING: 544280

LOCATION ACCURACY: Within 500M

COMMENTS: The Constellation occurrence is centred on a narrow open-cut with hematite mineralization (Geological Survey of Canada Economic Geology 3).

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Hematite
ALTERATION: Silica Sericite Albite

COMMENTS: Inferred from the American Flag occurrence (082FSE016).

ALTERATION TYPE: Silicific'n Sericitic Albitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Vein Stockwork Breccia
CLASSIFICATION: Hydrothermal Industrial Min.
TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Middle Proterozoic
Middle Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Quartzofeldspathic Wacke
Quartzite
Siltstone
Gabbro
Gabbro Sill
Gabbro Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Constellation occurrence is part of the Iron Range showings which are located near the crest of the ridge that is west of and parallels the south flowing portion of the Goat River. This occurrence is centred on a narrow open-cut with hematite mineralization, located on the eastern slope of the ridge, south of Six Mile Creek and north of Highway 3.

The regional geology, deposit description and local geology for this occurrence is similar to that of the American Flag occurrence (082FSE016) which lies approximately 8300 metres to the north.

Iron mineralization occurs as massive hematite within siliceous country rocks. This zone is hosted in the Middle Proterozoic Middle Aldridge Formation along the north trending, subvertical Iron Range fault zone. The Aldridge Formation in the vicinity of the showings consists of well bedded quartzofeldspathic wacke, laminated siltstone and quartzite with gabbroic sills and dikes belonging to the Middle Proterozoic Moyie intrusions.

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GSC MEM 228, p. 61
GSC OF 929; 2721

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REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSE029**

NATIONAL MINERAL INVENTORY:

NAME(S): **PROSPECTOR'S DREAM (L.3772A)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:
LATITUDE: 49 25 30 N
LONGITUDE: 116 01 58 W
ELEVATION: 1900 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 3772A; claim map.

Underground

MINING DIVISION: Fort Steele

UTM ZONE: 11 (NAD 83)

NORTHING: 5475152
EASTING: 570141

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Gold
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Mesothermal
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Argillite
Quartzite
Gabbro Sill
Gabbro Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Metamorphism assumed pre-mineralization: compare to Weaver, 082FSE116.

PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP: Pre-mineralization
GRADE: Greenschist

INVENTORY

ORE ZONE: VEINS

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1986

COMMODITY: Gold

GRADE: 13.5000 Grams per tonne

COMMENTS: Quartz veins up to 1 metre thick.
REFERENCE: Assessment Report 22052.

CAPSULE GEOLOGY

The Prospector's Dream is an old showing discovered in 1898 and recently re-examined for its gold potential. It is located in an area of known placer gold production and lode gold showings (e.g. the David, 082FSE108; Weaver, 082FSE116; and the Perry Creek area 10 kilometres to the northwest).

Hostrocks are Middle Proterozoic Aldridge Formation argillite and quartzite of the Purcell Supergroup, intruded by gabbro sills and dikes of Middle Proterozoic Moyie intrusions.

Showings consist of one or more veins of vuggy white quartz containing a little pyrite (partly oxidized to limonite) and free gold. The quartz is rusty and broken (sheared) in places.

In the shaft area, a quartz vein assayed 9.5 grams per tonne gold over a width of 0.33 metre (grab samples assayed up to 46 grams per tonne gold) (Assessment Report 22052).

In the decline area, a shear zone in Moyie gabbro contains quartz veins of variable thickness up to 1 metre; grab samples assayed up to 73 grams per tonne gold, and chip samples assayed up to 13.5 grams per tonne gold over a width of 1 metre (Assessment Report 22052). Float from other veins discovered on the property assayed from 0.1 to 35.3 grams per tonne gold (Assessment Report

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CAPSULE GEOLOGY

22052).

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GSC OF 820; 929; 2721
GSC P 37-21, p. 21

DATE CODED: 1985/07/24
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REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

to Harrison and Risdon for 10 claims, the Bayonne, Oxford, Maryland (Lots 5083-5085 respectively), Delaware, Columbus, Ohio (Lots 5960-5962), Kentucky (Lot 5966), New Jersey (Lot 5967), Virginia (Lot 6887) and Illinois (Lot 6888).

During 1904 the property was acquired by a syndicate of Butte Montana interests who formed Bayonne Gold Mines, Limited. Intermittent development work to 1911 included an upper drift adit on the Bayonne claim, a drift adit on the Ohio claim, and a low-level crosscut driven from the Virginia claim; the workings totalled about 509 metres. The Skookum claim (Lot 9360), located in 1902 and surrounded by the Bayonne and Echo groups, was Crown-granted to J. Campbell in 1913. No further activity was reported until the 1921-23 period when J.B. White & associates of Spokane held an option and carried out further underground work.

From incomplete records it appears that a new company, The Bayonne Gold Mines, Limited was organized in the 1920's in the USA to acquire the property. Development work during 1929-30 was financed by J.B. Gerrard, of New York; by 1930 the workings totalled about 1000 metres of drifts and crosscuts. In 1934 the property was under option to A.C. Frost, of Seattle.

Bayonne Consolidated Mines, Ltd., incorporated April 1935, purchased the Bayonne property for \$100,000 payable out of production; the adjoining Echo group was acquired by the company in about 1936. The Echo group was owned in 1904 by W. Maher, H. Anderson, and J. Baugh, of Nelson. Trenching, ground sluicing, and at least 250 feet of underground work was done in one or more adits during the initial period of exploration. In 1922 the Echo group of 6 claims, the Echo, Echo Fr., Ontario, Portland, St. Elmo, and Idaho (Lots 13014-13019 respectively) were Crown-granted to Harris Ginsberg.

By a December 1935 agreement Grull-Wihksne Gold Mines, Limited acquired a half interest in the Bayonne Consolidated properties. Grull supplied mill equipment from a Bridge River area property and a 50 ton per day cyanide mill was installed and put into operation on November 3, 1936. Development work failed to locate additional ore and depletion of the known reserves led to the closing of the mill on October 31, 1938.

Underground exploration and development during 1939-40 outlined additional reserves at depth and milling operations were resumed in April 1940; the mine closed August 1, 1942 for the duration of the war. Work resumed on the property in August 1945 when shaft sinking from No. 8 level was begun. Milling operations were resumed in May 1946 and continued until July of that same year when the mine closed due to labour and material shortages. The workings at that time comprised 7 adit levels at vertical intervals of about 30 metres, connected by raises.

An internal shaft was sunk 170 feet from the lowest adit (No. 8 level) and No. 9 level established at a depth of 30 metres in the shaft. Underground work during the period 1936 included approximately 2396 metres of drifting and crosscutting, and 229 metres of raising. Lessees worked the property intermittently between 1947 and 1951, removing about 1,000 tons of ore from the workings. The property reportedly reverted to the Crown in 1957.

The construction of the Salmo-Creston highway up Summit Creek, about 6.4 kilometres to the south of the property, led to renewed interest in the area in the 1960's. Bayonne Mine Ltd., incorporated July 1962, acquired 17 Crown-grants of the Bayonne and Echo groups, and 25 recorded claims. During 1963 the company carried out rehabilitation work in No. 8 adit, underground sampling, and site preparation for the installation of a flotation mill. Reserves were reported at 11,000 tons valued at \$50 per ton (Northern Miner, Oct. 17, 1963).

The property was held for a short period in 1968 by Liberty Mines Ltd. but no work was done and the option was later terminated.

In 1975 R.A. Sostad acquired the Bayonne, Columbia, Ohio, New Jersey, Virginia, and Skookum Crown-grants, and 11 reverted Crown-grants comprising the Bayonne and Echo groups. In February 1980 the claims were transferred to Goldrich Resources Inc. Reserves were estimated at approximately 17,200 tons (G.L. Mill, 04/01/80 in VSE AL 213/80, Goldrich Mines L.). Work began on the property in 1980.

The Bayonne mine is a small historic producer (80,903 tonnes averaging 16.1 grams per tonne gold and 38.4 grams per tonne silver) from small (0.1-0.5 metre) quartz-filled fissure veins. The veins occur in biotite hornblende granodiorite of the Bayonne batholith which is altered to a talc-carbonate rock for 0.5-1.0 metre on either side of the fissure. The fissure contains one or more quartz veins with mineralization in well-defined shoots. An oxidized zone extends down the veins for 137 metres where it is abruptly truncated by unoxidized primary sulphides. Mineralization consists of pyrite,

CAPSULE GEOLOGY

galena, sphalerite, chalcopyrite, tetrahedrite with minor free gold, hessite and petzite.

Recent work included rehabilitation by Goldrich Resources over the period 1980-1987. A shipment of 39 tonnes averaging 5.1 grams per tonne gold, 41.1 grams per tonne silver, 0.4 per cent lead, 0.2 per cent zinc and 78.3 per cent silica was made to the Cominco smelter at Trail. Further geochemical, geophysical (VLF-EM) and trenching work was done under an option agreement with Terra Mines Ltd. over the 1987-1990 period.

Reserves calculated in 1983 were 28,186 tonnes proven, 28,186 tonnes possible and 45,000 to 63,500 tonnes inferred. Proven and possible ore averages 15 and 25.7 grams per tonne gold and silver, respectively, over 0.5 metre width (GCNL May 27, 1983).

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DATE CODED: 1985/07/24
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REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE031**

NATIONAL MINERAL INVENTORY: 082F2 Au1

NAME(S): **ECHO (L.13014)**, BAYONNE (L.5083), ECHO FR. (L.13015),
ONTARIO (L.13016), PORTLAND (L.13017), ST. ELMO (L.13018),
IDAHO (L.13019)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:
LATITUDE: 49 08 54 N
LONGITUDE: 116 57 04 W
ELEVATION: 2000 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of "Echo" claim group (Lot 13014); Minister of Mines Annual Report 1937.

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5443947
EASTING: 503565

COMMODITIES: Gold Lead

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Biotite Hornblende Granodiorite
Felsic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Staurolite-kyanite-sillimanite amphibolite grade in the Mine stock.

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Pre-mineralization
GRADE: Amphibolite

CAPSULE GEOLOGY

The Echo property adjoins the Bayonne (082FSE030) on the south; the main vein lies about 0.75 kilometre south of the Bayonne vein, at an elevation of about 2000 metres on the southwest flank of John Bull Mountain. It is one of a group of showings that collectively comprise the Bayonne mine area.

Bayonne Consolidated Mines, Ltd., incorporated April 1935, purchased the Bayonne property for \$100,000 payable out of production; the adjoining Echo group was acquired by the company in about 1936. The Echo group was owned in 1904 by W. Maher, H. Anderson, and J. Baugh, of Nelson. Trenching, ground sluicing, and at least 250 feet of underground work was done in one or more adits during the initial period of exploration. In 1922 the Echo group of 6 claims, the Echo, Echo Fr., Ontario, Portland, St. Elmo, and Idaho (Lots 13014-13019 respectively) were Crown-granted to Harris Ginsberg. See Bayonne (082FSE030) for additional exploration and development details.

Hostrock to the veins is biotite hornblende granodiorite of the Mine stock, belonging to the Nelson intrusions of Middle Jurassic age. The main Echo quartz vein strikes east-west, dips 85 degrees south and has been exposed over a horizontal distance of at least 50 metres and a vertical distance of 16 metres in underground workings; surface workings expose this vein, which is 1 metre wide, for at least 300 metres, subparallel to the Bayonne vein. A subsidiary vein strikes 060 degrees and is approximately 25 centimetres thick. The vein is followed by a light-coloured felsic dike, about 1 metre thick, in the hangingwall; this dike, which is shattered, is reported to carry low gold values of about 1.5 to 2 grams per tonne. Alteration of the footwall comprises silicification, pyritization, and possibly argillization (described variously as "altered" and "talcy gouge"). Galena and pyrite are the only sulphides present.

Geophysical surveys (VLF, or very low frequency electromagnetic)

MINFILE NUMBER: **082FSE031**

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
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PAGE: 828
REPORT: RGEN0100

CAPSULE GEOLOGY

by Goldrich Resources Ltd. in 1990 failed to show any strong conductors that could be ascribed to significant veins (Assessment Report 20982).

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EMPR ASS RPT 16846, 20982, 23699, 24448, 25742
EMPR FIELDWORK 1994, pp. 135-155; 1999, pp. 193-206
EMPR PF (Report by G.L. Mill, 1962)
GSC MEM 228 (Map 603A)
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE032**

NATIONAL MINERAL INVENTORY: 082F2 Au2

NAME(S): **SPOKANE**, DENMIN, SPOKANE NO. 1,
INTERNATIONAL, CONTINENTAL, GRANITE,
TIMBERLINE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:
LATITUDE: 49 11 00 N
LONGITUDE: 116 59 40 W
ELEVATION: 2000 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Spokane claim group (Minister of Mines Annual Report 1915).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5447836
EASTING: 500405

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite Limonite
Gold
ASSOCIATED: Quartz
ALTERATION: Kaolinite Pyrite Malachite
ALTERATION TYPE: Argillic Pyrite Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Horsethief Creek	Three Sisters	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Biotite Granodiorite
Biotite Lamprophyre Dike
Grit
Quartzite

HOSTROCK COMMENTS: Vein is close to the southern contact of the Wall stock with metasediments of the Three Sisters Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Kyanite, staurolite, sillimanite, amphibolite is post-Wall stock.

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Amphibolite

CAPSULE GEOLOGY

The Spokane showings are located on the southeast slope of Wall Mountain at about 2000 metres elevation, near the upper end of Next Creek. The veins are on a steep hillside of 35 to 40 degrees, and trend across it obliquely at an angle of about 45 degrees to the headwaters of Next Creek or about east-west; the dip is steep to the southwest. A series of three adits exposes the main vein over a vertical distance of 50 metres and a strike length of 120 metres.

The initial work on the property was done on a vein located at a lower elevation several hundred metres south of the main vein, and included open cutting and 2 adits 7.6 and 18 metres in length. This ground was reportedly staked in 1902 but allowed to lapse in 1909.

The main vein was discovered in 1911 by R.Y. and K.K. Laib of Salmo and 4 claims were staked. An additional 2 claims were staked in 1913, the property then comprising the Spokane, Spokane No. 1, International, Continental, Granite, and Timberline claims.

A claim adjacent to the Spokane group, and owned in 1915 by a Mr. Harris, was located on the westerly extension of the Spokane vein. This ground was apparently in part held as the Hilltop and Sitka claims, owned in 1937 by John Bull. See Harris (082FSE078) and Hilltop (082FSW232).

The Laib Bros. carried out development work in open cuts and 2 adits from 1911 until the fall of 1915 when an option was given to W.R. Salisbury of Salmo and I.G. Nelson and associates of Nelson, who comprised the Spokane Mines Syndicate. Development work and the mining of some ore was carried out in 1916 but the option was

CAPSULE GEOLOGY

subsequently given up.

The Laib Bros. resumed work on the property in 1917 and continued intermittently until 1941, apparently residing at the mine permanently for a portion of that period. In 1918 they built an arretre near the creek but the ore was found to be unamenable to amalgamation. Development work was severely handicapped by the lack of transportation and much of their efforts through the 1920's and 1930's was directed towards the construction of a road (Bayonne Road) some 29 kilometres from the railroad at Tye on Kootenay Lake.

By 1937 the workings comprised 5 adits (Nos. 1-5) totalling about 295 metres of crosscuts and drifts and a 17-metre raise. The lower adit (No. 5) consisted of a 24-metre drift. In 1939 a 533-metre tramline was built from the Main (No. 4 adit) portal and a road was completed to connect the lower tram-terminal with the Bayonne road. Subsequent ore shipments included considerable dump material.

No activity was reported from 1941 until 1948 when K.K. Laib resumed work on the property. Kootenay Central Mines Limited optioned the property in 1949. The raise from No. 4 adit was extended to the No. 3 adit level. A new crosscut adit, also called No. 5, was driven 36.5 metres before work ceased for the winter. The option was subsequently abandoned. The owner resumed work in 1950 and continued through 1954. Dennis G. White of Nelson optioned the property in 1956, extended the new No. 5 crosscut to intersect the vein at a total length of 52.4 metres, and drifted 3.6 metres to the east. The option was subsequently abandoned.

Rimrock Mining Corporation, Limited acquired the property in 1957 and extended the No. 5 crosscut an additional 1.8 metres, intersecting another vein, which was drifted on to the south. This vein, an oxidized fissure 30 inches wide containing mostly decomposed wallrock, is reported to contain high gold values in a narrow soft oxidized zone adjacent to both walls. No further work was carried out. The company planned to install a 35-ton per day mill but this was not done.

The main vein is a well defined and persistent fissure that varies in size from 5 centimetres to 1 metre wide and may be traced for over 600 metres onto the adjacent Harris (082FSE078) property to the west. The vein is hosted in biotite granodiorite of the Wall stock, assumed to be one of the Nelson intrusions of Middle Jurassic age. However, the vein is close to the southern contact of the stock with surrounding metasediments (grit and quartzite) of the Three Sisters Formation, part of the Upper Proterozoic Horsethief Creek Group.

The vein consists of quartz and sheared or altered granodiorite since the vein or veins vary from fine stringers enclosing wallrock to a single vein the full width of the fissure. Alteration is to kaolin and pyrite in the wallrock adjacent to the vein. Biotite minette (lamprophyre) dikes cut and offset the vein along the hangingwall; the strike of these dikes is perpendicular to the vein.

Much of the vein is narrow and barren, but some well-mineralized shoots contain pyrite, galena, sphalerite, chalcopyrite (minor copper stain, assumed to be malachite), limonite, and rarely free gold. These minerals are developed as lenses, stringers and disseminations in the vein. Variable values in gold (up to 20.5 grams per tonne) and silver (up to 1405 grams per tonne) are associated with the sulphides, which assay up to 48.9 per cent lead and 1.6 per cent zinc (Minister of Mines Annual Report 1915, page 173).

Recorded production over the period 1915 to 1956 was 1733 tonnes from which 570,988 grams of silver, 29,639 grams of gold, 304,046 kilograms of lead and 12,943 kilograms of zinc were recovered. The vein is oxidized to a depth of 50 metres.

Extensions to the vein were sought in 1981 by Nugget Resources Ltd. by magnetic, electromagnetic and geochemical surveying; anomalies found in the surveying suggest the presence of two veins extending both east and west off the Spokane property (Assessment Reports 10841, 13393).

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EMPR ASS RPT 10841, 13393, 23699
EMPR BC METAL MM01072
EMPR FIELDWORK 1994, pp. 135-155
EMPR INDEX 3-214; 4-125
EMPR LMP (Microfiche #61581)
EMPR PF (Starr, C.C. (1925): Report on the Spokane Mine)

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 831
REPORT: RGEN0100

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GSC MAP 603A
GSC MEM 228, p. 64
GSC OF 929; 2721
CMH 1959, p. 196; 1960, p. 217; 1961, p. 209

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/15

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE033**

NATIONAL MINERAL INVENTORY: 082F2 Au5

NAME(S): **MONTANA (L.10778)**, JOHN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 54 N
LONGITUDE: 116 55 58 W
ELEVATION: 2075 Metres

NORTHING: 5443948
EASTING: 504902

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Montana Crown grant (Lot 10778).

COMMODITIES: Silver Gold Lead Copper Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Proterozoic	Horsethief Creek	Monk	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Granodiorite
Quartzite

HOSTROCK COMMENTS: White quartzite is assumed to be part of the Monk Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional Contact RELATIONSHIP: Pre-mineralization GRADE: Amphibolite
COMMENTS: Staurolite-kyanite-sillimanite grade in Nelson intrusions.

INVENTORY

ORE ZONE: DUMP REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1937
SAMPLE TYPE: Grab

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	150.0000	Grams per tonne
Gold	3.4000	Grams per tonne
Lead	24.5000	Per cent
Zinc	1.4000	Per cent

REFERENCE: Property File (Special report by H. Sargent, 1937, 2 pages).

CAPSULE GEOLOGY

The Montana claim (Lot 10778) is located at an elevation of 2075 metres across the southeast ridge of John Bull Mountain, at the head of Bluebird Creek. It is about 2 kilometres southeast of the Bayonne mine (082FSE030) and 2 kilometres southwest of the Summit Bell (082FSE034) occurrence.

The Montana claim was owned from about 1902 by P. Casey and F. Aikens. Work was done in open cuts and a shallow shaft. The claim was at times grouped with the Summit Bell property held by the same owners. The Montana claim was Crown-granted to Casey and Aikens in 1917. In 1937 the claim was held by the Estate of P. Casey, of Spokane.

Bayonne Consolidated Mines, Ltd. optioned the claim in 1939. Following some development work the option was given in 1941.

The claim lies within the Mine stock, part of the Nelson intrusions of Middle Jurassic age, near the contact with a small inlier of quartzite, assumed to be part of the Monk Formation (Horsethief Creek Group of Upper Proterozoic age) that is the nearest metasedimentary rock. Metamorphic grade in the granodiorite pluton is upper amphibolite. The showing consists of a quartz vein, up to 1

CAPSULE GEOLOGY

metre thick, striking 280 degrees and dipping 58 degrees southerly. Surface workings expose the vein over a strike length of 150 metres; selected ore from a dump assayed 3.4 grams per tonne gold, 150 grams per tonne silver and 24.5 per cent lead; other samples contain up to 1.4 per cent zinc (Minister of Mines Annual Report 1937, part E, page 45, Special Report by H. Sargent). The vein is sparsely mineralized with galena and pyrite; microscopically, galena and sphalerite occur in large irregular masses and contain minor pyrite, rare minute blebs of chalcopyrite and tetrahedrite. Copper stain (malachite) is evident in places. The quartz vein has been traced from sheared granodiorite into the quartzite.

Geophysical surveying (very low frequency electromagnetic) conducted in 1990 by Goldrich Resources Inc. did not reveal any conductors considered worthy of follow-up (Assessment Report 20198).

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EMPR FIELDWORK 1994, pp. 135-155
EMPR PF (Typewritten special report by H. Sargent, see Minister of
Mines Annual Report 1937, Part E, page 45)
EMR MP CORPFILE (Bayonne Consolidated Mines, Ltd.)
GSC MAP 603A
GSC MEM 228, p. 82
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/15

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 835
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR ASS RPT 16846, 24449
EMPR FIELDWORK 1994, pp. 135-155
EMR MP CORPFILE (Bayonne Consolidated Mines, Ltd.)
GSC MAP 603A
GSC MEM 228, p. 84
GSC OF 929; 2721

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

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 837
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR ASS RPT 16846, 20982, 24448, 24450, 25387, 25472, 25742
EMPR BC METAL MM01087
EMPR FIELDWORK 1994, pp. 135-155
EMPR INDEX 3-217
EMPR PF (Typewritten special report by H. Sargent: see Minister of
Mines Annual Report 1937, Part E, page 45)
GSC MAP 603A
GSC MEM 228, p. 83
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

No. 1 adit.

The property remained idle for many years, possibly due to the complex nature of the ore. The Porcupine Goldfields Development & Finance Company, Limited examined the property in 1926. Interior Mine-Development Company, Limited was incorporated in May 1928 by O. Frith and associates, of Nelson, to acquire a lease on the property. An electrical survey was carried out late that year by the Radiore Company of Canada. Eastern Canadian Interests examined the property in 1930. A Spokane company, General Mining, Milling & Leasing Company, reportedly held the property for a short period. Vancouver interests, under the name Lucky Strike Mining Syndicate, in 1933 carried out trenching, sampling and about 305 metres of diamond drilling in 3 holes.

In 1935 A.C. Frost and associates, of Seattle, acquired a lease on the property from the owners, C. Hussey and A. Fleming, of Spokane, and the H. Stambaugh Estate, of Youngston Ohio. Sixteen adjacent located claims in 3 groups were acquired; the Aerielle and Belkap groups by staking and the Strathcona group by lease from E.C. Wragge & associates, of Nelson. Work to mid 1937 included deepening the winze to 49 metres and drifting on the 46-metre level. Samples were sent to Mines Branch, Ottawa for tests.

A lease on the property was acquired in about 1939 by E. McQuade, of Ymir, apparently under the name Vendors, Limited. Canadian Exploration, Limited optioned the property in 1940 and carried out 76 metres of drifting and 55 metres of crosscutting on No. 1 level. The workings to date included numerous open cuts, a 34-metre shaft, and 5 adits. Number 1 adit comprised about 192 metres of drifts and crosscuts and a 49-metre winze; about 229 metres of drifting and crosscutting was done from the winze 46-metre level. Adit No. 3 comprised about 296 metres of drifts and crosscuts. Adit Nos. 2, 4 and 5 comprised about 61 metres of drifts and crosscuts; No. 4 adit is located to the northwest, on the other side of the ridge.

Esperanza Explorations Ltd. optioned the property in 1980 from owners Fleming, Stambaugh and associates. Work that year included geological and geochemical surveys. In 1984 BP Selco Inc. optioned the property. Work in 1984-85 included geological mapping, an electromagnetic survey over 24 kilometres and 2618 metres of diamond drilling in 14 holes. Dutch Creek Resources Ltd., under an option agreement with Esperanza Explorations in 1988 carried out diamond drilling.

The Wisconsin property is located near the southern end of the Kootenay Arc, a generally north trending, west dipping arcuate zone of metavolcanics and metasediments. The area is underlain by successively younger strata from east to west, ranging from the Helikian Purcell Supergroup in the east (by Kootenay Lake), through the Hadrynian Windermere Supergroup and Hadrynian-Lower Cambrian strata of the Hamill Group, Badshot and Mohican formations, and the Lower Cambrian and younger Lardeau Group to the west. All successions are cut by middle to late Mesozoic intrusive rocks.

The base of the Windermere assemblage unconformably overlies the Purcell Supergroup and is marked by a distinctive polymict conglomerate of the Toby Formation. Conformably overlying the Toby Formation are mafic volcanics of the Irene Volcanic Formation consisting of green mafic tuffs and massive to schistose greenstone. The upper Windermere succession, in conformable contact with the Irene Volcanic Formation, is made up of the Horsethief Creek Group consisting predominantly of argillite "grit" and phyllite with interbeds of grey limestone, quartzite and conglomerate or diamictite. Some workers divide the Horsethief Creek Group into two formations: the Monk Formation, the basal formation, consisting of two phyllitic units divided by a grey limestone member is overlain conformably by the Three Sisters Formation consisting of grits, quartzite and conglomerate. An upper grit unit of the Three Sisters Formation is thought to be the top of the Horsethief Creek Group locally marking the boundary to the conformably overlying Hamill Group (Assessment Report 14265).

The Wisconsin property is host to a stratabound sulphide horizon, occurring within the basal Horsethief Creek Group (Monk Formation) at the gradational contact between it and the underlying upper part of the Irene Volcanic Formation, a couple of hundred metres below the postulated fault contact with the Hamill Group. Hamill Group quartzites appear to be in fault contact with the lower Horsethief Creek Group immediately to the west of the Main zone sulphide horizon. Previous work shows the property to contain five or more arsenical base metal massive sulphide zones enriched in gold and silver. The mineralization shows evidence of recrystallization and local shearing, and in the Main zone area is located within, or at the contact between granodiorite and metasediments of the

CAPSULE GEOLOGY

Horsethief Creek Group.

The Main zone is characterized by the presence of minor limestones, on the sulphide footwall, combined with a thicker and more extensive ankerite-dolomite-barite horizon at the southern extension of the sulphide horizon. The hangingwall to the sulphides are quartzites and sillimanite muscovite schists. The central portion of the sulphide zone has been extensively recrystallized and remobilized by a lobe of intrusive granodiorite which lies east of the main showings. In the vicinity of the sulphide horizon, at the main showing, the granodiorite exhibits crosscutting relationships both to the sulphides and host sediment-volcanic stratigraphy. All rock types are cut by late-state quartz veining. The granodiorite close to the main lobe of the intrusion has been incorporated as a complex system of sills within the host quartzites and volcanics. The footwall of the Main zone sulphides is formed by an interbedded sequence of quartzitic sediments and basaltic volcanics of the Irene Volcanic Formation.

The mineralization varies from massive to semimassive with varying proportions of arsenopyrite and pyrite making up the majority of the sulphides and lesser amounts of barite, galena, sphalerite, chalcopyrite, pyrrhotite and valleriite. Metallurgical examinations indicate that most gold is found as inclusions in chalcopyrite or with galena fracture fillings in pyrite and arsenopyrite. Thin section study of drill core indicates that alteration of the metasedimentary hostrock comprises muscovite, chlorite, sericite and carbonate. Further evidence in drill core shows at least two phases of mineralization, one of which consists of massive arsenopyrite-pyrite mineralization and the second consisting of lesser amounts of galena, sphalerite, arsenopyrite, pyrite and pyrrhotite associated with quartz veining (Assessment Report 14265).

Certain aspects of the Wisconsin deposit bear a striking similarity to the J & L "Sedex" deposit (082M 003) north of Revelstoke, including mineralogy, structure and roughly similar position within the Horsethief Creek-Hamill sedimentary pile. It is probable that the Wisconsin deposit is a Sedex (sedimentary exhalative) type which has been remobilized in the vicinity of the later granodioritic intrusion and re-deposited along shears developed along the granodiorite-metasediment contact (Assessment Report 14265).

Mineralization at Wisconsin has been extended by drilling 300 metres along strike and approximately 200 metres downdip on the Main zone with indication of increased grade and thickness to the north (Assessment Report 14265).

Inferred reserves at the Wisconsin property are 136,065 tonnes grading 11.99 grams per tonne gold and 171.4 grams per tonne silver (Northern Miner, November 1, 1984).

Ronald Granger conducted geochemistry, geological work and prospecting on the DI claims in 1997.

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EMPR OF 1998-10; 2000-22
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EMR MP CORPFILE (Esperanza Exploration Ltd.)
GSC MAP 603A
GSC MEM 76; 228, p. 65
GSC OF 481; 929; 2721
GSC SUM RPT 1912
GCNL #218, 1980; Oct.26, 1984; #169, 1985; #79, 1988
N MINER Nov.1, 1984

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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PAGE: 841
REPORT: RGEN0100

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

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/06

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE037**

NATIONAL MINERAL INVENTORY:

NAME(S): **IVA FERN**, FERN (L.12656), STANDARD (L.12658)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F07W
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 18 42 N
LONGITUDE: 116 55 28 W
ELEVATION: 1905 Metres

NORTHING: 5462106
EASTING: 505492

LOCATION ACCURACY: Within 500M

COMMENTS: Common boundary of Lots 12656 and 12658.

COMMODITIES: Copper Lead Zinc Silver Gold

MINERALS

SIGNIFICANT: Galena Chalcopyrite Sphalerite Limonite Pyrite
ASSOCIATED: Quartz Calcite Siderite Tourmaline
ALTERATION: Silica Limonite
ALTERATION TYPE: Silicific'n Oxidation
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 Proterozoic Eocene	Horsethief Creek	Irene Volcanic	Coryell Intrusions

LITHOLOGY: Phyllite
Quartzite
Grit
Slate
Greenstone
Lamprophyre Dike
Biotite Monzonite
Syenite

HOSTROCK COMMENTS: Hostrocks are described as slates in old reports; recently mapped as Irene Formation, with Coryell stock nearby.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP:
COMMENTS: Close to boundary with staurolite amphibolite facies. GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1919
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 144.0000 Grams per tonne
Gold 1.4000 Grams per tonne
Copper 3.5000 Per cent
Lead 26.0000 Per cent
Zinc 9.0000 Per cent

COMMENTS: Grab samples of dump material.
REFERENCE: Minister of Mines Annual Report 1919.

CAPSULE GEOLOGY

The Iva Fern showing is located near the top of the ridge between Cultus and Laib creeks; the veins strike northerly up the slope from Cultus Creek, with the main discovery at about 1905 metres elevation on Lot 12656. The main #2 vein has been traced for over 600 metres along strike; the #1 vein lies 100 metres to the east and is subparallel in strike and has been traced for over 50 metres. Vein widths vary between 0.6 and 2 metres.
Hostrocks belong to the Upper Proterozoic Horsethief Creek Group intruded on the claims just to the west by a small stock of Middle Eocene Coryell biotite monzonite-syenite. Rocks underlying

CAPSULE GEOLOGY

the property have been recently mapped as belonging to the Irene volcanics (greenstone); however, descriptions in old reports mention only slates and shales. The Horsethief Creek Group is known to comprise phyllites, quartzites and grits; regional strike is 010 degrees, dipping 60 degrees west. A basic lamprophyre dike accompanying the vein in places is also described as "hornblende dyke rock", which might be part of the Coryell intrusions.

Two main fissure veins, containing quartz, siderite, calcite and tourmaline, occur in variably silicified phyllite and slate. Mineralization is in two forms: either coarse galena with pyrite, chalcopyrite and sphalerite, or streaks and bunches of galena and sphalerite. There is significant development of limonite due to oxidation at the surface; outcrops are few, with abundant overburden about 1-2 metres deep covering most of the property.

Grab samples of dump material assayed up to 3.5 per cent copper, 26 per cent lead, 9 per cent zinc, 144 grams per tonne silver and 1.4 grams per tonne gold (Minister of Mines Annual Report 1919).

Mapping for Agincourt Explorations Ltd. in 1985 discovered three additional mineralized zones over a total width of 200 metres, concordant with and near the top of the Irene volcanics; the possibility exists that syngenetic sulphides deposited within siliceous sinter zones have been remobilized during metamorphism and nearby intrusion, but this is speculative (Assessment Report 14053). A geochemical survey described in Assessment Report 14053 suggests further mineralization may be buried below overburden to the north, although magnetic and electromagnetic surveys of this area failed to show any significant anomalies/conductors.

Recent work by Yukon Revenue Mines Ltd. resampled old trenches where the best reported sample assayed 1.52 per cent copper, 24 grams per tonne silver and 2 grams per tonne gold across a width of 7.3 metres (George Cross News Letter No. 47, 1994).

BIBLIOGRAPHY

- EMPR AR *1917-167; 1918-174; *1919-135,159,370; 1922-209; 1923-219; 1925-251; 1926-275; 1928-351; 1929-359; 1939-278; 1937-E10,E11,E8
EMPR ASS RPT *14053, *15567
EMPR PF (Plan map of Iva Fern mine, to June 23, 1930)
GSC MEM 228, p. 81 (Map 603A)
GSC OF 929; 2721
GCNL #47, 1994

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/18

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE038**

NATIONAL MINERAL INVENTORY:

NAME(S): **VALPARAISO**, GOVERNMENT (L.4908), SANCA,
VALLPARASO (L.4907)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F07E
BC MAP:
LATITUDE: 49 25 06 N
LONGITUDE: 116 43 28 W
ELEVATION: 1325 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Common boundary, Lots 4907 and 4908 (Topographic map 82F/7E).
See also Sarah 2nd, 082FSE055 and Country Girl (Sanca), 082FSE057.

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5473998
EASTING: 519985

COMMODITIES: Zinc Lead Tungsten Gold Silver
Copper

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite Wolframite Galena Sphalerite
Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Chlorite Sericite
ALTERATION TYPE: Chloritic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 112 W veins
I02 Intrusion-related Au pyrrhotite veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Cretaceous Bayonne Batholith

LITHOLOGY: Biotite Granite
Granodiorite
Biotite Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America

INVENTORY

ORE ZONE: MAIN REPORT ON: Y
CATEGORY: Indicated YEAR: 1981
QUANTITY: 37700 Tonnes
COMMODITY GRADE
Silver 104.2000 Grams per tonne
Gold 8.7500 Grams per tonne
REFERENCE: Assessment Report 10811.

CAPSULE GEOLOGY

The Valparaiso (spelled Vallparaso in the Crown grant listings) (Government) showings are located on Lots 4907 and 4908 respectively, just north of the steep headwaters of Ginol Creek that flows into Kootenay Lake about 1.5 kilometres south of Columbia Point. The property was originally discovered in the early 1900s and has recently been re-explored by Dobrana Resources Ltd. and drilled by Inco Ltd. in the late 1980s.

The principal deposit is a persistent, quartz-filled fissure in a lobe of the middle Cretaceous Bayonne batholith near its contact with sediments. Nowhere has the vein been traced into the sediments. In this locality the batholith consists of biotite granite and granodiorite, locally altered to chlorite and sericite along the vein walls. Mineralization consists of pyrite, arsenopyrite, wolframite, galena, sphalerite and chalcopyrite, in approximate order of abundance. The first three of these minerals occur together; wolframite and arsenopyrite tend to be restricted to the margins of the veins, and occur in the sheared and altered footwall, or ribbons near the vein margins. Gold and silver values are proportional to the amount of sulphides present, which occur as bands, blebs and

CAPSULE GEOLOGY

disseminations in the quartz. A biotite lamprophyre dike is found adjacent to the Valparaiso vein.

The vein occupies a fault that strikes 350 degrees and dips 40 degrees east, parallel to the Sarah 2nd or Imperial vein (082FSE055) to the east and 200 metres above the Valparaiso. Additional quartz veins have been reported to occur between these two veins. The vein has been exposed by 160 metres of drifting in the Government workings, 200 metres of drifting in the Valparaiso workings, and by pits, trenches and outcrop for about 650 metres to the north of the Valparaiso workings, for a total strike exposure of approximately 1000 metres. The vein varies between 0.3 and 7.6 metres, averaging about 1.25 metres wide.

Shipments from this property were made in 1900 and 1901 by Valparaiso Gold Mining Co. Ltd. A trial shipment of 293 tonnes in 1933 assayed 11.7 grams per tonne gold and 120 grams per tonne silver (Minister of Mines Annual Report 1933, pages 239-240). Tungsten concentrate was produced in 1955. Extensive sampling, assaying and compilation was done by Custom Mining Inc. in 1980-1981 (Assessment Report 10811).

BIBLIOGRAPHY

EM FIELDWORK 1999, p. 214,225-236; 2000, pp. 231-252
EM OF 1999-3; 2000-8
EMPR AR 1900-855; 1902-302; 1903-242; 1924-449; 1926-285; *1927-320-321; 1932-195; 1933-200, 239-240; 1934-A27; 1953-121; 1954-129; *1955-54
EMPR ASS RPT *10811, *15339, 17362, *17527, 19464, 20599, 23177, 23374
EMPR BC METAL MM01061; MM01062
EMPR INDEX 3-211,217
GSC MEM 228, p. 66
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

surface from the adits are reported. The vein was exposed on surface for about 100 metres strike length, where it occupies a strong fracture in the granite hostrock and varies from 1 to 2.5 metres thick. The quartz is milky white and contains scattered galena, chalcopyrite and pyrite; some orange-yellow scheelite is present. Gold values are reported associated with the sulphides, which occur in irregular bands, patches and clustered in vugs, commonly along the margins of the vein. There is slight chloritization and sericitization of the wallrock, accompanied by disseminated pyrite. Assays by Dobrana Resources Ltd. on quartz vein material ranged up to 39.7 per cent lead, 366 grams per tonne silver and 3.4 grams per tonne gold (Assessment Report 17527).

BIBLIOGRAPHY

EM FIELDWORK 1999, p. 214,225-236
EM OF 1999-3; 2000-8
EMPR ASS RPT *10811, *17527, 19214
EMPR OF 1991-17, 1999-3
EMPR PF (Report on the Totem Gold Property by I. Borovic, 1993 in Prospectus, Dobrana Resources Ltd., Nov. 1993)
GSC MEM 228, p. 67
GSC OF 929; 2721
GSC P 38-17, p. 11

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE040**

NATIONAL MINERAL INVENTORY:

NAME(S): **EMPIRE STATE**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 10 57 N
LONGITUDE: 116 21 21 W
ELEVATION: 759 Metres

NORTHING: 5447943
EASTING: 546943

LOCATION ACCURACY: Within 500M

COMMENTS: The Empire State occurrence is located about 3 kilometres north of Kitchener, west of the Goat River, near the edge of the flats (Geological Survey of Canada Memoir 228).

COMMODITIES: Nickel Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Middle Proterozoic
Middle Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Diorite
Diorite Dike
Diorite Sill
Quartzite
Quartzofeldspathic Wacke
Siltstone
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

METAMORPHIC TYPE: Regional

RELATIONSHIP: Post-mineralization

GRADE: Greenschist

COMMENTS: Copper mineralization in Moyie intrusions considered pre-metamorphic.

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1940

SAMPLE TYPE: Grab

COMMODITY

GRADE

Nickel

0.5200

Per cent

COMMENTS: A sample of almost pure pyrrhotite.

REFERENCE: Geological Survey of Canada Memoir 228.

CAPSULE GEOLOGY

The Empire State occurrence is located approximately 3 kilometres north of Kitchener, on the west side of the south flowing portion of the Goat River.

Regionally, the area is underlain by the peri-cratonic Middle Proterozoic Purcell Supergroup, a thick succession of siliciclastic and lesser carbonate rocks. The Purcell Supergroup is well known for hosting a number of significant deposits that include the Sullivan (082FNE052) sedimentary-exhalative lead-zinc deposit and the Troy copper-silver deposit in Montana.

More locally, the area of interest is underlain by Middle Proterozoic sedimentary rocks of the Aldridge Formation and by penecontemporaneous intrusive sills and dikes of the Moyie intrusions. The Aldridge Formation is the lowermost division of the Purcell Supergroup and is composed of turbiditic siliciclastic rocks, quartzofeldspathic wacke and siltstone, and numerous gabbro sills. The focus of exploration in the Aldridge Formation is the contact between the Lower Aldridge and the Middle Aldridge which corresponds

CAPSULE GEOLOGY

to the time of deposition of the Sullivan deposit. In this particular area of the Purcell basin, the contact between the Lower and Middle Aldridge is somewhat enigmatic in that there is no recognizable facies change.

This occurrence lies to the east of the Iron Range fault and to the west of the Carroll Creek/Kid fault. The strata within this structural block belongs to the eastward-dipping limb of the Goat River anticline. The strata strikes north-south with dips ranging from less than 15 degrees (near the core of the axis) to 25-30 degrees (near the Carroll Creek/Kid fault).

This mineralization is exposed in a number of opencuts which follow a steep-dipping fracture in a dioritic dike (possibly a sill) that is bounded within Middle Aldridge quartzites. The fracture appears to disappear to the southwest and is associated with the presence of pyrrhotite and chalcopyrite disseminated through unaltered diorite. In the main opencut, the fracture appears as a network of small quartz-calcite veinlets. The width of the mineralized zone is 1.2 to 1.5 metres. The change to totally unmineralized diorite is abrupt.

A sample of almost pure pyrrhotite analysed 0.52 per cent nickel (Geological Survey of Canada Memoir 228). No copper grade is reported.

BIBLIOGRAPHY

EMPR FIELDWORK *1993, pp. 129-151; 1994, pp. 111-125
GSC MAP 603A
GSC MEM *228, p. 58
GSC OF 2721
GSC P 38, p. 17

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 851
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 228, p. 76
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/11

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE042**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRESTON HILL**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 34 N
LONGITUDE: 116 22 06 W
ELEVATION: 1006 Metres

NORTHING: 5443520
EASTING: 546069

LOCATION ACCURACY: Within 500M

COMMENTS: The Creston Hill occurrence is located about 3 kilometres southwest of Kitchener at an elevation of 1006 metres (Geological Survey of Canada Memoir 228).

COMMODITIES: Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Middle Proterozoic
Middle Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Gabbro
Gabbro Sill
Quartzofeldspathic Wacke
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Creston Hill occurrence is located about 3 kilometres southwest of Kitchener.

Regionally, the area is underlain by the peri-cratonic Middle Proterozoic Purcell Supergroup, a thick succession of siliciclastic and lesser carbonate rocks. The Purcell Supergroup is well known for hosting a number of significant deposits that include the Sullivan (082FNE052) sedimentary-exhalative lead-zinc deposit and the Troy copper-silver deposit in Montana.

More locally, the area of interest is underlain by the Aldridge Formation. The Aldridge Formation is the lowermost division of the Purcell Supergroup. It is composed of turbiditic siliciclastic rocks, quartzofeldspathic wacke and siltstone and numerous gabbro sills and/or dikes of the Middle Proterozoic Moyie intrusions. The focus of exploration in the Aldridge Formation is the contact between the Lower Aldridge and the Middle Aldridge which corresponds to the time of deposition of the Sullivan deposit. In this particular area of the Purcell basin, the contact between the Lower and Middle Aldridge is somewhat enigmatic in that there is no recognizable facies change.

This occurrence includes a 122-metre adit and opencuts within about 100 vertical metres upslope from the adit. Upslope, 100 vertical metres, there is a shallow shaft that was sunk on a well mineralized quartz-calcite vein 1.2 to 1.5 metres wide (Geological Survey Of Canada Memoir 228). Near the top of a gabbro sill the vein is well mineralized with chalcopyrite and pyrrhotite. The mineralization continues at depth for a distance of approximately 15 metres, where the vein becomes sulphide poor.

BIBLIOGRAPHY

EMPR AR 1902-94; 1904-47; 1935-G50; 1936-E42; 1952-195; 1953-147;
1954-145; 1955-68; 1956-107

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 853
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
GSC MAP 603A
GSC MEM *228, p. 59
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1993/11/18

CODED BY: GSB
REVISED BY: DMM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE043**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAY-BEE**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 09 06 N
LONGITUDE: 116 23 34 W

NORTHING: 5444494
EASTING: 544279

ELEVATION: 1000 Metres
LOCATION ACCURACY: Within 500M

COMMENTS: Centre of "May-Bee"; claim map.

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Diorite Sill
Lamprophyre Dike
Quartzitic/Quartzose Wacke
Argillaceous Siltstone

HOSTROCK COMMENTS: Sedimentary rocks not described; assumed from location in Middle Aldridge Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Mineralization believed to be related to pre-metamorphic sill.

PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP: Post-mineralization
GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
YEAR: 1957

CATEGORY: Assay/analysis	GRADE	
SAMPLE TYPE: Chip		
COMMODITY		
Silver	17.0000	Grams per tonne
Gold	1.0000	Grams per tonne
Copper	1.8100	Per cent

COMMENTS: Chip sample over 0.7 metre width.
REFERENCE: Minister of Mines Annual Report, 1957, page 61.

CAPSULE GEOLOGY

The May-Bee property is located on the south end of the Iron Range Mountain fault at about 1000 metres elevation, about 4.5 kilometres west of Kitchener.

The main vein, varying from 0.3 to 1.5 metres in width, is hosted in a diorite sill belonging to the Middle Proterozoic Moyie intrusions. The sill and a lamprophyre dike that adjoins the vein are hosted in sedimentary rocks of the Middle Proterozoic Purcell Supergroup (Middle Aldridge Formation). In the area, these sediments are described as quartzitic wackes and argillaceous siltstones (Fieldwork 1994, pages 111-125).

The mineralization consists of chalcopyrite in the quartz vein which strikes 324 degrees and dips vertically. Assays range up to 1.81 per cent copper, 1 gram per tonne gold and 17 grams per tonne silver over 0.7 metre; the main vein was developed on two levels 55 metres apart vertically (Minister of Mines Annual Report 1957, page 61). It is reported that five other veins were also exposed by stripping on the property.

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RUN TIME: 16:27:53

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PAGE: 855
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1956-107; 1957-60; 1958-50
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE044**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOPE**, HOPE OF DISCOVERY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F07E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 27 12 N
LONGITUDE: 116 42 46 W
ELEVATION: 1450 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5477892
EASTING: 520817

LOCATION ACCURACY: Within 500M

COMMENTS: Located from map of showings in Assessment Report 17527.

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Malachite Azurite
COMMENTS: Only galena is described; sphalerite is assumed from assay data.
ASSOCIATED: Quartz Calcite
ALTERATION: Malachite Azurite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn
COMMENTS: Vein strikes 348 degrees and dips 77 degrees east.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Dutch Creek	

LITHOLOGY: Limestone
Dolomite

HOSTROCK COMMENTS: Showing is about 2 kilometres north of the contact of the Bayonne batholith (middle Cretaceous biotite granite).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist
COMMENTS: Mineralization likely related to post-metamorphic Bayonne batholith.

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1956
SAMPLE TYPE: Chip
COMMODITY GRADE

Silver	263.0000	Grams per tonne
Lead	13.4000	Per cent
Zinc	14.9000	Per cent

COMMENTS: Average of three samples over a width of 0.5 metre and strike length of 20 metres.

REFERENCE: Minister of Mines Annual Report 1956, page 87.

CAPSULE GEOLOGY

The Hope or Hope of Discovery showing is located on a steep mountainside 0.5 kilometre east of Dark Canyon Creek, the first south-flowing tributary of Akokli Creek east of its mouth. The showing lies at about 1450 metres elevation, 4 kilometres east of Boswell on Kootenay Lake; the exact location is shown on a map in Assessment Report 17527.

Hostrocks consist of thinly bedded, white to blue-grey limestone of the Middle Proterozoic Dutch Creek Formation (Purcell Supergroup); in the vicinity of the showing, these rocks are tightly folded. A galena bearing quartz-calcite vein ranges in width from 2.5 to 70 centimetres over an exposed length of 60 metres. The vein strikes 348 degrees and dips 77 degrees east; at the north end the vein pinches to a fracture, where the white limestone merges with the less thinly bedded blue-grey limestone. Galena occurs as bands and pockets in the quartz and in minor concentrations in the bedding planes of the limestone adjacent to the vein; scattered

CAPSULE GEOLOGY

disseminations of galena occur in the blue-grey limestone beyond the end of the vein. Assays indicate that sphalerite is likely present. The description in Assessment Report 17713 of malachite and azurite (plus manganese staining) indicates copper may be present. This report also suggests the hostrock may be dolomite.

The best sample over 0.7 metre assayed 387 grams per tonne silver, 19.0 per cent lead and 18.7 per cent zinc; an average of three samples over a width of 0.5 metre and strike length of 20 metres was 263 grams per tonne silver, 13.4 per cent lead and 14.9 per cent zinc. All assays for gold are nil or trace. A shipment of 11 tonnes in 1957 yielded only 302.5 grams per tonne silver, 16.2 per cent lead, and 8.95 per cent zinc (Minister of Mines Annual Report 1957). Recent work by Forbes Resources Ltd. in 1990 confirmed recorded assays ranging from 0.14 to 0.47 gram per tonne gold (this would have been nil to trace in earlier assays), 77.5 to 1213 grams per tonne silver, 2.04 to 71.2 per cent lead and 1.83 to 18.1 per cent zinc.

BIBLIOGRAPHY

EMPR AR *1956-87; 1957-47,A46
EMPR ASS RPT *10811, *17713, 17527, 19214, 19215
EMPR BC METAL MM01033
EMPR INDEX 4-122
EMPR OF 2000-8
EMPR PF (Report on the Hope of Discovery Property by I. Borovic, 1989
in Prospectus, Dobrana Resources Ltd. Nov. 1993)
GSC MEM 228 (Map 603A)
GSC OF 929; 2721
GCNL #123,#147, 1990

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/15

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 859
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 17527, 19214
EMPR OF 2000-8
GSC MEM 228 (Map 603A)
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE046**

NATIONAL MINERAL INVENTORY:

NAME(S): **MB**

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F08W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 30 N
LONGITUDE: 116 26 34 W
ELEVATION: 1500 Metres

NORTHING: 5458176
EASTING: 540532

LOCATION ACCURACY: Within 1 KM

COMMENTS: From description in Minister of Mines Annual Report 1956.

COMMODITIES: Lead Copper

MINERALS

SIGNIFICANT: Galena Chalcopyrite Pyrite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres STRIKE/DIP: 315/85S

TREND/PLUNGE:

COMMENTS: Strike of vein is 315 degrees and the dip 85 degrees southwest; the southeastern end is approximately 150 metres west of the Iron Range Mountain fault.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzite
Diorite
Diorite Sill

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1956
SAMPLE TYPE:	Chip		
COMMODITY		GRADE	
Copper		0.2500	Per cent
Lead		0.6500	Per cent

COMMENTS: Sample over width of 0.9 metre.
REFERENCE: Minister of Mines Annual Report 1956, page 107.

CAPSULE GEOLOGY

The MB property is at the north end of Iron Range Mountain, 13 kilometres northwest of Kitchener. The claims are at the head of a small creek basin on the south side of Hall Creek, a tributary of Goat River, at an elevation of 1400-1500 metres. The occurrence is a strong quartz-calcite vein containing minor amounts of galena, chalcopyrite and pyrite. The vein has an average width of 1.4 metres and has been exposed at intervals over a distance of 300 metres across the nose of the ridge west to the creek basin; the strike is 315 degrees and the dip 85 degrees southwest. The southeast end of the vein is approximately 150 metres west of the Iron Range Mountain fault. The vein is hosted in grey quartzite of the Aldridge Formation, and in one instance cuts across a diorite sill of the Moyie intrusions. Both these units are of Middle Proterozoic age, and belong to the Purcell Supergroup. Two samples are reported; one across 0.9 metre width of mineralized vein assayed 0.25 per cent copper and 0.65 per cent lead (Minister of Mines Annual Report 1956, page 107).

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 861
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1956-107
GSC MAP 603A
GSC MEM 228
GSC OF 820; 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE047**

NATIONAL MINERAL INVENTORY:

NAME(S): **OTTO SILVER**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 00 N
LONGITUDE: 116 28 46 W
ELEVATION: 1280 Metres

NORTHING: 5442408
EASTING: 537973

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located on common boundary of Otto Silver claims (Claim map).

COMMODITIES: Lead Silver

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzofeldspathic Wacke
Quartz Wacke
Argillite
Gabbro
Gabbro Sill
Turbidite

HOSTROCK COMMENTS: Geology generalized from Brown and Stinson (Fieldwork 1994, page 115).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Otto vein strikes northeasterly and dips vertically. The narrow, discontinuous vein carries scattered bunches of argentiferous galena in a quartz gangue. Hostrocks belong to the Middle Aldridge Formation of the Middle Proterozoic Purcell Supergroup, intruded by gabbro sills of the Moyie intrusions (also of Middle Proterozoic age). The sedimentary rocks are described as quartzofeldspathic and quartz wacke with lesser argillite, mainly turbidites, by Brown and Stinson (Fieldwork 1994, page 115). Regional strike is 010 degrees with dips from 30 to 80 degrees west.

BIBLIOGRAPHY

EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
EMPR GEM 1969-322; 1970-446
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE048**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPER RIDGE** LOST MINE, COPPER PEAK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 11 42 N
LONGITUDE: 116 50 10 W
ELEVATION: 1830 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5449146
EASTING: 511940

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located at the head of Shaw Creek at an elevation of 1830 metres
(Minister of Mines Annual Report 1902).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz Calcite
COMMENTS: Calcite may be more abundant than quartz.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I06 Cu±Ag quartz veins I01 Au-quartz veins
COMMENTS: Described as a wide zone, 30 to 100 metres wide and 1000 metres along strike.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Biotite Amphibole Granodiorite

HOSTROCK COMMENTS: Located in the Mine stock (Nelson intrusions) just outside of the Bayonne batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional Contact RELATIONSHIP: Pre-mineralization GRADE: Amphibolite
COMMENTS: Staurolite-kyanite-sillimanite regional metamorphism is pre-mineral.

CAPSULE GEOLOGY

The Lost Mine (Copper Ridge, Copper Peak) showings were described in the Minister of Mines Annual Report for 1902 as situated at the head of Shaw Creek, at an elevation of 1830 metres. The vein matter is composed of quartz and calcite, with chalcopyrite, and can be traced for over 1 kilometre with widths of 30-100 metres (sic) and values at the surface averaging 8.6 grams per tonne gold (translated from \$5 values, at \$20 per ounce) and 4 per cent copper (Minister of Mines Annual Report 1902). A tunnel on the vein was driven for 75 metres in the mineralization.

Hostrocks are mapped as biotite amphibole calcic-granodiorite by Geological Survey of Canada Map 603A (1941), now considered to be part of the Nelson intrusions of Middle Jurassic age and metamorphosed to staurolite-kyanite-sillimanite amphibolite facies. The property is located a short distance to the west of the contact with the middle Cretaceous Bayonne batholith.

It is hard to see how such extensive, high-grade mineralization could escape the attention of later explorationists; it lies just off the western boundary of the Sherpa claim, staked in 1982 and stream silt sampled by Brinco Mining Ltd.; their survey showed nothing of interest (Assessment Report 11028).

BIBLIOGRAPHY

EMPR AR *1902-164
EMPR ASS RPT 11028
EMPR FIELDWORK 1994, pp. 135-155
GSC MEM 228 (Map 603A)
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/18

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE048**

MINFILE NUMBER: **082FSE049**

NATIONAL MINERAL INVENTORY: 082F2 Au3

NAME(S): **NORTH WIND**, CARIBOU, ARKANSAW,
 CANYON, VIRGINIA

STATUS: Showing	Underground	MINING DIVISION: Nelson
REGIONS: British Columbia		UTM ZONE: 11 (NAD 83)
NTS MAP: 082F02W		NORTHING: 5448457
BC MAP:		EASTING: 505283
LATITUDE: 49 11 20 N		
LONGITUDE: 116 55 39 W		
ELEVATION: 1900 Metres		
LOCATION ACCURACY: Within 1 KM		
COMMENTS: Described as "about 3.2 kilometres easterly from the "Spokane" (082FSE032) on the opposite side of the creek, at elevations of 1875 to 1925 metres"; from Minister of Mines Annual Report 1927. This is not the location plotted on earlier MINFILE maps, which is on the same side of the creek as the Spokane.		

COMMODITIES: Lead Zinc Silver Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Biotite Granodiorite
 Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Ancestral North America	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Amphibolite
COMMENTS: Nelson intrusions are pre or syn-metamorphism.	

INVENTORY

ORE ZONE: DUMP	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1927
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	202.0000 Grams per tonne
Gold	3.4000 Grams per tonne
Lead	4.5000 Per cent
Zinc	8.1000 Per cent
COMMENTS: Dump material from a vein 0.5 to 0.8 metre wide.	
REFERENCE: Minister of Mines Annual Report 1927, page 325.	

CAPSULE GEOLOGY

The location of the North Wind showings is uncertain; they are located at approximately 1920 metres elevation on the east side of Arkansas Lake, at the head of Next (Canyon) Creek, some 24 kilometres east-southeast of Salmo; Next Creek flows northerly and easterly to the south end of Kootenay Lake. A published description in Minister of Mines Annual Report for 1927 indicates it is "about 3.2 kilometres easterly from the Spokane (082FSE032) and on the opposite side of the creek"; if on the other side of Next Creek (then called Canyon Creek) it would fall about 5 kilometres east of the Spokane. The description (the vein strikes northerly, dipping vertically, and is exposed at several widely-spaced points over a distance of 1 kilometre, at elevations ranging from 1875 to 1925 metres) fits the location on the east side of Next Creek better than on the west side. In 1927 the property consisted of 4 claims, the North Wind, Caribou, Arkansaw, and Canyon, owned by W.B. McCreath and L.E. Borden. Work to date was done in open cuts and shallow shafts. In

CAPSULE GEOLOGY

1928 the property was bonded by W.H. Tyrrell, of San Francisco. St. Bernard Mines, Limited was incorporated in British Columbia in March 1929 to acquire the property. No work was reported and the company charter was surrendered in 1932. From incomplete information it appears that the North Wind showings were held in 1938 as the Virginia claim, owned by J. Mulholland and under lease to D. Masciangelo & associates. Development work to that date included 61 metres of drift; a small amount of ore was shipped to Trail.

At the southern end of the area, the vein is from 0.5 to 0.8 metre wide and dump material assayed 4.5 per cent lead, 8.1 per cent zinc, 202 grams per tonne silver and 3.4 grams per tonne gold; 1000 metres to the north, the vein is 0.8 metre wide and assayed 2.8 per cent lead, 0.6 per cent zinc, 48 grams per tonne silver and 9.6 grams per tonne gold (Minister of Mines Annual Report 1927). The showings are described as well defined quartz-filled fissure veins in biotite granodiorite or granite of the Nelson intrusions (Middle Jurassic in age) containing disseminated galena, pyrite and sphalerite. The veins are surrounded by leached and oxidized quartz and altered country rock (alteration is not described). Overburden is deep and extensive on the relatively gentle, wooded slopes and further discoveries could be expected.

BIBLIOGRAPHY

EMPR AR *1927-325; 1928-326; 1929-359
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228, p. 83
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/18

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE050**

NATIONAL MINERAL INVENTORY:

NAME(S): **KING**, KING NO. 1

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F02E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 00 N
LONGITUDE: 116 31 16 W

NORTHING: 5440536
EASTING: 534945

ELEVATION: 575 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: On Glaser Creek, 3 kilometres north of Creston (Minister of Mines Annual Report 1954, page 144).

COMMODITIES: Lead Silver Copper

MINERALS

SIGNIFICANT: Galena Pyrite Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzofeldspathic Wacke
Quartz Wacke
Argillite
Diorite
Diorite Sill

HOSTROCK COMMENTS: Geology generalized from Brown and Stinson (Fieldwork 1994, page 115) on the Yahk sheet (82F/1) to the east.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The King is a small past producer, part of a group of small galena-quartz veins on and around Goat (Arrow) Mountain just north of Creston. The King vein is unusual in being located at the foot of the mountain, on the west side just south of Alice Siding and very close to (partly covered by) the main Creston-Salmo highway, at an elevation of 575 metres. The original discovery produced from a winze (now covered by the highway); there was another irregular vein discovered 1.6 kilometres to the north.

The veins are hosted by Middle Proterozoic Purcell Supergroup sedimentary rocks of the Middle Aldridge Formation, and the Moyie intrusions, comprising respectively, quartzofeldspathic wacke, quartz wacke and argillite, and diorite sills. The main showings consist of local concentrations of galena and pyrite with minor chalcopyrite in a quartz vein traced over 120 metres strike length and 0.6 metre wide; the northern showing consists of lower grade galena mineralization in an irregular quartz vein in a diorite sill.

BIBLIOGRAPHY

EMPR AR 1954-144; 1956-106; 1957-A46,60
EMPR BC METAL MM01024
EMPR FIELDWORK 1994, pp. 111-125, 135-155
EMPR INDEX 4-122
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE051**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOB**, ELSIE HOLMES (L.8393)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 11 06 N
LONGITUDE: 116 32 16 W
ELEVATION: 730 Metres

NORTHING: 5448125
EASTING: 533683

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Lot 8393 (workings are just east of the road).

COMMODITIES: Copper Lead

MINERALS

SIGNIFICANT: Chalcopyrite Galena Malachite Azurite
ASSOCIATED: Quartz Calcite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I06 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	

LITHOLOGY: Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Bob property covers several showings located approximately 400 metres east of the Duck Creek road, 800 metres north of its junction with the Creston-Kootenay Bay highway at Wynndel. The main showing is exposed in an adit at 730 metres elevation, but it is reported that this property was formerly known as the Elsie Holmes and that the old workings included another longer crosscut, the portal of which was approximately 250 metres southwest of the main adit. Hostrocks in the area are argillaceous quartzites mapped as Creston Formation, part of the Middle Proterozoic Purcell Supergroup, which are metamorphosed to regional greenschist grade (biotite facies).

The occurrence is a quartz-calcite vein with chalcopyrite and lesser amounts of galena and copper carbonates. Where exposed underground the vein strikes northeast, dips 45 degrees southeast, and has a width ranging from 0.3 to 1.2 metres. The vein was drifted on for 15 metres and raised on for 10 metres, with approximately 9 tonnes of ore being stockpiled.

BIBLIOGRAPHY

EMPR AR *1956-106
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE052**

NATIONAL MINERAL INVENTORY:

NAME(S): **AUREA**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 48 N
LONGITUDE: 116 28 16 W
ELEVATION: 633 Metres

NORTHING: 5429073
EASTING: 538674

LOCATION ACCURACY: Within 500M

COMMENTS: Located 2.5 kilometres northeast of Rykerts, 1 kilometre north of the Canada-U.S. border; from location sketch, Mining Recorder.

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Lower Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Quartzitic/Quartzose Wacke
Argillite
Gabbro
Gabbro Sill

HOSTROCK COMMENTS: No outcrop locally, and geology not described; generalized from Brown and Stinson, Fieldwork 1994, page 113 (Lower Aldridge Formation).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Trench

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Aurea showing consists of a 15-60 centimetre galena-bearing quartz vein on the west side of a small ridge, 1.6 kilometres north of the international border and 2.5 kilometres northeast of Rykerts, at 633 metres elevation on the margin of the Purcell Trench south of Creston. It is one of a series of galena-quartz veins in Aldridge Formation rocks found along the east side of the Trench. Although not described in the primary reference (Minister of Mines Annual Report 1956), the geology is inferred to consist of Lower Aldridge Formation equivalent, Ramparts facies (quartzitic wackes and lesser green-grey argillites) as recently compiled in the adjacent area by Brown and Stinson (Fieldwork 1994, page 113). The sedimentary rocks are intruded by gabbro sills of the Moyie intrusions; both these units are of Middle Proterozoic age and belong to the Purcell Supergroup.

BIBLIOGRAPHY

EMPR AR 1956-107
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE053**

NATIONAL MINERAL INVENTORY:

NAME(S): **COPPER QUEEN**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 02 24 N
LONGITUDE: 116 57 58 W
ELEVATION: 1675 Metres

NORTHING: 5431903
EASTING: 502477

LOCATION ACCURACY: Within 500M

COMMENTS: Either an extension to or the same as Motherlode (082FSE080); Copper Queen is located at 1675 metres elevation on the same side of the same southerly flowing tributary to Monk Creek as the Motherlode is found on. Could be Lot 16242 (forfeited), staked by the same person (L.R. Clubine) as the Motherlode.

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT:	Chalcopyrite	Hematite	Limonite	Malachite	Azurite
	Bornite				
ASSOCIATED:	Quartz	Sericite			
ALTERATION:	Hematite	Limonite	Malachite	Azurite	Bornite
ALTERATION TYPE:	Oxidation				
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Proterozoic	Horsethief Creek	Irene Volcanic	

LITHOLOGY: Greenstone Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Ancestral North America	
METAMORPHIC TYPE: Regional	RELATIONSHIP: Regional
COMMENTS: Chlorite grade regional metamorphism.	GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1956
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Gold	0.3400 Grams per tonne
Copper	0.1700 Per cent
COMMENTS: Samples from a 6 metre section of the showing.	
REFERENCE: Minister of Mines Annual Report 1956, page 85.	

CAPSULE GEOLOGY

The Copper Queen property was staked by the owner of the Motherlode (082FSE080) which probably adjoins the Copper Queen to the north. The main showing is a spectacular iron-stained quartz outcrop exposed by stripping and opencut work on the east bank of an unnamed southerly flowing tributary to Monk Creek, at an elevation of 1675 metres (slightly below the reported elevation of the Motherlode showings). The quartz has been exposed over a width of 15 metres, roughly at right angles to the northerly strike of the host greenstone schist (Irene Volcanics Formation of the Upper Proterozoic Horsethief Creek Group) and dipping 80 degrees south. Visible minerals are quartz, chalcopyrite, hematite, limonite, sericite, malachite, azurite and minor bornite. The best part of the showing is a 6-metre section at the south end, over which samples ranged up to 0.17 per cent copper (0.34 gram per tonne gold, trace silver) (Minister of Mines Annual Report 1956). Another showing is exposed in an opencut 200 metres to the south, which contains iron-stained quartz stringers but with negligible mineralization.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 870
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1899-601; 1901-1035; *1956-85
EMPR ASS RPT 22054
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE054**

NATIONAL MINERAL INVENTORY:

NAME(S): **CANADA BELLE**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 01 36 N
LONGITUDE: 116 54 40 W
ELEVATION: 1525 Metres

NORTHING: 5430424
EASTING: 506498

LOCATION ACCURACY: Within 500M

COMMENTS: Common boundary of claims; from claim map.

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite

ASSOCIATED: Quartz Barite

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Kitchener	

LITHOLOGY: Dolomite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

METAMORPHIC TYPE: Regional RELATIONSHIP:

GRADE: Greenschist

COMMENTS: Close to chlorite-biotite facies boundary.

CAPSULE GEOLOGY

The Canada Belle claims are located on a north-trending ridge about 2 kilometres northwest of the west end of Boundary Lake, near the headwaters of the Priest River and on the west flank of North Star Mountain. Note that there are a series of Crown grants with a similar strike (north-south) on North Star Mountain, but there is no record of mineralization on them. Also, the Reverted Crown grant Big Chief (Lot 12666) is on strike two kilometres to the north of the Canada Belle showings. R.V. Longe, in Assessment Report 10484, points out that the Canada Belle, Peanut (082FSE081) and Cultus Creek (082FSE082) occurrences and likely the Iva Fern deposits (082FSE056) are found along a similar stratigraphic level, associated with silicification of limestone or dolostone units in Proterozoic rocks.

On the Canada Belle claims, a series of northerly striking quartz veins in dolomite are conformable with the nearly vertical bedding of the dolomite. The quartz veins are exposed in opencuts over a range in elevation of 1433 to 1525 metres; veins vary from 0 to 0.6 metre wide and are sparsely mineralized with barite, galena, sphalerite and pyrite. The best showing is at 1525 metres elevation, where a vein has been stripped for 15 metres along the strike.

BIBLIOGRAPHY

EMPR AR 1955-54
EMPR ASS RPT 10484
EMPR EXPL 1979-54
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE055**

NATIONAL MINERAL INVENTORY:

NAME(S): **SARAH 2ND, IMPERIAL, MARATT,
 SARAH B, VALPARAISO, SARAH**

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 082F07E
 BC MAP:
 LATITUDE: 49 25 06 N
 LONGITUDE: 116 43 22 W
 ELEVATION: 1600 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Parallel to and 200 metres above "Valparaiso" (082FSE038)
 (Minister of Mines Annual Report 1927).

Underground
 MINING DIVISION: Nelson
 UTM ZONE: 11 (NAD 83)
 NORTHING: 5473999
 EASTING: 520106

COMMODITIES: Silver Zinc Gold Lead Tungsten Copper

MINERALS

SIGNIFICANT: Pyrite Galena Wolframite Malachite
 ASSOCIATED: Quartz
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 112 W veins
 I02 Intrusion-related Au pyrrhotite veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Cretaceous			Bayonne Batholith

LITHOLOGY: Biotite Granite
 Granodiorite
 Biotite Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1989
SAMPLE TYPE:	Chip		
COMMODITY		GRADE	
Silver		41.0000	Grams per tonne
Gold		0.5000	Grams per tonne
Copper		0.1200	Per cent
Lead		1.0000	Per cent
Zinc		0.4600	Per cent
COMMENTS:	Chip sample over 15 centimetres of vein material.		
REFERENCE:	Assessment Report 17527.		

CAPSULE GEOLOGY

The Sarah (Lot 4903) or Imperial (Lot 4904) lies 200 metres higher and adjoining to the east of the Valparaiso (082FSE038). The geology is as described for the Valparaiso: within a lobe of the middle Cretaceous Bayonne batholith, near the contact with sedimentary rocks. The batholith consists of biotite granite and granodiorite, cut near the vein by a dull green biotite lamprophyre dike. The main quartz vein, which has been traced for 120 metres in pits and cuts, contains a little sparsely disseminated pyrite and galena and occasional copper carbonate stains. The quartz is rusty and honeycombed in places; at one point, a little wolframite is associated with pyrite and galena.

A trial shipment of 9 tonnes in 1906 contained 20.5 grams per tonne gold and 754 grams per tonne silver. In 1989, recent sampling by Little Bear Resources Ltd. over 15 centimetres of vein material yielded up to 0.12 per cent copper, over 1 per cent lead, 0.46 per cent zinc, 41 grams per tonne silver and 0.5 gram per tonne gold (Assessment Report 17527).

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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REPORT: RGEN0100

BIBLIOGRAPHY

EM FIELDWORK 1999, p. 214
EMPR AR 1900-855; 1906-248; 1927-320,322; 1953-121; 1954-129;
1955-54
EMPR ASS RPT *10811, 17362, *17527, 19464, 20599
EMPR BC METAL MM01062
EMPR INDEX 3-212
EMPR OF 1999-3; 2000-8
GSC MEM 228 (Map 603A)
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE056**

NATIONAL MINERAL INVENTORY:

NAME(S): **CULTUS CREEK**, ELSIE, ANN

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 17 54 N
LONGITUDE: 116 54 40 W
ELEVATION: 1280 Metres

NORTHING: 5460625
EASTING: 506463

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located 13 kilometres up Cultus Creek on the south side; the location of these showings overlaps that of the Peanut (082FSE081) and the Humdinger & Hunkadora (082FSE082).

COMMODITIES: Silver Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Horsethief Creek	Irene Volcanic	

LITHOLOGY: Siliceous Dolomite
Lamprophyre Dike
Siltstone
Phyllitic Shale
Andesitic Tuff
Schistose Greenstone
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: Very close to boundary with staurolite-grade rocks to the south.

INVENTORY

ORE ZONE: VEINS REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1926
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 16.0000 Grams per tonne
Copper 0.8400 Per cent
COMMENTS: Samples from quartz veins in siltstone.
REFERENCE: Minister of Mines Annual Report 1926, page 284.

CAPSULE GEOLOGY

The Cultus Creek showing lies at the north end of a band of showings extending from the Humdinger & Hunkadora (082FSE082) and Peanut (082FSE081) locations. The mineralization is variously described as a vein in a mineralized band of altered and silicified limestone contained in a formation of highly metamorphosed sedimentary rocks, or (more recently) as disseminated sulphides in a silicified dolostone unit or units contained in andesitic tuffs.

These rocks, formerly assigned to the Dutch Creek Formation of the Purcell Supergroup of Middle Proterozoic age, have recently been remapped to lie within the Irene Volcanic Formation of the Horsethief Creek Group (Upper Proterozoic Windermere Supergroup). In detail (Assessment Report 10484) they consist of schistose greenstone (possible andesitic tuffs) overlain or intercalated with orange-weathering dolostone, siltstone and phyllitic shales. The granitic Nelson batholith lies to the west of the claims; metamorphic

CAPSULE GEOLOGY

grade is staurolite amphibolite just to the south of the property, but may be greenschist in the area of mineralization.

Lamprophyre dikes are found near but not necessarily associated with the mineralization, which consists mainly of oxidized material containing disseminated pyrite, chalcopyrite and tetrahedrite. At the north end of the mineralized zone (which may be stratigraphically close to that of the Iva Fern showings (082FSE037), 2 kilometres to the northwest), quartz veins in siltstone between two carbonate units assayed up to 0.84 per cent copper, 16 grams per tonne silver and 0.1 gram per tonne gold (Minister of Mines Annual Report 1926).

BIBLIOGRAPHY

EMPR AR *1926-284; 1968-242
EMPR ASS RPT *10484, 17738
GSC MEM 228 (Map 603A)
GSC OF 514; 929; 2721
GSC P 76-1B, pp. 21-23

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE057**

NATIONAL MINERAL INVENTORY:

NAME(S): **COUNTRY GIRL**, SANCA MINES LTD., SANCA

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 24 46 N
LONGITUDE: 116 44 52 W
ELEVATION: 533 Metres

NORTHING: 5473375
EASTING: 518295

LOCATION ACCURACY: Within 500M

COMMENTS: At high water mark on the shore of Kootenay Lake, 0.5 kilometre south of Columbia Point (Minister of Mines Annual Report 1926); see also Valparaiso, 082FSE038 for further reference.

COMMODITIES: Silver Gold Lead Zinc

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Cretaceous			Bayonne Batholith

LITHOLOGY: Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
COMMENTS: Post-metamorphic batholith.

PHYSIOGRAPHIC AREA: Purcell Trench

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1926
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		79.0000	Grams per tonne
Gold		1.0000	Grams per tonne
Lead		11.2000	Per cent
Zinc		0.8000	Per cent

COMMENTS: Grab sample from the dump.

REFERENCE: Minister of Mines Annual Report 1926, page 286.

CAPSULE GEOLOGY

The Country Girl showings are located at close to high water mark on the east shore of Kootenay Lake, 0.5 kilometre south of Columbia Point. The showings are within granite of the Bayonne batholith of middle Cretaceous age. Just above high water there is an old tunnel driven easterly along a silicified fracture zone; sparsely disseminated pyrite, galena and sphalerite are associated with the quartz and penetrating the country rock in places. Just below the waterline there is reported to be a showing 1.2 metres wide of quartz containing disseminated galena; a sample from the dump near this showing assayed 79 grams per tonne silver, 1 gram per tonne gold, 11.2 per cent lead and 0.8 per cent zinc (Minister of Mines Annual Report 1926, page 286). A short distance southerly along the lakeshore, opencuts expose a quartz vein striking northerly, 45 to 60 centimetres wide, with irregular disseminated galena.

BIBLIOGRAPHY

EMPR AR *1926-286; 1927-323; 1928-326; 1929-356; 1930-278; 1932-195;
1933-200,239; 1934-A27
EMPR INDEX 3-211
EMPR OF 2000-8

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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BIBLIOGRAPHY

GSC MEM 228 (Map 603A)
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE058**

NATIONAL MINERAL INVENTORY:

NAME(S): **IOLANTHE**, SANCA

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 22 54 N
LONGITUDE: 116 43 52 W
ELEVATION: 550 Metres

NORTHING: 5469920
EASTING: 519516

LOCATION ACCURACY: Within 500M

COMMENTS: Situated "near the lakeshore 0.5 kilometre north of Sanca Creek" (Minister of Mines Annual Report 1926).

COMMODITIES: Zinc Lead Silver Gold Copper

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena

ASSOCIATED: Quartz

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>
Middle Proterozoic	Purcell	Undefined Formation	
Middle Cretaceous			Bayonne Batholith

LITHOLOGY: Quartzitic/Quartzose Mica Schist
Talc Schist
Quartzite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional Contact

PHYSIOGRAPHIC AREA: Purcell Trench

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1926

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	190.0000	Grams per tonne
Gold	1.4000	Grams per tonne
Lead	3.4000	Per cent
Zinc	16.5000	Per cent

REFERENCE: Minister of Mines Annual Report 1926, page 286.

CAPSULE GEOLOGY

The Iolanthe showing is located on the east side of Kootenay Lake, "near the lakeshore", about 0.5 kilometre north of Sanca Creek.

The showings are hosted in metasedimentary rocks tentatively assigned to the Purcell Supergroup of Middle Proterozoic age, but the formation is uncertain. These rocks, which comprise quartzose mica schist, talc schist and quartzite, form a roof pendant in the middle Cretaceous Bayonne granite batholith. Stringers and veinlets of quartz with pyrite, sphalerite and galena lie parallel to the foliation, which strikes southeast and dips east. A grab sample of the hangingwall mineralization (from the dump) assayed 16.5 per cent zinc, 3.4 per cent lead, 190 grams per tonne silver and 1.4 grams per tonne gold (Minister of Mines Annual Report 1926). Copper is mentioned in one Minister of Mines Annual Report (1927) but no copper minerals are described.

BIBLIOGRAPHY

EMPR AR *1926-286; 1927-323; 1928-326; 1929-356; 1930-278;
1933-200; 1934-A27
EMPR OF 2000-8

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 228 (Map 603A)
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE059**

NATIONAL MINERAL INVENTORY:

NAME(S): **EBOR**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 28 36 N
LONGITUDE: 116 46 04 W
ELEVATION: 550 Metres

NORTHING: 5480473
EASTING: 516823

LOCATION ACCURACY: Within 500M

COMMENTS: Located 2.5 kilometres north of Boswell on the lakeshore (Minister of Mines Annual Report 1928).

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Pyrite Sphalerite

ASSOCIATED: Quartz

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 Proterozoic	Horsethief Creek	Undefined Formation	

LITHOLOGY: Quartzitic/Quartzose Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Trench

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP: Unknown

GRADE: Greenschist

CAPSULE GEOLOGY

The Ebor showing lies about 2.5 kilometres north of Boswell on the east shore of Kootenay Lake, just south of the mouth of Holiday Creek. Opencuts near the lakeshore expose a small, well defined quartz fissure vein cutting quartzose schists of the Upper Proterozoic Horsethief Creek Group, which strike northerly and dip to the west. The strike of the vein is easterly and it dips steeply to the north. Mineralization consists of stringers and small masses of galena and pyrite, with small amounts of sphalerite. Samples representing small amounts of the mineralization are reported to yield good assays in silver and lead.

BIBLIOGRAPHY

EMPR AR 1928-326
EMPR OF 2000-8
GSC MEM 228 (Map 603A)
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

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REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE061**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALFRED, JOSEPHINE, BELLEVUE,
ROBIN, NICKEL PLATE, WYNNDILL**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F02E
BC MAP:

Open Pit Underground

MINING DIVISION: Nelson

LATITUDE: 49 11 54 N
LONGITUDE: 116 33 16 W

UTM ZONE: 11 (NAD 83)

ELEVATION: 1066 Metres

NORTHING: 5449599
EASTING: 532459

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located 4 kilometres from Duck Creek Station by logging road,
east of the Canadian Pacific Railway (Minister of Mines Annual
Report 1924).

COMMODITIES: Copper Lead Silver Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I06 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Middle Proterozoic

GROUP

Purcell

FORMATION

Kitchener

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Quartzitic/Quartzose Mica Schist
Limestone
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: Biotite facies of greenschist metamorphism.

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1924

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

343.0000

Grams per tonne

Copper

1.5000

Per cent

Lead

2.0000

Per cent

COMMENTS: Selected samples from the dump.

REFERENCE: Minister of Mines Annual Report 1924, page 194.

CAPSULE GEOLOGY

The Alfred showings are located about 4 kilometres from Duck Creek Station (Wynndell) by an old logging road, east of the Canadian Pacific Railway, at about 1066 metres elevation. The showings are hosted within quartzose mica schist, limestone and quartzite regionally metamorphosed to biotite facies of greenschist grade but are believed to be derived from sediments of the Kitchener Formation (Middle Proterozoic Purcell Supergroup). The rocks strike northeasterly up the mountainside, with dips approximately vertical. The showings are located along the outcrop of a silicified band of limestone, 25 to 30 metres wide in places.

The old workings (trenches, opencuts, a glory hole, a shallow shaft and some short tunnels) are scattered along the outcrop over a vertical range of 915 to 1325 metres elevation. Mineralization consists of sparsely disseminated chalcopyrite, galena and pyrite associated with quartz; the sulphides occur in stringers, bunches and masses with specks of sphalerite and tetrahedrite. Selected ore from the dump at the glory hole assayed 1.5 per cent copper, 2 per cent

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CAPSULE GEOLOGY

lead and 343 grams per tonne silver (Minister of Mines Annual Report 1924).

Recent exploration nearby on the Wilds Creek (082FSE005) property 2 kilometres to the northwest has suggested the possibility that mineralization in this area could be sedimentary exhalative in origin.

BIBLIOGRAPHY

EMPR AR *1924-194; 1928-327; 1929-360
EMPR BC METAL MM01092
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/18

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE062**

NATIONAL MINERAL INVENTORY:

NAME(S): **CALIFORNIA**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 09 24 N
LONGITUDE: 116 32 28 W
ELEVATION: 565 Metres

NORTHING: 5444973
EASTING: 533459

LOCATION ACCURACY: Within 500M

COMMENTS: Common boundary of California #1-2, from location sketch.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
COMMENTS: Galena and sphalerite assumed from assay of trial shipment.
ASSOCIATED: Quartz
COMMENTS: Quartz assumed by comparison to Peggy (082FSE067) less than 1 kilometre to the south along the railway tracks.
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
Middle Proterozoic	Purcell	Middle Aldridge	

LITHOLOGY: Mica Schist

HOSTROCK COMMENTS: Hostrock not described; assumed by comparison with Peggy (082FSE067) less than one kilometre to the south.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Purcell Trench
TERRANE: Ancestral North America	
METAMORPHIC TYPE: Regional	RELATIONSHIP: GRADE: Greenschist
COMMENTS: Biotite facies greenschist grade regional metamorphism.	

CAPSULE GEOLOGY

Five claims of the California group were staked in March 1949 to cover mineralization astride the Canadian Pacific Railway near Wynndel. A trial shipment of 8 tonnes was made to the Trail smelter in November of 1949 that assayed 122 grams per tonne silver, 5.5 per cent lead and 0.6 per cent zinc (Minister of Mines Annual Report 1949, page 194). No further description of the property is available, but by comparison to the Peggy vein one kilometre to the south along the railway, it is likely that the California showing consists of a quartz vein with galena and sphalerite in mica schist of the Middle Proterozoic Middle Aldridge Formation.

BIBLIOGRAPHY

EMPR AR 1949-194
EMPR BC METAL MM00972 (included in error with California, 082FSW169)
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721
Chevron File

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE063**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOAT MOUNTAIN**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W 082F02E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 00 N
LONGITUDE: 116 29 58 W
ELEVATION: 1300 Metres

NORTHING: 5442399
EASTING: 536514

LOCATION ACCURACY: Within 1 KM

COMMENTS: Near the Alice Crown grant (Lot 4104) (082FSE007) on Goat Mountain (Minister of Mines Annual Report 1929).

COMMODITIES: Copper Gold Silver Lead

MINERALS

SIGNIFICANT: Unknown
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzofeldspathic Wacke
Quartz Wacke
Argillite
Gabbro
Gabbro Sill
Turbidite

HOSTROCK COMMENTS: Geology generalized from Brown and Stinson (Fieldwork 1994, page 115).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Goat Mountain showing is described only as a quartz vein with values in copper, gold, silver and some lead; even the location is poorly known, as "near the Alice claim" (Lot 4104, on the adjacent 82F/2E sheet, 082FSE007). The geology is generalized from the description of Middle Aldridge Formation sedimentary rocks in Brown and Stinson (Fieldwork 1994, page 115) as quartzofeldspathic wacke to quartz wacke, with lesser argillite, mainly turbidites. The sedimentary rocks are intruded by gabbro sills of the Moyie intrusions; both sedimentary and intrusive rocks belong to the Purcell Supergroup of Middle Proterozoic age. Country rock at the mouth of one of the adits on the property is greenstone, likely a gabbro sill.

BIBLIOGRAPHY

EMPR AR 1900-854; 1901-1035; 1929-360
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721
Placer Dome File
Chevron File

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 887
REPORT: RGEN0100

MINFILE NUMBER: **082FSE064**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROYAL CROWN**, MOYIE RIVER MINING

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 19 14 N
LONGITUDE: 116 03 57 W
ELEVATION: 1500 Metres

NORTHING: 5463511
EASTING: 567887

LOCATION ACCURACY: Within 500M

COMMENTS: Junction of Moyie River and Ridgeway Creek; from Minister of Mines Annual Report 1929.

COMMODITIES: Lead Copper

MINERALS

SIGNIFICANT: Galena Chalcopyrite

ASSOCIATED: Pyrite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

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

L04 Porphyry Cu ± Mo ± Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Diorite
Quartzite
Argillite
Pegmatite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: Unknown

GRADE: Greenschist

CAPSULE GEOLOGY

The Royal Crown showing is located at the junction of the Moyie River and Ridgeway Creek (Minister of Mines Annual Report 1929). Small galena lenses in a pegmatite stringer or vein occur in a Moyie diorite intrusion within Aldridge Formation quartzites and argillites (Middle Proterozoic Purcell Supergroup). At the quartzite-diorite contact a small patch of chalcopyrite-pyrite occurs.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR AR 1909-275; 1929-298; 1930-241
EMPR ASS RPT 8841
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: GSB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE064**

MINFILE NUMBER: **082FSE065**

NATIONAL MINERAL INVENTORY:

NAME(S): **YELLOW METAL**, HAWK

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

MINING DIVISION: Fort Steele

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 26 18 N
LONGITUDE: 116 09 58 W
ELEVATION: 2200 Metres

NORTHING: 5476519
EASTING: 560455

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located 5 kilometres southwest of Homestake (082FSE012) at the head of Gold Run Creek (Minister of Mines Annual Report 1915).

COMMODITIES: Gold Copper Silver

MINERALS

SIGNIFICANT: Gold Pyrite Chalcopyrite

ASSOCIATED: Quartz

COMMENTS: Mineralization is associated with quartz and talcose or sericitic shears and foliations.

ALTERATION: Talc Sericite Limonite

COMMENTS: Sericite and talc are found along bedding planes and appear to carry the best values in gold.

ALTERATION TYPE: Sericitic Talc

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

COMMENTS: Bedding nearly vertical, strike north; veins crosscut bedding in some places and strike 350 degrees, dip 80 degrees east elsewhere.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Middle Proterozoic

Purcell

Creston

LITHOLOGY: Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1926

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

7.0000

Grams per tonne

Gold

6.5000

Grams per tonne

COMMENTS: Samples from a vein 0.5 metre wide.

REFERENCE: Minister of Mines Annual Report 1926, page 127.

CAPSULE GEOLOGY

The Yellow Metal is a series of old showings located on the divide between the heads of Perry Creek and Hellroaring Creek; it was extensively prospected in the 1915-1921 period. More recently, the showings were explored by Unique Resources as the Hawk property.

The area is underlain by thinly bedded quartzites of the Creston Formation belonging to the Purcell Supergroup of Middle Proterozoic age. These metasedimentary rocks (biotite facies of regional greenschist metamorphism) have a strike from 020 to 025 degrees and dip steeply west. On top of the ridge at an elevation of about 2100 metres, a zone of crushing is shot through with narrow stringers of quartz that yield colours of gold on crushing. This band of quartzites has a width of about 100 metres. A short distance down the Hellroaring Creek slope, a quartz vein 0.5 metre wide parallel to the strike of the quartzites is defined by 7.5 centimetres of gouge on the hangingwall. The vein assayed 6.5 grams per tonne gold and 7 grams per tonne silver, and the gouge assayed 11 grams per tonne gold and 10 grams per tonne silver (Minister of Mines Annual Report 1926,

CAPSULE GEOLOGY

page 127). On the Perry Creek slope, quartz veins up to 1.3 metres strike northwest across bedding, or parallel to bedding and contain minor limonite after pyrite with low gold values up to 1.7 grams per tonne (Minister of Mines Annual Report 1921, page 127).

There are also occurrences of minor disseminated pyrite and chalcopyrite in talcose seams and associated quartz stringers, in a zone crosscutting the regional strike. Assays of this material yield up to 1.7 grams per tonne gold over 1 metre; a one tonne sample of the best material assayed 14 grams per tonne gold and a trace of copper (Minister of Mines Annual Report 1915, page 109). A glassy quartz vein up to 12 metres wide, on the Perry Creek slope, yielded only trace gold values. Some 300 metres to the east, another quartz vein, striking 350 degrees and dipping 80 degrees west, occurs along the bedding of the quartzites which are sericitic on the bedding planes. Assays in this vein are up to 24 grams per tonne gold for picked samples, or 1.7 grams per tonne over 0.5 metre width (Minister of Mines Annual Report 1915, page 109).

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR AR *1915-109; 1918-151; *1921-127
EMPR ASS RPT 14718, 15387
EMPR PF (Prospectus-Unique Resources Ltd., March 25, 1988 including report by Alex Burton, June 1987)
GSC MAP 603A
GSC MEM 228
GSC OF 820; 929; 2721
WWW <http://www.infomine.com/index/properties/ZINGER.html>

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE066**

NATIONAL MINERAL INVENTORY:

NAME(S): **PRINCESS (L.14285)**, VICTORIA (L.14284), PRINCE (L.14286),
 MONARCH (L.14287)

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 082F08E
 BC MAP:
 LATITUDE: 49 25 00 N
 LONGITUDE: 116 13 49 W
 ELEVATION: 2225 Metres

MINING DIVISION: Fort Steele
 UTM ZONE: 11 (NAD 83)
 NORTHING: 5474061
 EASTING: 555828

LOCATION ACCURACY: Within 500M
 COMMENTS: Located by position of Reverted Crown grant Lot 14285.

COMMODITIES: Magnesite

MINERALS

SIGNIFICANT: Magnesite
 ASSOCIATED: Quartz
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive
 CLASSIFICATION: Replacement Hydrothermal Industrial Min.
 TYPE: E09 Sparry magnesite
 SHAPE: Irregular
 MODIFIER: Fractured Sheared

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Cranbrook	

LITHOLOGY: Quartzite
 Argillite
 Magnesite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Ancestral North America
 METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Princess property consists of the Victoria, Princess, Prince and Monarch Reverted Crown grants (Lots 14284 to 14287 respectively). Magnesite is exposed at the base and again on the north wall of an irregular cirque at the headwaters of Hellroaring Creek. Magnesite occurs in a bed 3 to 6 metres thick underlain by white quartzite of the Lower Cambrian upper Cranbrook Formation and is overlain by thin bedded, green siliceous argillites of the Lower Cambrian Eager Formation. The stratigraphy is folded into a tight north-trending (020 degrees) syncline with a northerly plunge. There is considerable shearing and fracturing along the trend parallel to the fold axis.

In the floor of the cirque, the bed of magnesite is exposed over a strike length of 131 metres and is exposed again in the north wall of the cirque for 213.4 metres horizontally and a vertical exposure of 122 metres to the top of the ridge. A small opencut exposed a badly sheared and fractured magnesite horizon containing abundant pods and veinlets of quartz. The magnesite varies from pearly grey to buff, is very coarse grained and has a brown weathered surface.

Sample A is a chip sample collected by McCammon (Minister of Mines Annual Report 1964, page 193) across a 10-metre face from the opencut. Sample B is a sample of unknown character reported by Cairnes (1932). All oxides in per cent.

Sample	MgO	CaO	Fe(total)	SiO2	CO2	Al2O3	Fe2O3+Al2O3	Insoluble
A	40.47	0.78	2.07	5.97	44.02	3.98	-	-
B	42.09	1.79	-	5.92	-	-	5.11	2.39

BIBLIOGRAPHY

EM GEOS MAP 1998-3
 EMPR AR 1901-1006; 1906-251; 1907-217; *1964-193-194
 EMPR OF 1987-13, 1999-3
 EMPR PF (Notes by G.B. Leech, 1963)
 GSC MAP *603A

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 891
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 228, pp. 29,56
GSC OF 929; 2721
GSC P 37-27, p. 17
GSC SUM RPT *1932, Part A, p. 103

DATE CODED: 1985/07/24
DATE REVISED: 1995/10/04

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE067**

NATIONAL MINERAL INVENTORY:

NAME(S): **PEGGY**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 09 00 N
LONGITUDE: 116 32 28 W
ELEVATION: 565 Metres

NORTHING: 5444232
EASTING: 533463

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located 3.2 kilometres south of Wynndel on the abandoned grade of the Great Northern Railway (Minister of Mines Annual Report 1930).

COMMODITIES: Lead Zinc Silver Gold

MINERALS

SIGNIFICANT: Galena Sphalerite

ASSOCIATED: Quartz

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>
Middle Proterozoic	Purcell	Middle Aldridge	

LITHOLOGY: Mica Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Trench

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: Biotite facies greenschist grade.

INVENTORY

ORE ZONE: OPENCUT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1930

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	10.3000	Grams per tonne
Gold	0.7000	Grams per tonne
Lead	3.2500	Per cent
Zinc	0.4000	Per cent

COMMENTS: Samples of selected sulphides from the north opencut.

REFERENCE: Minister of Mines Annual Report 1930, page 279.

CAPSULE GEOLOGY

The Peggy showing is located on the abandoned grade of the Great Northern Railway about 3.2 kilometres south of Wynndel in the Purcell Trench. Two opencuts in 1929 exposed a quartz vein striking 010 degrees and dipping 80 degrees west, hosted in mica schist that is mapped as part of the Middle Aldridge Formation (Purcell Supergroup of Middle Proterozoic age: Brown et al., Fieldwork 1994).

The vein varies in width from 0.3 to 1.2 metres and contains minor amounts of galena and sphalerite with associated silver and gold values. A sample of selected sulphides from the north opencut assayed 3.25 per cent lead, 0.4 per cent zinc, 10.3 grams per tonne silver and 0.7 gram per tonne gold (Minister of Mines Annual Report 1930).

BIBLIOGRAPHY

EMPR AR *1930-279
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228
GSC OF 929, 2721

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

CODED BY: GSB
REVISED BY: CHLB

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE067**

MINFILE NUMBER: **082FSE068**

NATIONAL MINERAL INVENTORY:

NAME(S): **OPTION, SKY, HAZEL**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F01E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 09 06 N
LONGITUDE: 116 12 52 W
ELEVATION: 1000 Metres

NORTHING: 5444613
EASTING: 557283

LOCATION ACCURACY: Within 500M

COMMENTS: Option #1; from location sketch, July 1958. Sky claim located from Assessment Report 16501. See also Goatfell, 082FSE107.

COMMODITIES: Copper Gold Tungsten Silver Yttrium
 Zinc Lead Rare Earths

MINERALS

SIGNIFICANT: Scheelite Chalcopyrite Gold Pyrrhotite
ASSOCIATED: Quartz Tourmaline
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I06 Cu±Ag quartz veins I12 W veins
 I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartz Wacke
 Quartzofeldspathic Wacke
 Argillite
 Granodiorite
 Diorite Sill

HOSTROCK COMMENTS: Early information was that "the country rock consists of granodiorite and quartzite"; possibly the diorite sill was misidentified.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Option claim group originally consisted of 25 claims located east of Kitchener just north of the highway to Cranbrook, on Hazel Creek. Pits expose four separate veins; on the north end of the claims there are two quartz veins, 1.2 to 2 metres wide, striking 330 degrees and dipping steeply to the northeast. These veins appear to be parallel. On the south end of the claims there are two shear zones, 1.2 to 2.2 metres wide, striking 350 degrees and dipping steeply to the east. The veins contain copper (assumed to be as chalcopyrite), gold (probably native) and tungsten (as scheelite). The country rock consists of granodiorite, quartzite (quartz and quartzofeldspathic wacke) and argillite belonging to the Aldridge Formation of the Middle Proterozoic Purcell Supergroup; it is not certain to what group the "granodiorite" belongs, but later reports describe diorite sills, likely of the Moyie intrusions of the Purcell Supergroup.

The same area was later staked as the Sky property (Assessment Reports 16501, 18153, 23093). Assessment Report 16501 states that sampling in the mid-1960s showed "fair to good values for tungsten along with lower values for gold, silver, copper and some rare earths such as yttrium". Assaying during the recent work yielded values of up to 8 grams per tonne gold and 4182 grams per tonne silver in a float specimen that "also contained the identical suite of minerals and trace elements as contained in the mineralized quartz veins". One particularly large diorite sill is reported to contain many of the quartz veins, which in part exhibit a finely banded cherty appearance. The sills are in some cases weakly mineralized with chalcopyrite and pyrrhotite. Furthermore, a prominent fracture which strongly suggests a fissure, occurs near the highway at Hazel Creek; a

CAPSULE GEOLOGY

sample of this material yielded values in zinc, lead and rare earths. This fissure appears to cut the sedimentary rocks at a shallow angle, trending 330 degrees and dipping nearly vertical; the age is speculated as probably Jurassic-Cretaceous. In 1995, Arbor Resources Inc. and Klondike Gold Mines drilled 1 hole (76.5 metres). In 1999, Black Bull Resources (BC) Ltd. surveyed the property.

BIBLIOGRAPHY

EM GEOS MAP 1998-2
EMPR AR 1959-73
EMPR ASS RPT 16501, 18153, 19304, 23093, 23818, 25817
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125; 1997, pp. 9-1-9-22
EMPR OF 1991-17
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/24

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE069**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE RAIN**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 13 06 N
LONGITUDE: 116 19 04 W
ELEVATION: 1005 Metres

NORTHING: 5451951
EASTING: 549681

LOCATION ACCURACY: Within 500M

COMMENTS: East of and adjoins the Star claims (082FSE006) (Minister of Mines Annual Report 1957).

COMMODITIES: Silver Copper

MINERALS

SIGNIFICANT: Tetrahedrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Hydrothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1957

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver 10.0000 Grams per tonne

COMMENTS: Grab sample; also assayed for copper (nil), gold (trace) and nickel (<0.1 per cent).

REFERENCE: Minister of Mines Annual Report 1957, page 62.

CAPSULE GEOLOGY

The Blue Rain property is east of and adjoins the Star or Leadville property (082FSE006). Traces of tetrahedrite in quartzite have been observed over a large area; a few short diamond-drill holes have been drilled at random locations in order to prospect the occurrence. It has been described as tetrahedrite "scattered" in quartzite by N. Carter (1993). A grab sample in 1957 assayed 10 grams per tonne silver, nil copper, less than 0.1 per cent nickel and only trace gold (Minister of Mines Annual Report 1957). Hostrocks are not described in detail, but consist of quartzite of the Aldridge Formation, part of the Middle Proterozoic Purcell Supergroup.

BIBLIOGRAPHY

EMPR AR *1957-62
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/24

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 897
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1964-207; 1965-278
EMPR ASS RPT 6478
EMPR EXPL 1977-256,257
EMPR FIELDWORK 1994, pp. 135-155
EMPR OF 1988-14; 1988-19
EMPR PF (McCammon, J.W. (1964): Creston Talc; letter addressed to
J.W. McCammon dated December 15, 1965)
GSC MAP 603A
GSC MEM 228
GSC OF 481; 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1988/01/21

CODED BY: GSB
REVISED BY: MM

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE071**

NATIONAL MINERAL INVENTORY:

NAME(S): **MIKE, MIKE 1, MIKE 2,**
CRESTON AREA KYANITE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 54 N
LONGITUDE: 116 39 04 W
ELEVATION: 808 Metres

NORTHING: 5444004
EASTING: 525443

LOCATION ACCURACY: Within 1 KM

COMMENTS: The Mike claims are just west of the south end of Leach Lake,
adjacent to and north of the Creston-Salmo highway at the Summit
Creek bridge.

COMMODITIES: Kyanite

MINERALS

SIGNIFICANT: Kyanite
ASSOCIATED: Mica Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Metamorphic Pegmatite Industrial Min.
TYPE: P02 Kyanite-sillimanite schists

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Proterozoic	Purcell	Aldridge	

LITHOLOGY: Kyanite Mica Schist
Quartz Kyanite Pegmatite
Micaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Syn-mineralization GRADE: Amphibolite

CAPSULE GEOLOGY

Coarse-grained kyanite has been reported from the Creston area (McCammon, 1965) in Helikian Purcell Supergroup micaceous quartzites and mica schists with minor pegmatite. At the Mike occurrence, kyanite forms clean, bladed crystals in clumps 15 to 20 centimetres in diameter associated with the pegmatites, which occur as irregular masses 30 centimetres by 1 metre to 2 by 10 metres in size. Kyanite is also disseminated throughout the schists and micaceous quartzites, where crystals vary from small needles to 1 by 5 centimetres in size (McCammon, 1964).

The Mike occurrence is close to the main Salmo-Creston highway, at low elevations, and near Creston. The best area of pegmatites and kyanite is found over an area 75 metres wide by 105 metres long. Further kyanite is reported on the south side of Summit Creek, across the valley from the Mike, by Brown et al. (Fieldwork 1994, page 138).

BIBLIOGRAPHY

EMPR AR *1964-185-186
EMPR FIELDWORK 1994, p. 138
EMPR OF 1988-26
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: JP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 900
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR GEM 1969-383; 1970-492; 1971-457
EMPR MINING 1986-1987, p. 82; 1988, p. 81
EMPR OF 1988-14; 1994-1
GSC MAP 603A
GSC MEM 228
GSC OF 481; 929; 2721
CANMET RPT *846, pp. 1763-1770

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/14

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 901
REPORT: RGEN0100

MINFILE NUMBER: **082FSE073**

NATIONAL MINERAL INVENTORY:

NAME(S): **TIGAR 1**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 11 36 N
LONGITUDE: 116 20 52 W
ELEVATION: 800 Metres

NORTHING: 5449153
EASTING: 547520

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located 16 kilometres northeast of Creston, near Goat River flats
(Assessment Report 272).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Pyrrhotite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein

CLASSIFICATION: Hydrothermal

TYPE: I06 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Middle Proterozoic

Purcell

Aldridge

Moyie Intrusions

Middle Proterozoic

LITHOLOGY: Gabbro Sill
Quartzitic/Quartzose Wacke
Argillaceous Siltstone
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

METAMORPHIC TYPE: Regional

RELATIONSHIP: Post-mineralization

GRADE: Greenschist

COMMENTS: Mineralization in Moyie sills believed to be pre-metamorphic.

CAPSULE GEOLOGY

Pyrite, chalcopyrite and pyrrhotite are present as disseminations or fillings in fractures in a Purcell gabbro sill, part of the Moyie intrusions in Aldridge Formation sedimentary rocks which include quartzitic/quartzose wacke and argillaceous siltstone; both these units belong to the Middle Proterozoic Purcell Supergroup. As is typical of these occurrences in the sills, some small quartz-calcite veinlets are also present. A magnetometer survey of the claims in 1958 (Assessment Report 272) failed to find any anomalies.

BIBLIOGRAPHY

EMPR AR 1959-142
EMPR ASS RPT 272
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/24

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE073**

MINFILE NUMBER: **082FSE074**

NATIONAL MINERAL INVENTORY:

NAME(S): **ICE**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 20 14 N
LONGITUDE: 116 06 18 W
ELEVATION: 1733 Metres

NORTHING: 5465330
EASTING: 565019

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of "Ice" #12, location of drilling.

COMMODITIES: Titanium

MINERALS

SIGNIFICANT: Ilmenite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Hydrothermal Industrial Min.
TYPE: M ULTRAMAFIC/MAFIC ASSOCIATION

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Meta Gabbro Sill

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Ice showing is located in the headwaters of the Moyie River just east of the junction with South Moyie Creek. Disseminated ilmenite occurs in a metagabbro sill (N. Carter, personal communication, 1993), part of the Moyie intrusions into Aldridge Formation, both belonging to the Purcell Supergroup of Middle Proterozoic age.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 4131, 8841, 24244
EMPR GEM 1972-52; 1973-65
GSC MAP 603A
GSC MEM 228
GSC OF 820; 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE075**

NATIONAL MINERAL INVENTORY:

NAME(S): **SENASAEI**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 09 00 N
LONGITUDE: 116 21 04 W
ELEVATION: 1035 Metres

NORTHING: 5444333
EASTING: 547319

LOCATION ACCURACY: Within 1 KM

COMMENTS: Described as a little over a kilometre west of Kitchener, about 300 metres above the railway and on the north slope of the hill (Geological Survey of Canada Memoir 228).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE: Middle Proterozoic

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Middle Proterozoic
Middle Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Gabbro Sill
Quartzitic/Quartzose Wacke
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Mineralization in Moyie sills believed to be pre-metamorphic.

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: Post-mineralization

GRADE: Greenschist

CAPSULE GEOLOGY

The Senasael showing is situated a little over a kilometre west of Kitchener, about 300 metres above the railway and on the north slope of the hill; the workings consisted (in 1940) of four opencuts distributed down the hill in a westerly direction. All the cuts are in a flat-lying gabbro sill of the Moyie intrusions, probably not over 30 metres thick although only the upper contact is well exposed. The sill is intruded into sedimentary rocks of the Lower Aldridge Formation (Ramparts facies of Brown and Stinson - Fieldwork 1994, page 113) that mainly comprise quartzitic wackes. Both the sedimentary rocks and the gabbro belong to the Purcell Supergroup of Middle Proterozoic age.

The showings consist of a quartz-calcite vein, dipping at a high angle and cutting across the sill. The vein is up to 2.4 metres wide at the upper contact of the gabbro, where it is well mineralized with chalcopyrite. The vein terminates abruptly against the overlying sediments and tapers with decreasing sulphide content in the other direction to become very narrow and almost barren in the centre of the sill. Near the bottom of the sill the vein widens but there is no increase in sulphide content.

BIBLIOGRAPHY

EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
GSC MAP 603A
GSC MEM 228, p. 60
GSC OF 929; 2721
GSC P 38-17, p. 14
Chevron File

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/09

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE076**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACKMORE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 01 00 N
LONGITUDE: 116 16 52 W

NORTHING: 5429557
EASTING: 552564

ELEVATION: 1733 Metres

LOCATION ACCURACY: Within 5 KM

COMMENTS: The location is poorly known and is given as north of Kingsgate (Minister of Mines Annual Report 1948). An unknown reference plots the location to the west of Kingsgate, at the centre of the Ice #12 claim, (082FSE074).

COMMODITIES: Silver Lead

MINERALS

SIGNIFICANT: Galena
COMMENTS: Galena is inferred from the assays.

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Undefined Formation	
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Siliceous Carbonate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Blackmore occurrence is poorly documented and the best location is given as north of Kingsgate. An unknown reference plots the occurrence west of Kingsgate at the centre of the Ice #12 claim; the reference indicates drilling at this location.

Regionally, the area is underlain by the peri-cratonic Middle Proterozoic Purcell Supergroup, a thick succession of siliciclastic and lesser carbonate rocks. The Purcell Supergroup is well known for hosting a number of significant deposits that include the Sullivan (082FNE052) sedimentary-exhalative deposit and the Troy copper-silver deposit in Montana.

A shipment in 1948 of 5 tonnes produced 373 grams of silver and 9 kilograms of lead indicating grades of 82.2864 grams per tonne silver and 0.95 per cent lead (Minister of Mines Annual Report 1948).

BIBLIOGRAPHY

EMPR AR *1948-150
EMPR BC METAL MM00966
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
EMPR INDEX 3-190
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE077**

NATIONAL MINERAL INVENTORY:

NAME(S): **MCPEAK, LAURA**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 24 N
LONGITUDE: 116 40 16 W

NORTHING: 5435660
EASTING: 524020

ELEVATION: 833 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Situated on Corn Creek 5 kilometres from Kootenay Flats
(Minister of Mines Annual Report 1919).

COMMODITIES: Copper Silver Zinc Lead

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Sphalerite Galena

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

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

I06 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Slate
Schist
Lit-par-lit Gneiss
Gneissic Granite
Dolomite

HOSTROCK COMMENTS: On the edge of the Corn Creek Gneiss (Brown et al., Fieldwork 1994)
and in an area of lit-par-lit gneiss.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional Contact

RELATIONSHIP:

GRADE: Amphibolite

COMMENTS: Kyanite-sillimanite facies at edge of Cretaceous Corn Creek Gneiss.

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1919

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

137.0000

Grams per tonne

Copper

3.5000

Per cent

REFERENCE: Minister of Mines Annual Report 1919, page 136.

CAPSULE GEOLOGY

The McPeak group originally comprised three claims situated on Corn Creek at a distance of 5 kilometres from Kootenay Flats, in an area largely covered by overburden. Although described as slates and schist in the Minister of Mines Annual Report for 1919, recent mapping shows the rocks of this area to be high-grade metamorphic (kyanite-sillimanite amphibolite facies) of regional extent, likely influenced by proximity to the Cretaceous Corn Creek Gneiss (Brown et al., Fieldwork 1994). These authors show the area concerned to lie within lit-par-lit gneiss developed from Aldridge Formation rocks (Middle Proterozoic Purcell Supergroup), at the edge of the granitic Corn Creek Gneiss.

The original showings consisted of a quartz vein striking southwest and dipping 25 degrees southeast; it was drifted on for 6 metres in greenish calcareous rock, probably dolomite, sparsely mineralized with chalcopyrite and pyrite. Another tunnel 12 metres west of the discovery outcrop struck a pocket of mineralization consisting of chalcopyrite, pyrite, sphalerite and galena, a sample of which assayed 3.5 per cent copper and 137 grams per tonne silver (Minister of Mines Annual Report 1919).

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 906
REPORT: RGEN0100

CAPSULE GEOLOGY

Recent work on the Laura claim, staked to cover the mineralization, failed to relocate the old showings (Assessment Report 17398).

BIBLIOGRAPHY

EMPR AR *1919-136
EMPR ASS RPT 17398
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A; 1714A
GSC MEM 228
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE078**

NATIONAL MINERAL INVENTORY: 082F2 Au2

NAME(S): **HARRIS**, WALL, SILVER WALL

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 11 12 N
LONGITUDE: 116 59 58 W
ELEVATION: 2000 Metres

NORTHING: 5448207
EASTING: 500040

LOCATION ACCURACY: Within 500M

COMMENTS: Described as adjoining the Spokane (082FSE032) on the west.

COMMODITIES: Lead

MINERALS

SIGNIFICANT: Galena Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Upper Proterozoic
Middle Jurassic

GROUP

Horsethief Creek

FORMATION

Three Sisters

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Biotite Granodiorite
Quartzite
Grit

HOSTROCK COMMENTS: Wall stock believed to belong to Nelson intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional Contact

RELATIONSHIP:

GRADE: Amphibolite

COMMENTS: Amphibolite grade (kyanite-staurolite-sillimanite) is in Wall stock.

CAPSULE GEOLOGY

The property is located at elevations of approximately 1768 to 1890 metres on the south side of Wall Mountain, near the head of the west fork of Wall Creek, some 35.4 kilometres west-northwest of Creston.

A claim adjacent to the Spokane group, and owned in 1915 by a Mr. Harris, was located on the westerly extension of the Spokane vein (082FSE032). This ground was apparently in part held as the Hilltop and Sitka (082FSW232) claims, owned in 1937 by John Bull. See Spokane for exploration details.

The Harris showing is originally reported on in the Minister of Mines Annual Report for 1915, where it is described as lying adjacent and to the west of the Spokane (082FSE032) vein, probably an extension of that vein. An opencut about 6 metres long exposes a 15-20 centimetre wide quartz vein containing galena and a little pyrite; no assays are reported. Exploration traced the vein toward the Spokane, where it remained narrow. The vein strikes 283 degrees.

The vein is hosted in biotite granodiorite of the Wall stock, presumed to belong to the Middle Jurassic Nelson intrusions; just to the south of and downslope from the vein, grit and quartzite of the Upper Proterozoic Three Sisters Formation (Horsethief Creek Group) occur. Metamorphic grade of this area is high (kyanite-staurolite-sillimanite amphibolite: Geological Survey of Canada Map 1714A).

In 1982 and 1984, the area to the west of the Spokane vein has been explored by Nugget Mines Ltd. (Assessment Reports 10841, 13393); a geophysical and geochemical survey suggested extensions of the vein both to the west and to the east of the Spokane.

BIBLIOGRAPHY

EMPR AR 1915-174; 1917-167
EMPR ASS RPT 10841, 13393, 16909, 23699
EMPR FIELDWORK 1994, pp. 135-155

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 908
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 228 (Map 603A)
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/21

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE079**

NATIONAL MINERAL INVENTORY:

NAME(S): **LUCKY**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 30 N
LONGITUDE: 116 26 34 W
ELEVATION: 640 Metres

NORTHING: 5441501
EASTING: 540654

LOCATION ACCURACY: Within 1 KM
COMMENTS: Junction of Arrow Creek and Goat River.

COMMODITIES: Thorium

MINERALS

SIGNIFICANT: Thorite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Sedimentary
TYPE: D05 Sandstone U

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Argillite
Quartzitic/Quartzose Wacke

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

Thorite is reported to occur at the junction of Snow Creek (Arrow Creek) and Goat River. The area is underlain by argillite and quartzitic wacke metasediments of the Helikian Aldridge Formation (Middle Proterozoic Purcell Supergroup: Brown et al., Fieldwork 1994).

BIBLIOGRAPHY

EMPR FIELDWORK 1993, pp. 129-151
EMPR OF 1990-32
GSC EC GEOL 16 (2nd Ed.), p. 234
GSC OF 929; 2721

DATE CODED: 1987/07/09
DATE REVISED: 1995/11/28

CODED BY: LDJ
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE080**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOTHERLODE**

MINING DIVISION: Nelson

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F02W
 BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 02 48 N
 LONGITUDE: 116 58 16 W
 ELEVATION: 1833 Metres

NORTHING: 5432644
 EASTING: 502111

LOCATION ACCURACY: Within 1 KM

COMMENTS: Common boundary, Lots 16238-16240 inclusive (forfeited).

COMMODITIES: Copper Silver Gold Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Pyrrhotite Galena
 ASSOCIATED: Quartz Ankerite Sericite
 ALTERATION: Sericite
 ALTERATION TYPE: Sericitic
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Proterozoic Horsethief Creek
 Upper Proterozoic Horsethief Creek

Irene Volcanic
 Toby

LITHOLOGY: Greenstone
 Pebble Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
 TERRANE: Ancestral North America
 METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
 COMMENTS: Chlorite grade regional metamorphism.

INVENTORY

ORE ZONE: DUMP REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1937
 SAMPLE TYPE: Grab
 COMMODITY GRADE
 Silver 154.0000 Grams per tonne
 Gold 7.0000 Grams per tonne
 Copper 2.4000 Per cent

COMMENTS: Samples of dump material.
 REFERENCE: Minister of Mines Annual Report 1937, page E40.

CAPSULE GEOLOGY

The Motherlode showings were staked in 1937 on a small south-flowing tributary, about 1.5 kilometres north of its junction with Monk Creek on the southwest slopes of Mount Irene at 1700 to 1850 metres elevation. The Copper Queen (082FSE053) of similar mineralization may adjoin on the south, at slightly lower elevation; see also the Irene (082FSE134) located in Char Creek to the north (Assessment Report 22054).

Mineralization occurs in sheared greenstone of the Irene Volcanic Formation, underlain to the east by pebble conglomerate of the Toby Formation. Both these units are part of the Horsethief Creek Group of Upper Proterozoic age, and are metamorphosed to chlorite facies of regional greenschist metamorphism. Mineralization is associated with a zone of fracturing and veining that trends northerly and dips steeply west, across a maximum width of 6 metres and strike length of 75 metres as exposed in numerous surface trenches and opencuts. In addition to rusty gossan, pyrite, chalcopyrite, pyrrhotite and a little galena are exposed in a gangue of quartz, ankeritic carbonate and sericitic material. Samples of dump material assay up to 2.4 per cent copper, 154 grams per tonne silver and trace gold; rusty gossan (in which gold is probably

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CAPSULE GEOLOGY

enriched) assay up to 7 grams per tonne gold (Minister of Mines Annual Report 1937).

BIBLIOGRAPHY

EMPR AR *1937-E40
EMPR ASS RPT 22054
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/18

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE081**

NATIONAL MINERAL INVENTORY:

NAME(S): **PEANUT**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 17 36 N
LONGITUDE: 116 54 40 W
ELEVATION: 1432 Metres

NORTHING: 5460069
EASTING: 506463

LOCATION ACCURACY: Within 500M

COMMENTS: South of Cultus Creek and about 3.5 kilometres west of Mount Burnett (Minister of Mines Annual Report 1968).

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Tetrahedrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Granite

HOSTROCK COMMENTS: There is no intrusion mapped here; perhaps a small stock too small to show on the regional maps is present.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Staurolite grade metamorphism is post-Nelson intrusions.

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: GRADE: Amphibolite

CAPSULE GEOLOGY

The Peanut showing is located "south of Cultus Creek and about 3.5 kilometres west of Mount Burnett" (Minister of Mines Annual Report 1968). It is described as a shear zone cutting altered granite (alteration not described). The shear zone strikes 325 degrees and dips 75 degrees southerly; it contains a narrow lens of vein material (assumed to be quartz) which carries tetrahedrite. The vein, which is only 10 centimetres wide, has been traced for 12 metres on surface and to a depth of 8 metres in an inclined shaft. Although no granite is mapped in the area of the claims, there could be a small stock, possibly related to the Middle Jurassic Nelson intrusions, too small to show at the regional scale.

BIBLIOGRAPHY

EMPR AR *1968-241
EMPR ASS RPT 10484, 17738
GSC MEM 228 (Map 603A)
GSC OF 514; 929; 2721
GSC P 76-1B, pp. 21-23

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/18

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE082**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUMDINGER & HUNKADORA**, HUNKADORA

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 36 N
LONGITUDE: 116 54 16 W
ELEVATION: 1450 Metres

NORTHING: 5458217
EASTING: 506950

LOCATION ACCURACY: Within 1 KM

COMMENTS: The Minister of Mines Annual Report for 1927 describes the showings as on the trunk trail in the low pass between Cultus and Canyon (now Next) creeks.

COMMODITIES: Copper Silver Gold

MINERALS

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

DEPOSIT

CHARACTER: Stratabound Disseminated
CLASSIFICATION: Hydrothermal Replacement
TYPE: J01 Polymetallic manto Ag-Pb-Zn 106 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Horsethief Creek	Irene Volcanic	

LITHOLOGY: Siliceous Dolomite
Schistose Andesitic Tuff
Siltstone
Phyllitic Slate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Amphibolite
COMMENTS: Close to or in the region of staurolite amphibolite facies.

INVENTORY

ORE ZONE: DUMP REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1927
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 82.0000 Grams per tonne
Gold 2.0000 Grams per tonne
Copper 4.5800 Per cent
REFERENCE: Minister of Mines Annual Report 1927, page 326.

CAPSULE GEOLOGY

The Humdinger and Hunkadora showings are located in the low pass connecting Cultus and Next creeks, at an elevation of about 1450 metres. The recorded location is only one of several occurrences along a strike length of 1 kilometre in a mainly overburden-covered area. It is along the trend of mineralization referred to in the Cultus Creek (082FSE056) showing, and may be along strike of the Iva Fern (082FSE037) showings of similar character to the north. It is possible that the Peanut showing (082FSE081), which is reported to be hosted in granite, lies farther to the west than shown on the map. Mineralization is described as chalcopyrite disseminated through a siliceous and calcareous gangue, uniformly distributed over about 2 metres width; the lateral limits to the mineralization were not exposed. Other occurrences of similar mineralization are in float boulders along the strike between the Humdinger and Cultus Creek showings. A grab sample in 1927 from the dump assayed 4.58 per cent copper, 82 grams per tonne silver and 2 grams per tonne gold, the balance being 60.6 percent silica and minor lime and alumina (Minister of Mines Annual Report 1927, page 326). More

CAPSULE GEOLOGY

recent work by Minequest Exploration Associates Ltd. in 1981 confirmed minor copper and silver values up to 1.2 per cent and 29 grams per tonne respectively, with trace gold at 0.1 gram per tonne. This work extended the zone of interest with induced polarization and geochemical anomalies. Significantly, this work suggested that a stratabound horizon containing the mineralization might extend from the Iva Fern showing 5 kilometres to the north to as far south as the Canada Belle (082FSE054), a distance of roughly 30 kilometres.

Originally described as siliceous limestone, the hostrocks are characterized by Assessment Report 10484 as silicified dolostone, part of one or two carbonate units occurring with schistose andesitic tuffs, siltstone and overlying phyllitic slate in the Irene Volcanic unit of the Horsethief Creek Group, part of the Windermere Supergroup of Upper Proterozoic age. These units strike 340 degrees, parallel to the trend of the mineralization, with a steep westerly dip. The dolostone units are up to 600 metres thick, and locally contain as much as 10 per cent pyrite and chalcopyrite.

BIBLIOGRAPHY

EMPR AR *1927-326
EMPR ASS RPT *10484, 17738
EMPR PF (Starr, C.C. (1929): Report on the Humdinger - Hunkidora Group; Prospectus for New Spirit Resources Inc., Feb. 26, 1988)
GSC MEM 228 (Map 603A)
GSC OF 514; 929; 2721
GSC P 76-1B, pp. 21-23

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/21

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE083**

NATIONAL MINERAL INVENTORY:

NAME(S): **SKYLARK**, HOMESTAKE, PARK,
VICTORIA

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 00 24 N
LONGITUDE: 116 50 04 W
ELEVATION: 1300 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5428210
EASTING: 512108

LOCATION ACCURACY: Within 5 KM

COMMENTS: It is not possible to locate the Homestake accurately; the only description (Minister of Mines Annual Report 1900) is that it is "situated on Boundary Creek". The plotted location is clearly arbitrary, and could be more than 5 kilometres in error.

COMMODITIES: Silver Lead Copper

MINERALS

SIGNIFICANT: Galena Tetrahedrite

ASSOCIATED: Quartz

COMMENTS: Quartz is assumed to be the main gangue mineral.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I06 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Middle Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Phyllitic Siltstone

HOSTROCK COMMENTS: Hostrock description from Brown et al. (Fieldwork 1994, pages 135-155).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

COMMENTS: Regional metamorphism is above almandine facies.

CAPSULE GEOLOGY

The Homestake (Skylark, Park, Victoria) showings are not accurately located, being described only as "on Boundary Creek". Thus, the plotted location could be in error by as much as 10 kilometres. There is no description in the single reference (Minister of Mines Annual Report 1900) of the geology to aid in positioning of the occurrence; hostrock is assumed to be phyllitic siltstones of the Aldridge Formation (Middle Proterozoic Purcell Supergroup), taken from Brown et al. (Fieldwork 1994). Showings at both the Homestake and Skylark consist of grey copper (tetrahedrite) and galena, assumed to be in a quartz vein gangue. On the Homestake, a tunnel was driven 25 metres on the vein, and on the Skylark a shaft traced it down for 15 metres.

BIBLIOGRAPHY

EMPR AR 1899-602; 1900-855; 1901-1224
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/18

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE084**

NATIONAL MINERAL INVENTORY:

NAME(S): **WEAVER CREEK**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

Open Pit

MINING DIVISION: Fort Steele

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 24 20 N
LONGITUDE: 116 01 24 W

NORTHING: 5473000
EASTING: 570854

ELEVATION: 1395 Metres

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location is arbitrarily chosen just above the Highway 3/95 crossing of Weaver Creek, a tributary to the Moyie River (Bulletin 28, page 34).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
COMMENTS: Placer gold
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Middle Proterozoic
Tertiary
Middle Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Glacial/Fluvial Gravels
Moyie Intrusions

LITHOLOGY: Gravel
Clay
Argillite
Quartzite
Diorite

HOSTROCK COMMENTS: Bedrock geology consists of Aldridge Formation sedimentary rocks and Moyie intrusions (diorite).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The location of the Weaver Creek placer gold occurrence is poorly known; it is arbitrarily plotted on Weaver Creek just above the Highway 3/95 crossing. It had recorded production of 23,605 grams of gold over the period 1874 to 1930 (Bulletin 28, page 34). The gold is assumed to be contained within Tertiary glaciofluvial gravel and clay deposits. Bedrock geology consists of Middle Proterozoic Aldridge Formation argillite and quartzite intruded by diorite of the Moyie intrusions (also part of the Middle Proterozoic Purcell Supergroup).

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 24613
EMPR BULL *28, p. 34
GSC MAP 603A
GSC MEM 228
GSC OF 820; 2721

DATE CODED: 1996/01/11
DATE REVISED: 1996/01/26

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE085**

NATIONAL MINERAL INVENTORY:

NAME(S): **WELLINGTON**, MASCOT, ECLIPSE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

MINING DIVISION: Fort Steele

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 25 18 N
LONGITUDE: 116 13 04 W
ELEVATION: 1800 Metres

NORTHING: 5474626
EASTING: 556729

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location of this property appears to be highly uncertain; Minister of Mines Annual Report for 1915 describes it as "on the south branch of Hell Roaring creek (sic), about eight miles from where the main stream joins St. Mary river"; the Minister of Mines Annual Report for 1932 describes it as "situated on the East branch of Hellroaring creek, about 7 miles by trail from the road near St. Mary lake". The early MINFILE plots have it about 12 miles (19 kilometres) from the St. Mary River, in a location where the known strike of the vein and elevations described in the Minister of Mines Annual Report for 1932 are not possible.

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Pyrite Sphalerite Chalcopyrite
COMMENTS: Galena is common; sphalerite and pyrite minor, and chalcopyrite rare.
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
COMMENTS: Vein conformable with schistosity (030 degrees azimuth) rather than with bedding (north-south) and has a strike length of over 600 metres and width of up to 1 metre.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	Unnamed/Unknown Informal
Cretaceous-Tertiary			

LITHOLOGY: Argillaceous Quartzite
Porphyritic Granite

HOSTROCK COMMENTS: Granite is believed to be Cretaceous in age.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist
COMMENTS: Mineralization is speculated to be related to Cretaceous granite.

CAPSULE GEOLOGY

The Wellington (Mascot, Eclipse) showings are not reliably located beyond the fact that they are near the headwaters of Hellroaring Creek, at an elevation of about 1800 metres. This may explain why they do not appear to have received recent attention during the exploration in the adjacent Perry Creek drainage; they could not be relocated.

A single vein of great strike extent is hosted by the Creston Formation of the Middle Proterozoic Purcell Supergroup, comprising argillaceous quartzites in this location, metamorphosed to greenschist facies. A porphyritic granite crops out about 60 metres below the vein, and is characterized as a stock. Recent mention of this stock (Assessment Report 16656) suggests it may be Cretaceous in age, and possibly related to the mineralization.

The vein is sharply defined, apparently following a strong fault-fissure zone conforming more or less with the schistosity of the enclosing quartzites rather than with their bedding; however, the two sources (Minister of Mines Annual Reports for 1915 and 1932) differ in the strike by 30 degrees, one suggesting the strike is due north and the other that it is 030 degrees, dipping 65 to 80 degrees east. The vein is mainly quartz with galena, pyrite, sphalerite and minor chalcopyrite; no alteration envelope is described. Values in gold

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 918
REPORT: RGEN0100

CAPSULE GEOLOGY

and silver are apparently confined to a pay streak which favours the hangingwall side of the vein. The vein may be traced over a length of 600 metres, with assays over widths up to 1.0 metre of up to 14.4 grams per tonne gold, 140 grams per tonne silver, 15 per cent lead, and 0.8 per cent copper (Minister of Mines Annual Report 1932, page 162).

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR AR 1915-113; *1932-162; 1934-E29
EMPR ASS RPT 16656
GSC MEM 76 (Map 147A)
GSC OF 820; 929; 2721
GSC SUM RPT 1932 Part A

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE086**

NATIONAL MINERAL INVENTORY:

NAME(S): **HAWK**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 04 N
LONGITUDE: 116 25 25 W
ELEVATION: 731 Metres

NORTHING: 5427739
EASTING: 542158

LOCATION ACCURACY: Within 1 KM

COMMENTS: The Hawk occurrence is believed to be located about 10 kilometres south-southeast of Creston, on Huscroft Creek at the International Boundary (Exploration in British Columbia, 1978, page E47).

COMMODITIES: Copper Silver Gold

MINERALS

SIGNIFICANT: Chalcopyrite Malachite
COMMENTS: It is not clear whether the gold and silver is visible.
ASSOCIATED: Quartz Carbonate
COMMENTS: Probably quartz-carbonate veins which are commonly associated with the Moyie intrusions in this area.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I06 Cu±Ag quartz veins I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Gabbro
Siliceous Clastic

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
PHYSIOGRAPHIC AREA: Purcell Trench

CAPSULE GEOLOGY

The Hawk occurrence is poorly documented and the best location is given as 10 kilometres south-southeast of Creston, on Huscroft Creek at the International Boundary (Exploration in British Columbia 1978, page E47). At this location, the occurrence should lie near the eastern base of the Creston Ramparts which are west-facing cliffs that rise to peaks in excess of 2100 metres from the Creston valley floor.

Regionally, the area is underlain by the peri-cratonic Middle Proterozoic Purcell Supergroup, a thick succession of siliciclastic and lesser carbonate rocks. The Purcell Supergroup is well known for hosting a number of significant deposits that include the Sullivan sedimentary-exhalative lead-zinc deposit (082FNE052) and the Troy copper-silver deposit in Montana.

More locally, this occurrence lies west of the Iron Range fault within gabbroic rocks of the Moyie sills which are interlayered with the siliciclastic rocks of the Middle Proterozoic Aldridge Formation (Purcell Supergroup).

Chalcopyrite, malachite, silver and gold mineralization is reported to occur within gabbro of the Middle Proterozoic Moyie intrusions.

Previous work consists of re-timbering tunnels and constructing opencuts.

BIBLIOGRAPHY

EMPR EXPL *1978-E47; 1979-53
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
EMPR INDEX 3-190
GSC MAP 603A
GSC MEM 228

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 920
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

containing hornblende phenocrysts. The microdiorite bodies are generally pervasively chloritized and locally contain quartz stockwork; argillites on both footwall and hangingwall are siliceous, possibly due to the intrusive event. Disseminated pyrite occurs in both the quartz stockwork in the microdiorite and the adjacent phyllites.

Gold mineralization is associated with quartz veins, stockworks and siliceous zones in the vicinity of the microdiorite bodies that are emplaced along regional shear zones in the sedimentary rocks. These shear zones run parallel to Perry Creek (i.e. northeast) on the west side of the creek. The shear zones are filled by vein, irregular lenses and stringers of quartz containing boxworks of limonite (after pyrite) and occasionally gold, galena, sphalerite and chalcopryrite; silver is known from assays, which range up to 53 grams per tonne silver and 3.4 grams per tonne gold over 3 metres in trenches (Assessment Report 13007). Hydrothermal alteration of wallrocks occurs as chlorite, sericite and talc schists. The shear zones are topographically recessive, occurring between resistant ledges of siliceous sediments, possibly due to the ease with which breccia, gouge and hydrothermally altered materials in and marginal to the shears are eroded. Thus, much of the mineralization associated with these shears may be yet to be discovered.

Additional work (very low frequency electromagnetic survey) has been carried out on the Walsh claims which adjoin to the south, but no mineralization was discovered (Assessment Report 12983). Kokanee Exploration worked on the Price property adjacent or nearby to the north (possibly actually on the next sheet, 082FNE; description only locates it as 20 kilometres west of Cranbrook in the Perry Creek area, underlain by gently rolling terrain ranging in elevation between 1370 and 1525 metres and accessible by good year-round logging roads; only reference is George Cross News Letter No.183, 1990). The Kokanee property covers a large quartz vein which contains visible free gold with minor values in lead and silver, hosted by strongly sheared Middle Proterozoic sediments, and is adjacent to the large regional Perry Creek fault. Previous work partly exposed the vein for a distance of 35 metres, dipping steeply west and striking northeast with a true width at surface of 6 metres and containing up to 206 grams per tonne gold.

BIBLIOGRAPHY

- EM GEOS MAP 1998-3
EMPR ASS RPT 7103, 7723, 8598, 9850, 11802, 12983, *13007, 15649, 19116
EMPR MEIP 78/79 Report on the Perry Creek gold prospect, by J.H. Montgomery
EMPR PF (Geologic and geochemical reports on the Janet, Janet 1, Birdie Load, Gold, Quartz Creek, Lone Eagle, Eclips, Anna, Standard, Agnes, Pioneer, Oyster, Evening Star, Luke, Mark, John by D.F. Symond, Dec. 1, 1978; July 5, 1978)
GSC MAP 15-1957
GSC OF 820; 929; 2721
GCNL #183, 1990

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE088**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRESTON CLAY**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 24 N
LONGITUDE: 116 24 46 W
ELEVATION: 700 Metres

NORTHING: 5443185
EASTING: 542830

LOCATION ACCURACY: Within 5 KM

COMMENTS: Simply described as "along railway, best by Goat Canyon"
(Bulletin 30).

COMMODITIES: Clay

MINERALS

SIGNIFICANT: Clay

MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Stratiform

CLASSIFICATION: Sedimentary

TYPE: B06 Fireclay

Industrial Min.

E07 Sedimentary kaolin

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Quaternary

FORMATION

IGNEOUS/METAMORPHIC/OTHER
Glacial/Fluvial Gravels

LITHOLOGY: Clay
Till

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The location and character of the Creston fireclay deposit is poorly known; it is described as along railway, best by Goat Canyon. It is most likely a bed of clay in Quaternary or Recent glaciofluvial deposits.

The deposit is described as silty, grey-yellow, slightly calcareous clay; workability is described as 28 per cent water, gives fair plasticity. It is of average shrinkage, 3.1 per cent; tensile strength, 1.72 bars, fit for common brick by the soft mud process. Other characteristics, including cone, absorption and shrinkage, are described in Bulletin 30.

BIBLIOGRAPHY

EMPR BULL *30, p. 52
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
GSC MEM 65, p. 33; 76, p. 156
GSC OF 2721

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE089**

NATIONAL MINERAL INVENTORY:

NAME(S): **STAR (WEST)**, STAR NO. 1, STAR

STATUS: Past Producer Open Pit

MINING DIVISION: Nelson

REGIONS: British Columbia

UTM ZONE: 11 (NAD 83)

NTS MAP: 082F01W

BC MAP:

LATITUDE: 49 12 31 N

NORTHING: 5450873

LONGITUDE: 116 18 50 W

EASTING: 549974

ELEVATION: 1372 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: The Star (West) occurrence is located about 6 kilometres north of Kitchener, on the east side of the Goat River, at an elevation of 1372 metres (Minister of Mines Annual Report 1965).

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite

ASSOCIATED: Quartz Pyrrhotite

MINERALIZATION AGE: Unknown

DEPOSIT

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

DIMENSION: Metres

STRIKE/DIP: 071/72S

TREND/PLUNGE:

COMMENTS: Narrow quartz vein.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions

LITHOLOGY: Liny Quartzite
 Quartzite
 Siliceous Clastic
 Dioritic Sill

HOSTROCK COMMENTS: Quartz vein.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1990

SAMPLE TYPE: Drill Core

COMMODITY

COMMODITY	GRADE	
Silver	75.0000	Grams per tonne
Lead	8.2900	Per cent
Zinc	0.7100	Per cent

COMMENTS: Drill core assayed over an interval of 6 metres.

REFERENCE: Northern Miner - August 20, 1990.

CAPSULE GEOLOGY

The Star (West) occurrence is located about 6 kilometres north of Kitchener on the east side of the Goat River.

Regionally, the area is underlain by the peri-cratonic Middle Proterozoic Purcell Supergroup, a thick succession of siliciclastic and lesser carbonate rocks. The Purcell Supergroup is well known for hosting a number of significant deposits that include the Sullivan (082FNE052) sedimentary-exhalative lead-zinc deposit and the Troy copper-silver deposit in Montana.

This deposit occurs within Middle Aldridge quartzites in a structural panel bounded by the Iron Range fault to the west and the Kid fault to the east. In the vicinity of the Star occurrences, the strata dips moderately (25-35 degrees) to the east with north-northwest strikes. This strata forms part of the eastward dipping limb of the Goat River anticline. Near this occurrence, there are two sills of the Middle Proterozoic Moyie intrusions that are remarkably continuous from the international boundary to just

CAPSULE GEOLOGY

north of Leadville Creek.

Mineralization occurs within a narrow quartz vein striking 071 degrees and dipping 72 degrees to the south. The vein is irregularly mineralized with galena and minor amounts of sphalerite and chalcopyrite. Mineralization is described as pods of galena ranging from 5 to 30 centimetres in width. This vein is hosted in limy quartzites and a 2.1 metre deep pit exposes a dioritic sill.

A sample taken over 9 centimetres from the opencut assayed 720 grams per tonne silver, 61.1 per cent lead and 0.04 per cent copper; a grab sample from the ore dump assayed 363.43 grams per tonne silver, 34.8 per cent lead, 7.2 per cent zinc and 0.05 per cent copper (Minister of Mines Annual Report 1957).

In 1956, a 0.9-tonne shipment of crude ore produced 717.9 kilograms of lead, 5.9 kilograms of zinc and 870 grams of silver (Minister of Mines Annual Report 1956). A small shipment also occurred in 1965. Production is included with Leadville, 082FSE006).

Recent drilling by Kokanee Resources and Barkhor Resources in 1990 intersected bedded pyrrhotite laminae overlying disseminated sphalerite and galena in quartzites that assayed 75 grams per tonne silver, 8.29 per cent lead and 0.71 per cent zinc over an interval of 6 metres. The main vein zone overlying the stratiform zone assayed up to 92 grams per tonne silver, 8.17 per cent lead and 0.1 per cent zinc over 3 metres (Northern Miner - August 20, 1990).

BIBLIOGRAPHY

EMPR AR 1956-A50; *1957-61; 1965-A55,198
EMPR BC METAL MM01030 (see Leadville, 082FSE006 for production)
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
EMPR INDEX 4-125
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721
GCNL #81,#105,#108,#109,#112,#119,#133,#152,#164, 1990;
#133, 1991
N MINER Aug.20, p. 10, 1990

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/01

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE090**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACK DOUGLAS**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 24 06 N
LONGITUDE: 116 56 52 W
ELEVATION: 1675 Metres

NORTHING: 5472110
EASTING: 503789

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located as the Black Douglas showing on the south slope of Hughes Creek, about 50 metres downslope from the same granite contact that passes through the Wisconsin property (082FSE036) to the west.

COMMODITIES: Lead Zinc Silver Gold Manganese

MINERALS

SIGNIFICANT: Galena Sphalerite Arsenopyrite Pyrolusite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
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>
Upper Proterozoic	Windermere	Monk	
Middle Cretaceous			Bayonne Batholith

LITHOLOGY: Granite
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: GRADE: Amphibolite

CAPSULE GEOLOGY

The Black Douglas lead-zinc showing is located on the south slope of Hughes Creek, in granite of the middle Cretaceous Bayonne batholith about 50 metres downslope from the same contact with schists as passes through the Wisconsin property (082FSE036) to the west. The country rocks adjacent to the granite are highly metamorphosed through both regional and contact metamorphism to amphibolite facies (staurolite-kyanite according to Map 1714A of the Geological Survey of Canada), but are mapped as belonging to the Monk Formation of the Upper Proterozoic Windermere Supergroup.

Mineralization consists of quartz veins with bunches of galena and sphalerite, narrow in the schist and more persistent within the granite. The main fracture trends 070 degrees in the granite and is covered with a gossan rich in manganiferous oxides (grade up to 11 per cent manganese) and enriched in gold (a channel sample assayed 22 grams per tonne gold, 237 grams per tonne silver and 1.88 per cent manganese across 1.6 metres) (Minister of Mines Annual Report 1946, page 149). In places, the quartz is mineralized with arsenopyrite, but it does not contain gold.

BIBLIOGRAPHY

EMPR AR 1937-E8; 1940-70; *1946-149
GSC MAP 603A; 1714A
GSC MEM 228
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE091**

NATIONAL MINERAL INVENTORY: 082F7 Gem1

NAME(S): **MIDGE CREEK**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07W
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 22 20 N
LONGITUDE: 116 49 34 W
ELEVATION: 730 Metres

NORTHING: 5468850
EASTING: 512624

LOCATION ACCURACY: Within 1 KM

COMMENTS: The beryl locality is just south of Midge Creek about 1.6 kilometres from Kootenay Lake (Rice, personal communication; in Mulligan, 1968, Geological Survey of Canada Economic Geology Series 23, page 61).

COMMODITIES: Beryl

MINERALS

SIGNIFICANT: Beryl
ASSOCIATED: Garnet Magnetite Tourmaline
MINERALIZATION AGE: Mesozoic-Cenozoic

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Pegmatite Industrial Min.
TYPE: Q07 Schist-hosted emerald

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Cretaceous			Bayonne Batholith

LITHOLOGY: Pegmatite Dike
Granite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Post-metamorphic Bayonne batholith.

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Pre-mineralization
GRADE: Greenschist

CAPSULE GEOLOGY

This particular beryl locality is just south of Midge Creek about 1.6 kilometres from Kootenay Lake (Rice, personal communication, in Geological Survey of Canada Economic Geology Series 23). Beryl was found in large blue-green crystals, with garnet, magnetite and black tourmaline in pegmatite dikes, which are reported by Rice (Geological Survey of Canada Memoir 228) to be abundant in that part of the middle Cretaceous Bayonne batholith comprising granite and granodiorite.

BIBLIOGRAPHY

GSC EC GEOL *23, p. 61
GSC MAP 603A; 1714A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1995/11/28
DATE REVISED: 1995/12/19

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE092**

NATIONAL MINERAL INVENTORY: 082F1 Fe1

NAME(S): **GREAT WAR**, IRON RANGE SHOWINGS

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 06 50 N
LONGITUDE: 116 22 34 W
ELEVATION: 1370 Metres

NORTHING: 5440304
EASTING: 545529

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location given as 5 kilometres from the railway and at an elevation of 1830 metres (Minister of Mines Annual Report 1919, page 137). However, a location map (Minister of Mines Annual Report 1921, page 146) shows the principal working in Thompson Creek, 3 kilometres south of the railway line and at about 1370 metres; this is the location chosen.

COMMODITIES: Iron

MINERALS

SIGNIFICANT: Hematite
ASSOCIATED: Pyrite Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia Disseminated
CLASSIFICATION: Hydrothermal Industrial Min.
TYPE: D07 Iron oxide breccias & veins $\pm P \pm Cu \pm Au \pm Ag \pm U$

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Middle Proterozoic
Middle Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Argillaceous Quartzite
Gabbro Sill
Gabbro

HOSTROCK COMMENTS: Mineralization is found at the contact between Moyie intrusions and Aldridge Formation quartzites.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Great War group of claims originally stretched for 5 kilometres on either side of the Canadian Pacific Railway line, near Kitchener. The principal showing, however, was apparently located near the head of Thompson Creek on the south side of Goat River, at an elevation of about 1370 metres (although one description gives the elevation as 1830 metres). It is clear that the occurrence is part of the Iron Range showings, possibly forming the southernmost extension of the showings. The regional geology, deposit description and local geology is similar to that of the American Flag occurrence (082FSE016) which occurs at the north end of the belt of showings, 15 kilometres to the north.

Massive to disseminated hematite, with local magnetite and pyrite, occurs within Middle Proterozoic Aldridge Formation Purcell Supergroup argillaceous quartzites along the north trending, subvertical Iron Range fault zone, adjacent to the contact of the sedimentary rocks with a Middle Proterozoic Moyie intrusions gabbro sill. In the best showing two samples were taken: one along 4 metres of soft hematite assayed 52 per cent iron (sulphur and phosphorus trace), and the adjoining 12 metres of harder hematite and magnetite disseminated in greenstone (?altered gabbro) assayed 42 per cent iron, 2.63 per cent sulphur, 0.04 per cent phosphorus and was judged to be of high silica content. The width of the mineralization is given at about 1.2 metres in this location (Minister of Mines Annual Report 1919, page 137).

BIBLIOGRAPHY

EMPR AR 1919-137; 1921-145

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 929
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
EMPR PF (Descriptive notes)
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/01

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE093**

NATIONAL MINERAL INVENTORY:

NAME(S): **SARAH**, RUBY, ELK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 10 00 N
LONGITUDE: 116 21 04 W
ELEVATION: 1000 Metres

NORTHING: 5446186
EASTING: 547303

LOCATION ACCURACY: Within 5 KM

COMMENTS: It is not possible to locate this showing without more information; the Minister of Mines Annual Report for 1924, page 193, describes the location as "on the western side of Prospect Creek, which flows into the Goat River about 5 kilometres northerly from Duck Creek Station; the property is reached by a trail about 1.6 kilometres in length from the Canadian Pacific Railway tracks, and lies at 1000 metres elevation or about 400 metres above the tracks".

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Sphalerite Pyrite Galena
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Vein
CLASSIFICATION: Replacement Skarn
TYPE: K02 Pb-Zn skarn 105 Polymetallic veins Ag-Pb-Zn±Au
COMMENTS: Mineralization trends northeasterly up the steep mountainside, subparallel to the strike of the host sedimentary rocks.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	

LITHOLOGY: Quartzite
Limestone
Siliceous Calcareous Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DUMP REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1924
SAMPLE TYPE: Grab

COMMODITY	GRADE	
Silver	100.0000	Grams per tonne
Zinc	32.0000	Per cent

COMMENTS: Grab sample off the dump.
REFERENCE: Minister of Mines Annual Report 1924, page 193.

CAPSULE GEOLOGY

It is not possible to be sure of the location of the Sarah showing; it is described as being "situated on the west side of Prospect Creek, which flows into the Goat River about 5 kilometres north of Duck Creek Station; the property is reached by a trail about 1.6 kilometres in length from the Canadian Pacific Railway tracks at an elevation of 1000 metres, or 400 metres above the tracks" (Minister of Mines Annual Report 1924). Neither Prospect Creek nor Duck Creek Station occur on the existing topographic maps near the location shown on the NTS map sheet 82F/SE. The plotted location of this showing (if correct, which does not seem likely) is in the same area as a lead-zinc geochemical anomaly on the Elk claims (Assessment Report 20060 on work done in 1989, which found the anomalous values to be associated with an area of altered sediments).

The Sarah showing is hosted in sedimentary rocks of the Aldridge Formation, part of the Purcell Supergroup of Middle Proterozoic age. In the property area, the hostrocks consist of quartzites, limestones, and siliceous and calcareous schists which have a

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CAPSULE GEOLOGY

northeasterly trend up the steep mountainside, with dips varying from 80 degrees to the east to nearly vertical. A wide band (about 20 metres wide) of shattered limestone contains replacement lenses, stringers and disseminations of sphalerite, pyrite and galena. This band has been traced for about 100 metres southwesterly from the Sarah tunnel. Assays range up to 32 per cent zinc and 100 grams per tonne silver (Minister of Mines Annual Report 1924).

BIBLIOGRAPHY

EMPR AR 1902-301; *1924-193
EMPR ASS RPT 20060
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
EMPR PF (Starr, C.C. (1925): Report of Preliminary Examination of the Sarah Group, 3 p.)
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE094**

NATIONAL MINERAL INVENTORY:

NAME(S): **KITCHENER-SULLIVAN**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 30 N
LONGITUDE: 116 22 44 W
ELEVATION: 915 Metres

NORTHING: 5443390
EASTING: 545301

LOCATION ACCURACY: Within 1 KM

COMMENTS: Minister of Mines Annual Report for 1919, page 138 gives the location as 4 kilometres from Kitchener and 0.8 kilometre south of the Canadian Pacific Railway track, 180 metres above the elevation of the track.

COMMODITIES: Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Middle Proterozoic
Middle Proterozoic

GROUP

Purcell

FORMATION

Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Hornblende Diorite
Quartzitic/Quartzose Wacke
Argillaceous Siltstone

HOSTROCK COMMENTS: Sedimentary hostrock description taken from Brown and Stinson in Fieldwork 1994, page 114.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Mineralization in Moyie intrusions believed to be pre-metamorphic.

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: Post-mineralization

GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1919

COMMODITY

Silver

GRADE

35.0000

Grams per tonne

Copper

6.0000

Per cent

COMMENTS: Chip sample over 0.95 metre.

REFERENCE: Minister of Mines Annual Report 1919, page 138.

CAPSULE GEOLOGY

The Kitchener-Sullivan showing is located 4 kilometres from Kitchener on the south side of the Goat River, about 0.8 kilometre upslope and 180 metres in elevation above the railway, on a steep north-facing slope. The strike of the quartz-filled vein, which varies between 1 and 1.2 metres thick, is east-west parallel to the contour of the slope; dip is vertical.

The vein is hosted by hornblende diorite of the Moyie intrusions of Middle Proterozoic age (Purcell Supergroup). Here, it intrudes sedimentary rocks of the Aldridge Formation (also Purcell Supergroup) which in this area comprise quartzitic wackes and argillaceous siltstones (Brown and Stinson, Fieldwork 1994, page 114).

Mineralization consists of bunches of chalcopyrite and pyrite in the quartz, with assays up to 6 per cent copper and 35 grams per tonne silver over 0.95 metre (Minister of Mines Annual Report 1919, page 138). The vein was traced over a strike length of 33 metres as exposed in a short shaft and several opencuts.

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PAGE: 933
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1902-301; *1919-138; 1934-E27; 1936-G48
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/01

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE095**

NATIONAL MINERAL INVENTORY:

NAME(S): **RUNNING WOLF**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

Underground

MINING DIVISION: Fort Steele

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 28 00 N
LONGITUDE: 116 04 04 W
ELEVATION: 1766 Metres

NORTHING: 5479753
EASTING: 567545

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located on French Creek, a tributary of Perry Creek from the south.

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Gold
COMMENTS: Gold and pyrite are assumed to be present but not specifically.

ASSOCIATED: Quartz
COMMENTS: Quartz is present in the veins.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Mesothermal
TYPE: I01 Au-quartz veins
COMMENTS: Very little is known about this old prospect.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	

LITHOLOGY: Siltstone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Running Wolf prospect is an old showing known only as a "gold-quartz vein" that underwent reconditioning and sampling of the old tunnels in 1928 (Minister of Mines Annual Report 1930, page 243). The prospect is located in the Middle Proterozoic Creston Formation, known regionally to consist of siltstone and thin bedded and laminated argillites. Creston Formation is part of the Purcell Supergroup that has been regionally metamorphosed to greenschist facies.

The vein likely contains pyrite and gold but no details of mineralogy, alteration, width, grade or orientation are known. It is assumed to be a mesothermal gold-quartz vein by comparison with other mineralization known nearby (e.g. David, 082FSE108) that is believed to be related to Cretaceous felsic intrusions. A description in Assessment Report 13609 states that the Running Wolf deposit consists of a number of quartz veins occupying fissures in greatly altered Creston argillaceous quartzite. The workings consist of five adits; the main adit exposes three veins, each about 10 metres wide. A hundred metres down the hill another adit has been driven along a vein that parallels the main veins above; the veins are composed of massive quartz with occasional specks of pyrite and are reported to carry gold. The veins have been fractured by post-mineral movement along the original faults that controlled them.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR AR 1898-1016; 1900-980; 1921-127; 1930-243
EMPR ASS RPT 13609, 21098, 21863
GSC MAP 11-1960; 15-1957
GSC MEM 76, p.139
GSC OF 820; 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE095**

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 935
REPORT: RGEN0100

MINFILE NUMBER: **082FSE096**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD QUEEN**, GOLD KING

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 27 00 N
LONGITUDE: 116 44 04 W
ELEVATION: 866 Metres

NORTHING: 5477516
EASTING: 519248

LOCATION ACCURACY: Within 5 KM

COMMENTS: Cannot be located with any certainty. The only description is "between Gray Creek and Boswell, below the highway" (Minister of Mines Annual Report 1933) and a reference that it is described under Gold Queen in Bulletin 1, 1932 (no page reference). This occurrence may be the same as Copper Canyon, 082FSE045.

COMMODITIES: Gold Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins I06 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Proterozoic	Horsethief Creek	Unnamed/Unknown Formation	

LITHOLOGY: Sediment/Sedimentary

HOSTROCK COMMENTS: Rocks of the Horsethief Creek Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The location of the Gold Queen (Gold King) is so poorly known that it is difficult to plot it. It is described only as "At this prospect, between Gray Creek and Boswell, a crosscut tunnel is being driven below the highway to test the superficial showings of gold-copper ore described under Gold Queen in Bulletin No. 1, 1932" (Minister of Mines Annual Report 1933). A shipment of 2 tonnes of gold-silver ore is mentioned in the Minister of Mines Annual Report for 1931, but no grade or recovered metals are given. The showing is assumed to be a quartz vein with chalcopyrite. The coordinates given in the MINFILE data file would position the showing right on top of Copper Canyon (082FSE045), which has the same metals (copper, silver and gold).

BIBLIOGRAPHY

EMPR AR 1900-298?; 1931-138; *1933-240; 1934-A27; 1936-G48?
EMPR BULL 1
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/18

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE096**

MINFILE NUMBER: **082FSE097**

NATIONAL MINERAL INVENTORY: 082F2 Au6

NAME(S): **MORAN**, BLUE BIRD (L.9357), MAY FLOWER (L.9356),
LAST CHANCE (L.9358), BLUEBIRD

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:
LATITUDE: 49 09 06 N
LONGITUDE: 116 56 04 W
ELEVATION: 2133 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Blue Bird (Lot 9357), on the east flank of John Bull Mountain.

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5444318
EASTING: 504780

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Limonite
COMMENTS: Limonite assumed from description of other nearby showings on John Bull Mountain (e.g. Bayonne, 082FSE030).
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: Showing hosted in Mine stock.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Staurolite-kyanite-sillimanite grade in Nelson intrusions.

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Pre-mineralization
GRADE: Amphibolite

CAPSULE GEOLOGY

The Moran property consists of three Reverted Crown grants (May Flower, Blue Bird and Last Chance, Lots 9356-9358 respectively) at elevations of 1920 to 2133 metres on the northeast ridge of John Bull Mountain near the head of Bluebird Creek, 30 kilometres west-northwest of Creston. The claims lie between the Bayonne (082FSE030) to the west and the Summit Bell (082FSE034) to the east.

The Bluebird claim was owned in 1910 by T. Moran and W. Gasnell. Development work had been done in a 7-metre crosscut adit which was expected to reach the vein in another 12 metres. The claims were Crown-granted to Moran and Gasnell in 1915.

The claims are underlain by granodiorite of the Mine stock, part of the Nelson intrusions of Middle Jurassic age. Gold-silver values apparently occur in a vein-type deposit (National Mineral Inventory 082F2 Au6). The surrounding area was explored more recently by Goldrich Resources (Assessment Report 16846).

BIBLIOGRAPHY

EMPR AR 1910, p. 112; 1915, p. 449; 1937-E10
EMPR ASS RPT 16846
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/12/18

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE098**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRESTON**, CRESTON CLAY

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 09 00 N
LONGITUDE: 116 23 04 W
ELEVATION: 710 Metres

NORTHING: 5444313
EASTING: 544888

LOCATION ACCURACY: Within 5 KM

COMMENTS: Along railway, best by Goat Canyon (Bulletin 30, page 52).

COMMODITIES: Clay

MINERALS

SIGNIFICANT: Clay
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: B06 Fireclay

Industrial Min.

E07 Sedimentary kaolin

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Quaternary			Glacial/Fluvial Gravels

LITHOLOGY: Clay
Fireclay
Till

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

CAPSULE GEOLOGY

The location and character of the Creston fireclay deposits are poorly known. It is most likely a bed of clay in Quaternary or Recent glaciofluvial deposits. The only comment in Bulletin 30, page 52 is "clays suitable for common brick by soft mud process" and "along railway, best by Goat Canyon". Some physical measurements of the clay quality are given in this reference.

BIBLIOGRAPHY

EMPR BULL *30, p. 52
EMPR FIELDWORK 1993, pp. 129-151
GSC MEM 65, p. 37; 228 (Map 603A)
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1996/01/25

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE099**

NATIONAL MINERAL INVENTORY:

NAME(S): **KOOTENAY**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 25 00 N
LONGITUDE: 116 54 04 W
ELEVATION: 1375 Metres

NORTHING: 5473781
EASTING: 507172

LOCATION ACCURACY: Within 5 KM

COMMENTS: The area referred to is in the Midge Creek drainage on the west side of Kootenay Lake described by Rice (Geological Survey of Canada Memoir 228) as being of sillimanite-andalusite grade.

COMMODITIES: Sillimanite Andalusite Kyanite

MINERALS

SIGNIFICANT: Sillimanite Andalusite Kyanite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists P01 Andalusite hornfels

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Dutch Creek	

LITHOLOGY: Sillimanite Andalusite Kyanite Schist

HOSTROCK COMMENTS: Metamorphism is so high grade that it is difficult to be certain of the formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional Contact RELATIONSHIP: Syn-mineralization GRADE: Amphibolite

CAPSULE GEOLOGY

The rocks concerned, formerly identified as Lardeau series metamorphic rocks, occur over a large area on the west side of Kootenay Lake, mainly concentrated around the margins of the middle Cretaceous Bayonne batholith. As such, it is not realistic to assign a "showing" location; it is more an area, best defined by reference to Map 603A (to accompany Geological Survey of Canada Memoir 228) or Geological Survey of Canada Map 1714A. Sillimanite occurs with andalusite and kyanite in what are now mapped as Middle to Upper Proterozoic rocks of the Dutch Creek Formation (Purcell Supergroup) to Horsethief Creek Group (the "showing" location is in the former).

BIBLIOGRAPHY

GSC MAP 603A, 1714A
GSC MEM 228, p. 21
GSC OF 929; 2721

DATE CODED: 1985/07/24
DATE REVISED: 1995/11/15

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE101**

NATIONAL MINERAL INVENTORY:

NAME(S): **OSPREY**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 30 N
LONGITUDE: 116 36 04 W
ELEVATION: 1950 Metres

NORTHING: 5458104
EASTING: 529015

LOCATION ACCURACY: Within 500M

COMMENTS: On the top of a steep east-west ridge between the headwaters of Jack and Boulder creeks.

COMMODITIES: Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Gold

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

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

I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Proterozoic	Windermere	Horsefeed	
Cretaceous			Bayonne Batholith

LITHOLOGY: Phyllite
Quartzite
Grit
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional Contact

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Osprey claim is located at 1950 metres elevation on a steep east-west ridge between the headwaters of Jack Creek and a tributary to Boulder Creek, 4.5 kilometres southeast of Kuskanook on Kootenay Lake.

Regionally, the area is underlain by sedimentary rocks of the Horsethief Creek Group, part of the Windermere Supergroup of Upper Proterozoic age. In this area, these rocks comprise phyllite, quartzite and grit, metamorphosed to biotite facies of greenschist grade regionally and partly contact metamorphosed due to proximity to the Bayonne batholith, a mid-Cretaceous granodiorite to granite. Mineralization is described as traces of galena, sphalerite and free gold in a quartz vein.

BIBLIOGRAPHY

EMPR EXPL 1978-E57
GSC MEM 228 (Map 603A)
GSC OF 929; 2721

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

CODED BY: GSB
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE102**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOYIE RIVER, QUEENSTAKE, MONILLE, MOUILLE, MOYEA**

STATUS: Past Producer Open Pit

MINING DIVISION: Fort Steele

REGIONS: British Columbia

UTM ZONE: 11 (NAD 83)

NTS MAP: 082F08E

BC MAP:

LATITUDE: 49 23 34 N

LONGITUDE: 116 00 39 W

ELEVATION: 1249 Metres

NORTHING: 5471591

EASTING: 571779

LOCATION ACCURACY: Within 500M

COMMENTS: Pit on Placer Lease 1775, 500 metres downstream on the Moyie River from the confluence with McNeil Creek, 21.5 kilometres southwest from the town of Cranbrook (Assessment Report 16706).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold

COMMENTS: Placer gold.

ALTERATION: Limonite Hematite

COMMENTS: Oxidized bedrock.

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated

CLASSIFICATION: Placer

TYPE: C02 Buried-channel placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Helikian	Purcell	Aldridge	
Tertiary			Glacial/Fluvial Gravels
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Gravel
Clay
Argillite
Quartzite
Diorite

HOSTROCK COMMENTS: Bedrock geology consists of Aldridge Formation sediments and upper Purcell Moyie diorite.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

COMMENTS: Metamorphism is of the bedrock units.

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

INVENTORY

ORE ZONE: MOYIE RIVER

REPORT ON: Y

CATEGORY: Inferred

YEAR: 1987

QUANTITY: 1556642 Tonnes

COMMODITY

GRADE

Gold

0.4700

Grams per tonne

COMMENTS: Reserves are in cubic metres and the gold grade is 0.47 gram per cubic metre.

REFERENCE: Assessment Report 16706.

CAPSULE GEOLOGY

Placer gold occurs in Tertiary channels in Moyie River gravels. The Moyie River occurrence bedrock geology consists of Helikian Aldridge Formation (lower Purcell Group) oxidized and fractured argillite and massive quartzite in contact with upper Purcell Moyie diorite. Auriferous gravels occur in a Tertiary channel that mostly parallels the north and west bank of the Moyie River valley. The channel (outlined by seismic and drill data) is buried beneath 10.6 to 14.0 metres of till, gravel and varved clay and is 82.2 metres wide and 1.8 metres thick. Bedrock gradient varies from 1.51 to 3.88 per cent. Higher gold grades are observed at bedrock/Tertiary channel interfaces where favourable bedrock conditions exist, these

CAPSULE GEOLOGY

being friable, fractured and oxidized (limonitic, hematitic) argillite. Massive, competent diorite, quartzite or silicified argillite bedrock surfaces have a tendency to cause the Tertiary channel to narrow. A steep gradient to the channel and narrowness are negative factors for particulate gold entrapment.

During the summer (1988), 42,433 cubic metres were mined at an overall grade of 1.37 grams gold per cubic metre from which 106,542 grams gold were recovered (George Cross News Letter No. 97, 1989). The 1988-1989 winter stockpile is 34,405 cubic metres. Processing of 11,468 cubic metres from this stockpile contained 30,509 grams gold (George Cross News Letter No. 109, 1989).

There are inferred reserves of 1,556,642 cubic metres at 0.47 grams gold per cubic metre (Assessment Report 16706).

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR AR 1878-378; 1880-429; 1884-423; 1887-270; 1888-307; 1889-285;
1892-534; 1893-1063(map); 1894-747; 1895-671,672
EMPR ASS RPT *15622, *15766, *16706, 21010
EMPR BULL 1 (1933), p. 44; 28, pp. 33,34
EMPR OF *1988-14
EMPR PF (Queenstake Resources Ltd. Annual Reports (*1987, 1986);
Corporate review, news releases, third-quarter report)
GCNL #186, 1983; #71, 1984; #162, 1985; #40, 1987; #97, 1989; #109,
1989
N MINER (Feb., 1984, Feb., Aug., Sept., 1986, Mar., 1987)

DATE CODED: 1988/03/30
DATE REVISED: 1995/12/19

CODED BY: BL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE103**

NATIONAL MINERAL INVENTORY:

NAME(S): **KOOTENAY LAKE**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 17 00 N
LONGITUDE: 116 48 04 W
ELEVATION: 1370 Metres

NORTHING: 5458972
EASTING: 514465

LOCATION ACCURACY: Within 5 KM

COMMENTS: An area rather than a precise location is referred to as hosting kyanite in amphibolite-grade schists (Geological Survey of Canada Paper 83-1A).

COMMODITIES: Kyanite Garnet

MINERALS

SIGNIFICANT: Kyanite Garnet
ASSOCIATED: Quartz Muscovite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Layered Stratabound Disseminated
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Dutch Creek	Bayonne Batholith
Middle Cretaceous			

LITHOLOGY: Quartz Muscovite Kyanite Schist

HOSTROCK COMMENTS: Bayonne batholith is likely post-metamorphic (Geological Survey of Canada Map 1714A).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: Syn-mineralization GRADE: Amphibolite

CAPSULE GEOLOGY

On the west flank of the Bayonne batholith, west of Kootenay Lake, a band of quartz-muscovite-kyanite schist forms the youngest unit of the Helikian Dutch Creek Formation belonging to the Purcell Supergroup of Middle Proterozoic age (Leclair, 1983). Kyanite porphyroblasts, up to 5 centimetres long, are common in this area (Leclair, 1982). In the various pelitic units, flanking the Bayonne batholith of post-metamorphic middle Cretaceous age, garnets up to 2 centimetres in diameter are also common (Leclair, 1982). The area is also shown as lying in kyanite amphibolite grade by Geological Survey of Canada Map 1714A.

BIBLIOGRAPHY

EMPR OF 1988-26
GSC MAP 1714A
GSC MEM 228 (Map 603A)
GSC OF 929; 2721
GSC P *82-1A, pp. 45-49; *83-1A, pp. 235-240

DATE CODED: 1988/03/28
DATE REVISED: 1995/12/19

CODED BY: JP
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE104**

NATIONAL MINERAL INVENTORY:

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

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 39 N
LONGITUDE: 116 19 49 W
ELEVATION: 1430 Metres

NORTHING: 5428876
EASTING: 548974

LOCATION ACCURACY: Within 500M

COMMENTS: The location is centred on diamond-drill hole S87-1 (Assessment Report 16769).

COMMODITIES: Zinc Copper

MINERALS

SIGNIFICANT: Sphalerite Chalcopyrite
ASSOCIATED: Pyrrhotite Pyrite
ALTERATION: Biotite Chlorite
ALTERATION TYPE: Biotite Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Sedimentary
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartz Wacke
Argillite
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Sha occurrence is centred on diamond-drill hole S87-1, located approximately 15 kilometres southeast of Creston (Assessment Report 16769).

Regionally, the area is underlain by the peri-cratonic Middle Proterozoic Purcell Supergroup, a thick succession of siliciclastic and lesser carbonate rocks. The Purcell Supergroup is well known for hosting a number of significant deposits that include the Sullivan (082FNE052) sedimentary-exhalative lead-zinc deposit and the Troy copper-silver deposit in Montana.

More locally, the area of interest is underlain by the Aldridge Formation. The Aldridge Formation is the lowermost division of the Purcell Supergroup and is composed of turbiditic siliciclastic rocks and numerous gabbro sills. The focus of exploration in the Aldridge Formation is the contact between the Lower Aldridge and the Middle Aldridge which corresponds to the depositional time of the Sullivan deposit. In this particular area of the Purcell basin, the contact between the lower and middle Aldridge is somewhat enigmatic in that there is no recognizable facies change.

Structurally, the Sha occurrence lies to the east of the Iron Range fault and is encompassed within the east limb of the Goat River anticline. The regional strike of the Aldridge Formation near this occurrence is north, with gentle dips.

Mineralization consists of disseminated sphalerite and rare chalcopyrite occurring within quartz wacke turbidite sequences with argillaceous tops. Associated sulphides are pyrrhotite and pyrite. Mineralization occurs in two thin zones (less than three centimetres) in the diamond-drill hole (Assessment Report 16769). A weak anomaly from a UTEM (University of Toronto electromagnetic) survey was the initial focus of interest on the property (Assessment Report 15428).

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 945
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 15428, *16769
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
EMPR OF 2000-22
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1993/11/02
DATE REVISED: 1995/12/01

CODED BY: DMM
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE105**

NATIONAL MINERAL INVENTORY:

NAME(S): **YAH**, YAK, HAWK,
ENG

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01E
BC MAP:

MINING DIVISION: Fort Steele

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 05 N
LONGITUDE: 116 05 27 W
ELEVATION: 864 Metres

NORTHING: 5437272
EASTING: 566385

LOCATION ACCURACY: Within 500M

COMMENTS: The Yah occurrence is located on a mineralized vein within the community of Yahk (Assessment Report 19952).

COMMODITIES: Silver Lead Zinc

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Middle Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Siliceous Clastic Sediment/Sedimentary Rock

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1990

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	72.9000	Grams per tonne
Lead	1.8300	Per cent

COMMENTS: The best grab sample reported (Ham 1) from the mineralized vein.
REFERENCE: Assessment Report 19952.

CAPSULE GEOLOGY

The Yah occurrence is located near the community of Yahk, just to the east of the Moyie River (Assessment Report 19952). Regionally, the area is underlain by the peri-cratonic Middle Proterozoic Purcell Supergroup, a thick succession of siliciclastic and lesser carbonate rocks. The Purcell Supergroup is well known for hosting a number of significant deposits that include the Sullivan (082FNE052) sedimentary-exhalative lead-zinc deposit and the Troy copper-silver deposit in Montana. More locally, the area of interest is underlain by the Aldridge Formation. The Aldridge Formation is the lowermost division of the Purcell Supergroup and is composed of turbiditic siliciclastic rocks and numerous gabbro sills. The focus of exploration in the Aldridge Formation is the contact between the Lower Aldridge and the Middle Aldridge which corresponds to the time of deposition of the Sullivan deposit. In this particular area of the Purcell basin, the contact between the Lower and Middle Aldridge is somewhat enigmatic in that there is no recognizable facies change. Structurally, the Yah occurrence lies to the east of the Moyie fault and is encompassed within the broad north trending and plunging Moyie anticline. A fault that follows the Moyie River valley occurs

CAPSULE GEOLOGY

within 500 metres to the west of this occurrence.
A mineralized vein contains visible amounts of galena in an oxidized sulphide zone. The best reported grab sample of mineralized material contained 1.83 per cent copper and 72.9 grams per tonne silver (Assessment Report 19952). A diamond-drill hole approximately 500 metres to the west of this occurrence intersected very minor sphalerite and galena with associated pyrite and pyrrhotite (Assessment Report 20829).

BIBLIOGRAPHY

EM GEOS MAP 1998-2
EMPR ASS RPT 9179, *19952, 20829
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125; 1997, pp. 9-1-9-22
GSC MEM 228
GSC OF 2721
Falconbridge File

DATE CODED: 1993/10/27
DATE REVISED: 1995/12/07

CODED BY: DMM
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE106**

NATIONAL MINERAL INVENTORY:

NAME(S): **ENG 2**, HAWK, YAK

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 06 N
LONGITUDE: 116 04 50 W
ELEVATION: 1295 Metres

NORTHING: 5435459
EASTING: 567158

LOCATION ACCURACY: Within 500M

COMMENTS: The location is centred on diamond-drill hole E90-4 (Assessment Report 20828).

COMMODITIES: Silver Copper Gold

MINERALS

SIGNIFICANT: Silver Copper Gold
ASSOCIATED: Pyrite Pyrrhotite
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal
TYPE: I06 Cu±Ag quartz veins
SHAPE: Tabular
MODIFIER: Fractured

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic Purcell Middle Aldridge

LITHOLOGY: Quartzitic/Quartzose Argillite
Siliceous Fragmental Mudstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1990
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 9999.9999 Grams per tonne
Gold 0.2743 Grams per tonne
Copper 10.3000 Per cent

COMMENTS: The assay comes from a fragment containing a seam that has visible native silver (34,183 grams per tonne), copper and gold.

REFERENCE: Assessment Report 20828.

CAPSULE GEOLOGY

The Eng 2 occurrence, diamond-drill hole E90-4 (Assessment Report 20828), is located about 2 kilometres south of the community of Yahk.

Regionally, the area is underlain by the peri-cratonic Middle Proterozoic Purcell Supergroup, a thick succession of siliciclastic and lesser carbonate rocks. The Purcell Supergroup is well known for hosting a number of significant deposits that include the Sullivan (083FNE052) sedimentary-exhalative lead-zinc deposit and the Troy copper-silver deposit in Montana.

More locally, the area of interest is underlain by the Aldridge Formation. The Aldridge Formation is the lowermost division of the Purcell Supergroup and is composed of turbiditic siliciclastic rocks and numerous gabbro sills. The focus of exploration in the Aldridge Formation is the contact between the Lower Aldridge and the Middle Aldridge which corresponds to the deposition time of the Sullivan deposit. In this particular area of the Purcell basin, the contact between the Lower and Middle Aldridge is somewhat enigmatic in that there is no recognizable facies change.

Structurally, the Eng 2 occurrence lies to the east of the Moyie

CAPSULE GEOLOGY

fault and is encompassed within the broad north trending and plunging Moyie anticline. Numerous northeast and northwest faults cut this area.

Mineralization, consisting of native silver, native copper and gold, occurs within a 15 centimetre zone of fragmented quartzitic argillite and siliceous mud beds (Assessment Report 20828). The mineralization is described to be contained within bedded seams less than 0.5 millimetre thick within a purple-brown siliceous fragment. The 15 centimetre zone is described as subrounded fragments and mud; the fragments are heavily clouded with fine pyrite and pyrrhotite. A sample of a mineralized fragment yielded 34,183 grams per tonne silver, 10.3 per cent copper and 0.27 gram per tonne gold (Assessment Report 20828).

BIBLIOGRAPHY

EM GEOS MAP 1998-2
EMPR ASS RPT 10498, 12193, *20828
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125; 1997, pp.
9-1-9-22
GSC MEM 228
GSC OF 2721
Falconbridge File

DATE CODED: 1993/10/27
DATE REVISED: 1995/12/07

CODED BY: DMM
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

intersected in these holes. No drilling has been conducted in the hangingwall of the Goatfell tourmalinite.

An extensive area of tourmalinite float, containing galena and sphalerite within an intensely brecciated tourmalinized matrix, occurs about 2.5 kilometres to the south (Assessment Report 21939).

In 1995, Inmet Mining Corporation conducted an EM geophysical survey. In 1996, White Knight Resources drilled 8 holes, totalling 2016.7 metres.

BIBLIOGRAPHY

EM GEOS MAP 1998-2
EMPR ASS RPT 14773, 16970, 18633, *19304, 21939, 24223, 24393
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125; 1997, pp.
9-1-9-22
GSC MEM 228
GSC OF 2721
GSC P 93-1E, pp. 33-40
Chevron File

DATE CODED: 1993/10/25
DATE REVISED: 1996/01/25

CODED BY: DMM
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSE108**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAVID**, LEW, HARMONY,
ROB

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

MINING DIVISION: Fort Steele

LATITUDE: 49 21 45 N
LONGITUDE: 116 08 07 W
ELEVATION: 1000 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5468114
EASTING: 562787

LOCATION ACCURACY: Within 500M

COMMENTS: The David deposit is located in the headwaters of the Moyie River, on the ridge between South Moyie Creek and Kutlits Creek.

COMMODITIES: Gold Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Chalcopyrite Sphalerite Gold
ASSOCIATED: Quartz Feldspar
ALTERATION: Silica Chlorite Clay
ALTERATION TYPE: Silicific'n Chloritic Argillic
MINERALIZATION AGE: Cretaceous

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Mesothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 101 Au-quartz veins
DIMENSION: 150 x 100 x 2 Metres STRIKE/DIP: 010/60W TREND/PLUNGE:
COMMENTS: Dimensions of continuous mineralized zone containing reported reserves.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic	Purcell	Creston	
Cretaceous			Unnamed/Unknown Informal

LITHOLOGY: Siltstone
Quartzite
Silty Argillite
Argillite
Gabbro Sill
Diorite Sill
Granodiorite
Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist
COMMENTS: Gold mineralization appears to be late, post-metamorphism.

INVENTORY

ORE ZONE: DAVID REPORT ON: Y
CATEGORY: Inferred YEAR: 1991
QUANTITY: 96000 Tonnes
COMMODITY: Gold GRADE: 7.1100 Grams per tonne
COMMENTS: Grade is cut. Uncut grade is 13.08 grams per tonne gold.
REFERENCE: Property Development Report by Bapty Research Ltd., 1991.

CAPSULE GEOLOGY

The David deposit is located about 30 kilometres southwest of Cranbrook. The showing was discovered in 1990 and work that year comprised prospecting, geologic mapping, soil geochemistry, trenching, geophysics and diamond drilling by Dragoon Resources Ltd. The area is underlain by sedimentary rocks of the Aldridge Formation of the Middle Proterozoic Purcell Supergroup (Belt). These strata are folded in the core of the Purcell anticlinorium. The Aldridge Formation consists of a thick section of basinal turbidites overlain by quartzites and siltstones of the Creston Formation and siltstones and carbonates of the Kitchener Formation.

CAPSULE GEOLOGY

The Aldridge Formation is intruded by gabbro to diorite sills also of Middle Proterozoic age. Cretaceous granodiorite and quartz monzonite intrusions cut these rocks. Faults occur in two main orientations: northeast striking, predominantly west dipping normal and reverse faults, and easterly striking transcurrent faults.

Locally, the area is underlain by fine grained clastic rocks of the Middle Aldridge and Lower Creston formations. Middle Aldridge lithologies are typically medium-bedded siltstones and quartzites to laminated silty argillites. Lower Creston lithologies exposed on the northwest side of the property are thin bedded and laminated argillites. Gabbro and diorite sills and dikes are present mainly in the Aldridge Formation. At least seven sills have been identified on the property; some of these appear to be related to mineralization. Structure is dominated by north-northeast oriented steeply west dipping normal and reverse faults and shear zones. The most prominent is the Baldy normal fault.

The discovery showing was an exposure of gold-mineralized quartz. Chip sampling across 40 centimetres assayed up to 144 grams per tonne gold (Property Development Report by Bapty Research Ltd., 1991).

Significant gold mineralization is restricted to shear zones, semiparallel to bedding in the hostrocks, or closely related quartz veins. Mineralization consists of pyrite, galena, chalcopyrite and sphalerite with some visible gold. Alteration consists mainly of silicification, with lesser chlorite and clay.

The David shear occurs within quartzites and siltstones of the Middle Aldridge Formation and has been traced along strike for 1600 metres and 150 metres downdip. The shear contains anomalous gold values over this entire length. The 0.20 to 1.5 metre wide shear strikes 010 degrees and dips 60 degrees west, cutting the bedding of the hostrocks at an oblique angle. The average gold content is 0.5 to 2.0 grams per tonne. Mineralized ancillary shears intersect the main shear.

Quartz veining is locally common throughout the quartzites and siltstones ranging from small irregular quartz veins, through thin quartz-feldspar stringers to wider (greater than 20 centimetres) quartz veins. Wide quartz veins that occur in the shear zone often carry significant gold values and about half the noted visible gold occurrences have been in such veins.

The mesothermal gold mineralization is structurally and lithologically controlled and is believed to have been deposited from oxidizing fluids associated with Cretaceous felsic intrusions.

Drilling outlined one continuous zone of gold mineralization over a strike length of 150 metres and to a depth of more than 100 metres; thickness averages 2.35 metres. Inferred resources for this zone are 96,000 tonnes grading 13.08 grams per tonne gold (uncut) or 7.11 grams per tonne gold (cut) (Property Development Report by Bapty Research Ltd., 1991).

BIBLIOGRAPHY

- EM GEOS MAP 1998-3
- EMPR ASS RPT 20365, 20873, 21504, 24244, 24263
- EMPR MAP 49
- EMPR OF 1994-8
- GSC MAP 11-1960; 15-1957
- GSC MEM 228; 292
- GSC OF 820; 929; 2721
- *Property Development Report by Bapty Research Ltd., 1991

DATE CODED: 1995/01/10
DATE REVISED: 1995/11/30

CODED BY: DEJ
REVISED BY: DEJ

FIELD CHECK: Y
FIELD CHECK: Y

MINFILE NUMBER: **082FSE109**

NATIONAL MINERAL INVENTORY:

NAME(S): **MCNEIL**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E 082G05W
BC MAP:

MINING DIVISION: Fort Steele
UTM ZONE: 11 (NAD 83)
NORTHING: 5467829
EASTING: 572212

LATITUDE: 49 21 32 N
LONGITUDE: 116 00 20 W
ELEVATION: 1400 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Centre of drilling activity identified in Assessment Report 19989. This may be the same occurrence as the McNeil (082GSW024) on the next map area.

COMMODITIES: Lead Zinc Silver Copper Gold

MINERALS

SIGNIFICANT: Sphalerite Galena Chalcopyrite
ASSOCIATED: Quartz Pyrrhotite Pyrite
COMMENTS: Galena and chalcopyrite assumed from geochemistry; only base metal sulphide identified is sphalerite.

ALTERATION: Chlorite Biotite Sericite Chalcedony
COMMENTS: Chloritic alteration found along fractures; biotite with anomalous gold, chalcedonic silica and sericitic alteration with stratabound sphalerite.

ALTERATION TYPE: Chloritic Biotite Sericitic Silicific'n
MINERALIZATION AGE: Middle Proterozoic

DEPOSIT

CHARACTER: Vein Stratabound
CLASSIFICATION: Replacement Syngenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Gabbro
Turbidite Siltstone
Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist
COMMENTS: Vein mineralization may be syn or post-metamorphism.

CAPSULE GEOLOGY

The McNeil property is centred on the approximate middle of the claim group on which diamond drilling was carried out and reported on in Assessment Report 19989 (1990). The prospect lies about 20-25 kilometres southwest of Cranbrook, at about 1370-1675 metres elevation in McNeil Creek. This occurrence consists of minor stratabound and vein-controlled Zn-Pb-Cu mineralization (sphalerite, pyrrhotite, chalcopyrite and pyrite noted) in drillholes intended to determine the source of anomalous lead, zinc, and silver geochemistry and weak geophysical (UTEM and Maxmin) conductors.

The area is underlain by (meta-)sedimentary rocks of the Middle Proterozoic Purcell Supergroup, a thick succession of siliciclastic and lesser carbonate rocks that is known to host the Sullivan Sedex lead-zinc deposit (082FNE052). On the property, rocks of the Lower and Middle Aldridge formations are broadly folded into a north-northeast plunging syncline. Lower Aldridge rocks crop out east of McNeil Creek fault and north of the major northeast-trending Moyie fault; this is a similar location to the Fors (082GSW035) and Vine (082GSW050) prospects located 10 kilometres to the northeast. The Lower-Middle Aldridge contact, or LMC, which corresponds to Sullivan time, is found at depths from 0 to 2000 metres across the property. Several thick regional gabbroic intrusions (Moyie sills) occur on the property, of which the uppermost, the Hiawatha sill, was intersected in drillholes.

Vein and stratiform massive lead-zinc-silver mineralization have been the main targets of exploration on the McNeil property, but

CAPSULE GEOLOGY

surface trenching and drilling has disclosed vein-controlled copper mineralization partly associated with the gabbros, as is common elsewhere in the region. Anomalous gold also occurs on the property in quartz veins, gabbro and fault zones, and may be related to the McNeil Creek fault (which extends into the Palmer Bar fault, known to carry gold mineralization).

Geochemical anomalies at surface are weak (less than 800 parts per million lead, 450 parts per million zinc and 5.3 parts per million silver). Twenty-one drillholes for a total of 5621 metres were drilled and intersected anomalous (250 parts per million) zinc and lead (100 parts per million) over true widths of 7-16 metres at the LMC. Anomalous gold up to 30 parts per billion occurs in Aldridge rocks, and anomalous gold to 19 parts per billion plus platinum-group metals platinum, palladium and rhodium, occurs in drill intersections of gabbro.

Alteration is very weak and consists of minor chlorite on fractures associated with mineralized intervals, chalcedonic silica and sericite associated with stratabound mineralization, and biotite-chlorite associated with anomalous gold. Lamprophyre dikes, believed to be Cretaceous or Tertiary, may be associated with the anomalous gold. Tourmalinite (identified in thin section as recrystallized coarse-grained material compared to Sullivan tourmalinite) is known in float.

Sedex Mining Corp. drilled the property in 1998. See McNeil (082GSW024).

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 7660, 16606, *19989
EMPR OF 2000-22
GSC MAP 603A
GSC MEM 228
GSC OF 820; 929; 2721
GCNL #182(Sept.22), #184(Sept.24), #191(Oct.5), 1998

DATE CODED: 1995/09/05
DATE REVISED: 1996/01/25

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE110**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRISHMAN, LEWIS, PANDA VENT,
LEW, ACTIVE RIDGE, IRISHMAN CREEK,
MOYIE WEST BLOCK**

MINING DIVISION: Fort Steele
UTM ZONE: 11 (NAD 83)
NORTHING: 5457797
EASTING: 567877

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:
LATITUDE: 49 16 09 N
LONGITUDE: 116 04 01 W
ELEVATION: 1800 Metres
LOCATION ACCURACY: Within 500M

COMMENTS: Location of the Panda Vent at the head of Lewis Creek (from Assessment Report 24244).

COMMODITIES: Zinc Lead Silver Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrrhotite Arsenopyrite Pyrite

COMMENTS: Chalcopyrite
Sphalerite is the only base metal mineral mentioned; galena is assumed from geochemical results.

ASSOCIATED: Pyrrhotite Pyrite
ALTERATION: Sericite Chlorite Tourmaline Quartz
COMMENTS: Only weak, local alteration described in diamond-drill core.

ALTERATION TYPE: Sericitic Chloritic Tourmalin'z'n
MINERALIZATION AGE: Middle Proterozoic

DEPOSIT

CHARACTER: Stratabound Disseminated Vein Stratiform
CLASSIFICATION: Sedimentary Exhalative
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Middle Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzitic/Quartzose Wacke
Quartzite
Argillite
Gabbro Sill
Wacke

HOSTROCK COMMENTS: Lithologies very briefly described in Assessment Report 8841.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist
COMMENTS: Veinlet mineralization could be post-metamorphism.

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
YEAR: 1997
CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Zinc 9.6500 Per cent
Lead 5.8200 Per cent
Silver 49.4000 Grams per tonne
COMMENTS: Over 2.55 metres.
REFERENCE: Exploration 1997, page 44.

CAPSULE GEOLOGY

The LEW group has been explored by Cominco over the period 1980-1985 for sedimentary stratabound exhalative mineralization of the Sullivan type, mainly by UTEM (University of Toronto electromagnetic) survey searching for buried conductors supplemented by surface geochemistry. Although not reported in the assessment reports, detailed stratigraphy and geology are likely to have been completed. UTEM conductors were investigated by diamond drilling, which intersected minor stratabound, disseminated and veinlet lead-zinc mineralization, and established that the hostrocks are Middle

CAPSULE GEOLOGY

Aldridge Formation (Purcell Supergroup) wackes and quartzitic wackes intruded by Middle Proterozoic Moyie gabbro sills.

In 1997, Kennecott Canada Exploration Inc. (in joint venture with Hastings Management Group of companies, mainly Sedex Mining Corp. and Abitibi Mining Corp.) drilled four core holes totalling over 2500 metres and intersected 2.55 metres of massive to semimassive, coarse-grained sulphides grading 9.65 per cent zinc, 5.82 per cent lead and 49.4 grams per tonne silver at a depth of 505 metres in the third hole (Exploration 1997, page 44). The hole is located in Panda Basin at the head of Lewis Creek, a north-flowing tributary of the upper Moyie River. The basin is located on the edge of what appears to be a hydrothermal vent indicated by the presence of extensive stratabound and discordant fragmental units and widespread albite-tourmaline-chlorite-sericite alteration of the Middle Aldridge siliciclastic rocks. The sulphide interval consists of sulphide bands which are both parallel to and discordant to bedding.

Mineralization occurs in the Active and Lewis ridge areas 3 to 6 kilometres to the north northwest.

BIBLIOGRAPHY

- EM EXPL 1997-44; 1998-68
- EM GEOS MAP 1998-3
- EMPR ASS RPT 8841, 10305, 10306, 11128, 11734, 12982, 14139, *24244, 24786, 25567
- EMPR INF CIRC 1998-1, p. 28
- EMPR OF 2000-22
- GSC MAP 603A
- GSC MEM 228
- GSC OF 820; 929; 2721
- GCNL #196(Oct.10), #206(Oct.27), #223(Nov.20), 1997; #191(Oct.5), 1998
- N MINER May 4, 1998
- PR REL Sedex Mining Corp., Oct. 8, 1997

DATE CODED: 1995/09/17
DATE REVISED: 1998/06/03

CODED BY: CHBL
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE111**

NATIONAL MINERAL INVENTORY:

NAME(S): **BROOK**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 21 05 N
LONGITUDE: 116 03 13 W
ELEVATION: 1600 Metres

NORTHING: 5466950
EASTING: 568733

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on the main claim post for the Brook claims.

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite
COMMENTS: Mineralogy not described; presumably pyrite or pyrrhotite.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear
CLASSIFICATION: Hydrothermal
TYPE: I01 Au-quartz veins
COMMENTS: Orientation of shear zone not described in assessment report.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Middle Aldridge	

LITHOLOGY: Quartzite
Siltstone
Argillite

HOSTROCK COMMENTS: No detailed geology; taken from Assessment Report 13565 and Reesor (1981).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Gold mineralization is assumed to be late compared to metamorphism.

PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP: Pre-mineralization
GRADE: Greenschist

CAPSULE GEOLOGY

The Brook property is located on the ridge between Ridgeway and McNeil creeks, south of upper Moyie River; it adjoins the McNeil property (82FSE109) to the east and the LEW property (82FSE110) to the south. The focal point of interest is a shear zone which yielded values up to 5 grams per tonne gold over 3 metres in surface trenching. Gold mineralization is known in the nearby Perry Creek area (David, 82FSE108 and Mark, 82FSE087). Geochemical silt and soil sampling failed to extend the mineralization. Hostrocks are described very generally as quartzites, siltstones and argillites of the Middle Proterozoic Middle Aldridge Formation; there is no description of mineralization or alteration.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 13565, 14130
GSC MAP 603A
GSC MEM 228
GSC OF 820; 929; 2721

DATE CODED: 1995/09/17
DATE REVISED: 1995/11/30

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE112**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEAR**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 17 00 N
LONGITUDE: 116 13 04 W
ELEVATION: 1800 Metres

NORTHING: 5459248
EASTING: 556888

LOCATION ACCURACY: Within 1 KM

COMMENTS: Position located on the claim post at the centre of the Bear group.

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Malachite Bornite
ASSOCIATED: Magnetite
ALTERATION: Diopside
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform
CLASSIFICATION: Skarn
TYPE: K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Middle Proterozoic
Middle Proterozoic

GROUP

Purcell

FORMATION

Middle Aldridge

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Gabbro
Siltstone
Argillaceous Wacke
Quartzite

HOSTROCK COMMENTS: Mineralization hosted at contact of Moyie gabbro and sedimentary rocks

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: Unknown

GRADE: Greenschist

CAPSULE GEOLOGY

The Bear claims are located near the headwaters of Leadville Creek; access is by Forest Service road branching off at kilometre 8.5 of the Leadville/Goat River road. Mineralization discovered as a result of prospecting and soil sampling on the Bear property consists of minor malachite and bornite associated with semimassive magnetite within a gabbro of the Proterozoic Moyie intrusions near its inferred contact with Middle Aldridge Formation (Purcell Supergroup) sedimentary rocks, which include quartzite, siltstone and argillaceous wacke. The mineralization occurs within diopside, fine-grained gabbro, suggesting a skarn-type occurrence.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 21503
GSC MAP 603A
GSC MEM 228
GSC OF 820; 929; 2721

DATE CODED: 1995/09/17
DATE REVISED: 1995/11/30

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE113**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAMB, FALL**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E 082G05W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 24 N
LONGITUDE: 116 00 59 W
ELEVATION: 1620 Metres

NORTHING: 5458307
EASTING: 571549

LOCATION ACCURACY: Within 500M

COMMENTS: Claims staked by two separate parties; midpoint between the two groups chosen as reference point.

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Chalcopyrite Gold

COMMENTS: Native gold is presumed to be present; placer known in stream. "Copper mineralization" described in fractures in Kitchener Formation.

ASSOCIATED: Quartz

COMMENTS: "Copper mineralization" described in fractures in Kitchener Formation in immediate footwall side of Moyie fault assumed to be as chalcopyrite.

ALTERATION: Quartz

COMMENTS: Extensive silicification observed in faults.

ALTERATION TYPE: Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Unconsolidated
CLASSIFICATION: Mesothermal Placer

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au C01 Surficial placers

COMMENTS: Located on northwest flank of Moyie anticline, near major northeast Moyie fault; smaller east and west faults.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Kitchener	

LITHOLOGY: Siltstone
Dolomitic Siltstone
Argillite
Turbidite Quartzite

HOSTROCK COMMENTS: Mineralization assumed to be in Kitchener Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

COMMENTS: Assume metamorphism is pre-gold vein mineralization.

CAPSULE GEOLOGY

The Lamb and Fall claim blocks (staked by two separate parties) were intended to cover the possibility of lode gold source for placer gold known to occur in the headwaters of Lamb Creek. Heavy mineral concentrates from stream sediments downstream of the Moyie fault assayed up to 286 parts per billion gold and were anomalous in copper and arsenic as well.

Minor copper mineralization was located on fractures in the Kitchener Formation in the immediate footwall of the Moyie fault. The Kitchener Formation, part of the Middle Proterozoic Purcell Supergroup, here consists of siltstone, dolomitic siltstone, argillite and turbidite quartzite. Extensive silicification is observed near the fault where exposure permits. Several large barren quartz veins are present.

Ground magnetic surveys were used to locate structures. One short diamond-drill hole (24.7 metres) was drilled to test below the sheared silicified copper mineralized zone but failed to intersect any mineralization.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 21505, 22543, 23021

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 961
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1995/09/21
DATE REVISED: 1995/12/14

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE114**

NATIONAL MINERAL INVENTORY:

NAME(S): **COOPER**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 20 40 N
LONGITUDE: 116 11 04 W
ELEVATION: 2050 Metres

NORTHING: 5466067
EASTING: 559239

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location centred on common claim post for Cooper 1-4 (Assessment Report 19436).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Hematite Gold

COMMENTS: Native gold is presumed. Pyrite and hematite are associated with small quartz veins up to 0.5 metre thick, forming single cubes and fine disseminations in the veins; pyrrhotite occurs in argillaceous quartzite of the Aldridge Formation.

ASSOCIATED: Quartz Chlorite

COMMENTS: Milky white quartz float is abundant on the property as large angular boulders.

ALTERATION: Quartz

ALTERATION TYPE: Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Mesothermal Epithermal

TYPE: I01 Au-quartz veins

COMMENTS: Strata strike 215 degrees and dip 40-85 degrees west; there are a number of medium to small sized shear or fault zones throughout the property that strike northeast and dip vertically.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Siltstone
Mudstone
Quartzite
Argillite
Syenite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

COMMENTS: Metamorphism assumed to be late and therefore pre-mineralization.

CAPSULE GEOLOGY

The Cooper property is located between the headwaters of Kamma Creek, which drains into the Goat River, and the South Moyie Creek, which drains into the Moyie River. The claim area is south of and along strike from a regional fault underlying Perry Creek, where lode gold mineralization has been found; exploratory and active placer gold operations are present along the Goat and Moyie rivers respectively. Gold has been found in individual quartz veins (2-20 metres wide), mineralized shear zones associated with Middle Proterozoic Moyie intrusions, and altered zones surrounding syenite intrusive bodies located along major faults.

The property is underlain by rocks of the Creston and Aldridge formations, comprising respectively shallow water sedimentary and deeper water turbidite facies; siltstone, argillite and fine-grained quartzite are represented. These strata have an average strike of 215 degrees and dip 40-85 degrees west; there are a number of medium to small sized shear or fault zones throughout the property that strike northeast and dip vertically.

Pyrite is associated with small quartz veins up to 0.5 metre thick within the Aldridge Formation, occurring as single cubes and

CAPSULE GEOLOGY

fine disseminations throughout the veins; specular hematite is also associated with small quartz veins.

Pyrrhotite occurs as fine blebs in Aldridge argillaceous quartzite float, and there is also abundant float of milky white quartz ranging up to large 5 metre angular boulders of quartz vein float that suggest a local source.

Anomalous gold up to 670 parts per billion was found in bulk stream sediment samples draining east off the property but follow-up soils were not able to pinpoint the source of the gold; anomalous gold was found to 180 parts per billion in a five metre quartz vein which contains hematite and chlorite. This sample also contains anomalous copper (100 parts per million) and arsenic (177 parts per million) (Assessment Report 19436).

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 19436
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1995/09/21
DATE REVISED: 1995/12/14

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE115**

NATIONAL MINERAL INVENTORY:

NAME(S): **LEW VENT, LEW, LAURIE,
LEWIS CREEK**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

MINING DIVISION: Fort Steele

LATITUDE: 49 22 20 N
LONGITUDE: 116 06 38 W
ELEVATION: 1400 Metres

UTM ZONE: 11 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5469216
EASTING: 564570

COMMENTS: Located south of North Moyie Creek, 300 metres upstream from a road crossing. Location of Lew vent is shown in Assessment Report 24244.

COMMODITIES: Lead Zinc Copper Silver Tungsten

MINERALS

SIGNIFICANT: Sphalerite Galena Chalcopyrite Scheelite Bornite

COMMENTS: Showing consists of scattered discontinuous lenses or disseminations of sphalerite, galena and chalcopyrite in a silicified quartzite bed, or along fractures in silicified quartzite and breccia beds. Scheelite occurs at a dike contact.

ASSOCIATED: Pyrrhotite Pyrite Malachite Limonite Pyrolusite
Quartz

COMMENTS: Blebs of pyrrhotite are associated with the breccia beds and pyrite is found with quartz breccia in float boulders and in silicified zones. Malachite, limonite and manganese oxides occur at surface.

ALTERATION: Quartz Chlorite Malachite Limonite Tourmaline

COMMENTS: Silicification is the most common alteration type described; chlorite is associated with pyrite and quartz veining.

ALTERATION TYPE: Silicific'n Chloritic Oxidation Tourmalin'z'n
MINERALIZATION AGE: Middle Proterozoic

DEPOSIT

CHARACTER: Stratabound Disseminated Vein
CLASSIFICATION: Sedimentary Exhalative
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag I05 Polymetallic veins Ag-Pb-Zn±Au

COMMENTS: Strata strike north to northeast with gentle to moderate northerly dips. Shearing is north to northeast with steep west dips, parallel to Old Baldy fault located a short distance northwest of the property.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Middle Aldridge	Moyie Intrusions

LITHOLOGY: Siltstone
Quartzite
Argillite

HOSTROCK COMMENTS: Stratigraphic position well known from marker beds.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist

COMMENTS: Metamorphism assumed to be post-metamorphism if it is exhalative.

CAPSULE GEOLOGY

The Laurie appears to be a new showing found by prospecting in an area where some old showings are known (the Royal Crown lead showing (082FSE064) is 2 kilometres to the east and the Cariboo lead-zinc-tungsten-uranium-silver showing (082FSE003) is 6 kilometres to the west). The most important mineralization discovered is 300 to 700 metres up North Moyie Creek from the crossing of the road following the upper Moyie River; it consists of what is described as stratiform to stratabound beds to irregular lenses or fracture coatings of sphalerite, galena, chalcopyrite and minor pyrrhotite. Other showings found elsewhere on the claims are mostly described as vein occurrences of quartz containing pyrite, chalcopyrite, rare bornite, and stained with limonite, malachite, and manganese oxides (pyrolusite?) at the surface. Old trenches, believed to occur on a Reverted Crown grant (name not given) a short distance northeast of the confluence of the Moyie River and the North Moyie Creek, expose a vein along a northeast-oriented Middle Proterozoic Moyie intrusion

CAPSULE GEOLOGY

containing scheelite, galena, sphalerite and chalcopyrite. Silver is only known geochemically.

Host rocks are gently to moderately north dipping Middle Proterozoic Middle Aldridge Formation (Purcell Supergroup) sediments including siltstone, impure quartzite and argillite; known marker beds are presumed to place the showings stratigraphically. VLF-EM surveying located conductors attributed to structures.

The LEW group has been explored by Cominco over the period 1980-1985 for sedimentary stratabound exhalative mineralization of the Sullivan type, mainly by UTEM (University of Toronto electromagnetic) survey searching for buried conductors supplemented by surface geochemistry. Although not reported in the assessment reports, detailed stratigraphy and geology are likely to have been completed. UTEM conductors were investigated by diamond drilling, which intersected minor stratabound, disseminated and veinlet lead-zinc mineralization, and established that the hostrocks are Middle Aldridge Formation (Purcell Supergroup) wackes and quartzitic wackes intruded by Middle Proterozoic Moyie gabbro sills.

In 1997, Sedex Mining Corp. (previously Otis J. Exploration Corp.) drilled approximately 1300 metres in 3 holes on the property. It is centred on the Lew "Vent", a tourmalinized fragmental zone. Sedex had earlier found stratiform mineralization grading over 10 per cent combined lead and zinc.

BIBLIOGRAPHY

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EM GEOS MAP 1998-3
EMPR ASS RPT 8841, 10305, 10306, 11128, 11734, 12982, 14139, 20140,
21506, 24244, 24650, 24786, 25441, 25467
EMPR OF 2000-22
GSC MAP 603A
GSC MEM 228
GSC OF 820; 929; 2721
GCNL #182(Sept.22), 1998
WWW <http://www.infomine.com/>

DATE CODED: 1995/09/22
DATE REVISED: 1998/06/03

CODED BY: CHBL
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE116**

NATIONAL MINERAL INVENTORY:

NAME(S): **WEAVER**, HILL, GALENA,
MC2

MINING DIVISION: Fort Steele

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 23 56 N
LONGITUDE: 116 04 02 W
ELEVATION: 1725 Metres

NORTHING: 5472218
EASTING: 567679

LOCATION ACCURACY: Within 500M
COMMENTS: Located centred on the main Hill vein showing.

COMMODITIES: Gold Lead

MINERALS

SIGNIFICANT: Gold Galena
COMMENTS: Native gold is the only significant mineral described. Minor galena occurs in the Galena vein.

ASSOCIATED: Quartz Pyrite Hematite Limonite
COMMENTS: Pyrite and specular hematite are the main associated minerals.

ALTERATION: Quartz Chlorite Limonite Hematite
COMMENTS: Quartz veining and silicification are the main alteration; chlorite is associated with hematite, pyrite and brecciation in and near some showings.

ALTERATION TYPE: Silicific'n Chloritic Oxidation
MINERALIZATION AGE: Cretaceous-Tertiary

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Mesothermal Epithermal
TYPE: I01 Au-quartz veins
COMMENTS: Major vein (Hill showing) strikes north and dips shallowly west; the MC2 shear strikes northeast, and the Galena vein is subparallel.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Turbidite Siltstone
Quartzite
Argillite
Gabbro
Felsic Dike
Diorite Dike

HOSTROCK COMMENTS: Creston Formation also present on claims; minor Cretaceous or early Tertiary felsic dikes may be associated with the veining.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

COMMENTS: Mineralization thought to be related to Cretaceous/Tertiary dikes.

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1991
SAMPLE TYPE: Grab
COMMODITY: Gold GRADE
Gold 31.8000 Grams per tonne
COMMENTS: The Hill vein is between 0.5 and 1 metre thick; grab samples of vein material only.
REFERENCE: Assessment Report 20013.

CAPSULE GEOLOGY

The Weaver property covers several significant showings of gold-quartz veins and shears located in the Weaver Creek drainage in the upper reaches of the Moyie River, a known placer gold area (82FSE102) where placer mining was carried on recently by Queenstake Resources. Other known gold mineralization in the area includes David (82FSE108, 6 kilometres southwest) and Perry Creek

CAPSULE GEOLOGY

drainage, 10 kilometres to the northwest.

The claims are underlain by sedimentary rocks of the Aldridge and Creston formations of the Middle Proterozoic Purcell Supergroup. Lithologies include turbidite siltstone, quartzite, argillite and Moyie gabbro intrusions; there are rare felsic dikes of possible Cretaceous-early Tertiary age, likely associated with mineralization.

Gold-quartz veins of possible mesothermal to epithermal character occur in at least three locations on the property, and are called the Hill vein, the MC2 shear, and the Galena vein. The Hill vein is a north striking, shallow west-dipping quartz vein exposed by trenching along a strike length of more than 500 metres. Grab samples of the vein material, which contains visible gold, pyrite and limonite, yielded assays up to 31.8 grams per tonne gold (Assessment Report 20013). The vein is between 0.5 and 1 metre thick. Felsic dikes associated with the vein contain disseminated pyrite, specular hematite and chloritic fractures, as well as thin lens quartz veinlets; Middle Aldridge sediments adjacent to the dikes are altered and stained by manganese and limonite. A possible extension to the vein is 0.5 metre thick and bedding-parallel; altered quartzites on both sides of the vein are brecciated with quartz veining, limonite and minor pyrite, and assay up to 340 parts per billion gold.

The MC2 shear is a northeast-trending structure in the upper Weaver Creek area that contains gold values up to 2800 parts per billion; galena is rarely observed in quartz veinlets in this structure.

At the Galena vein, gold values up to 4800 parts per billion over 40 centimetres were found in the sheared margins of a diorite dike that probably is part of the Moyie intrusions of Middle Proterozoic age. Gold and minor galena occurs in quartz veins up to 1.2 metres thick and silicified Middle Aldridge siltstones and argillites at the margins of the diorite dike.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 12574, 14254, 16538, *20013, 22879
EMPR MAP 49; 54
GSC MAP 603A
GSC MEM 228
GSC OF 820; 929; 2721
GSC P 58-10

DATE CODED: 1995/09/29
DATE REVISED: 1995/12/14

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE117**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUCK, ELCR**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

Underground

MINING DIVISION: Fort Steele

LATITUDE: 49 26 30 N
LONGITUDE: 116 02 06 W
ELEVATION: 1860 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5477003
EASTING: 569956

LOCATION ACCURACY: Within 500M

COMMENTS: Centred on old trenching at a landing between Noke and Negro creeks.

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Gold
COMMENTS: Mineralization consists of quartz-pyrite (or limonite-stained quartz) veins. Gold was seen in only one vein on the eastern side of the property.

ASSOCIATED: Quartz Limonite Hematite Magnetite
COMMENTS: Some veins are reported to contain hematite; magnetite-hematite breccias are also found.

ALTERATION: Quartz Chlorite Limonite
COMMENTS: Quartz veining and silicification are the main alteration types.

ALTERATION TYPE: Silicific'n Chloritic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Mesothermal Epithermal
TYPE: I01 Au-quartz veins

COMMENTS: A series of northeast-trending faults parallel to the Old Baldy fault contain shear zones with quartz veins.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic	Purcell	Creston	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Siltstone
Argillite
Quartzite
Gabbro

HOSTROCK COMMENTS: Some quartz veining at boundary between Aldridge and Creston formations.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

COMMENTS: Age of mineralization not known; could be post-metamorphism.
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Buck property is centred on some old trenching on a landing on the slope between Noke and Negro creeks. There is also an old adit in Noke Creek. Placer gold is known in this part of the upper Moyie river drainage (e.g. Moyie River, 082FSE102), and there are several other lode gold showings in the vicinity (e.g. Prospector's Dream, 082FSE029; Weaver, 082FSE116; and showings in Perry Creek, 10 kilometres to the northwest).

The property is underlain by rocks of the Purcell Supergroup of Middle Proterozoic age, mainly Aldridge Formation; some veins are found at the boundary with Creston Formation (Purcell Supergroup). These formations consist of siltstone, argillite and quartzite, regionally metamorphosed to greenschist facies. Mineralization is found in milky quartz veins along northeast-trending faults and shears parallel to the old Baldy fault. Float boulders of Middle Proterozoic Moyie intrusions gabbro are found in proximity to the Palmer Bar fault on the southeast and northeast portions of the property.

Mineralization consists of pyrite-bearing and limonite-stained quartz, or quartz containing hematite; minor visible gold is present in the ELCR vein on the property, but more is expected due to the placer gold taken from Noke Creek. A magnetite-hematite breccia with

CAPSULE GEOLOGY

a width of 4 to 5 metres and strike length of 20 metres, associated with shearing and numerous narrow quartz veins, was discovered on the eastern part of the property in Palmer Bar Creek; wallrock here is silicified and partly chloritized.

An airborne, helicopter-mounted magnetic, electromagnetic and VLF (very low frequency) electromagnetic survey was flown over this and the adjoining Racki and LDM properties (082FSE118), to define the regional and local structures along which gold mineralization is found in this camp. The survey (Assessment Report 21098) indicates several such structures.

Rock geochemical sampling (Assessment Report 21863) did not reveal any significant anomalous values for gold or base metals.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 11465, 13053, *17150, 21098, 21611, 21863, 22490
EMPR PF (Chapleau Resources Ltd. News Releases 1987, 1988)
GSC MAP 15-1957; 603A
GSC MEM 228
GSC OF 820; 929; 2721

DATE CODED: 1995/10/02
DATE REVISED: 1995/12/14

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE118**

NATIONAL MINERAL INVENTORY:

NAME(S): **RACKI**

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 28 30 N
LONGITUDE: 116 04 04 W
ELEVATION: 1950 Metres

NORTHING: 5480679
EASTING: 567534

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location centred on trenching on the north slope of the east branch of Wuhun Creek.

COMMODITIES: Gold Copper Lead

MINERALS

SIGNIFICANT: Gold Pyrite Galena Chalcopyrite
COMMENTS: Minor visible gold is reported in quartz veins with pyrite; galena and chalcopyrite are rarely present.
ASSOCIATED: Quartz Hematite Malachite Limonite Pyrolusite
COMMENTS: Hematite, limonite, pyromorphite and manganese oxides (pyrolusite?) are common; malachite is rare.
ALTERATION: Quartz Chlorite Limonite Hematite Pyrolusite Malachite
COMMENTS: Quartz veining and silicification in shear zones is most common; chlorite is associated with shearing or hematite in places.
ALTERATION TYPE: Silicific'n Chloritic Oxidation
MINERALIZATION AGE: Cretaceous-Tertiary

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Mesothermal Epithermal
TYPE: I01 Au-quartz veins
COMMENTS: Gold is associated with a series of northeast to north-northeast trending faults parallel to the regional strike of the sedimentary rocks.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	Moyie Intrusions
Middle Proterozoic			Unnamed/Unknown Informal
Cretaceous-Tertiary			

LITHOLOGY: Siltstone
Argillite
Quartzite
Gabbro
Diorite
Quartz Monzonite
Granodiorite

HOSTROCK COMMENTS: Cretaceous quartz monzonite and granodiorite are known just off the property and gold mineralization is believed to be related to them.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist
COMMENTS: Metamorphism assumed pre-mineralization.

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1992
SAMPLE TYPE: Grab
COMMODITY: Gold GRADE: 16.4000 Grams per tonne
REFERENCE: Assessment Report 21863.

CAPSULE GEOLOGY

The Racki property is centred on Wuhun Creek that drains into Perry Creek, a known lode gold area on strike from the David (082FSE108) occurrence; it is an outgrowth of exploration by Dragoon Resources on that property. The main showings occur in trenches on

CAPSULE GEOLOGY

the north slope of the east fork of Wuhun Creek at about 1950 metres elevation.

The claims are underlain by sedimentary rocks of the Aldridge Formation belonging to the Middle Proterozoic Purcell Supergroup; siltstone is most common, but argillite and quartzite are also present. The Aldridge Formation is intruded by gabbro to diorite sills and dikes, also of Middle Proterozoic age. Cretaceous quartz monzonite and granodiorite are reported just off the property both to east and west. A complex system of northeast to north-northeast trending normal and reverse faults occur parallel to the strike of the sedimentary rocks. A series of easterly striking transverse faults cut across the regional trend at an oblique angle. The most significant mineralization discovered is contained within a silicified shear zone within the old Baldy fault structure, traceable for 2 kilometres along strike.

The showings consist of narrow quartz veins, stained with limonite, hematite, pyromorphite? and minor malachite at surface; pyrite with rare gold and galena are reported in the quartz. Rare chalcopyrite is found in gabbro. Geochemical sampling yield gold values up to 175 parts per billion over widths less than 10 centimetres, although grab samples assay up to 16.4 grams per tonne gold (Assessment Report 21863). Molybdenum is only known from anomalous geochemistry (up to 175 parts per million); zinc and silver likewise are only known from geochemical sampling (900 and 53 parts per million respectively).

Alteration is confined to silicification and minor chloritic zones associated with hematite. Ground geophysics (detailed total field magnetics and VLF-EM surveys) delineated a strong magnetic anomaly on the west edge of the property coincident with a gabbro exposure; weak VLF-EM responses suggest the presence of easterly oriented structural breaks. This work was in follow-up to a regional airborne magnetic and VLF-EM survey (Assessment Report 21098).

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 20767, 20920, 21098, *21863
GSC MAP 11-1960; 15-1957; 603A
GSC MEM 228
GSC OF 820; 929; 2721

DATE CODED: 1995/10/02
DATE REVISED: 1995/12/14

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE119**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHAKESPEARE**, OYSTER (L.10228)

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 27 30 N
LONGITUDE: 116 07 24 W

NORTHING: 5478778
EASTING: 563531

ELEVATION: 1700 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centred on old workings on Lot 10228 as shown on map in Assessment Report 15649.

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Limonite Hematite

COMMENTS: Very minor disseminated pyrite. Patchy hematite and/or limonite stained along partings or fractures.

ASSOCIATED: Quartz

COMMENTS: Highly silicified, fragment-supported rubble breccia of light grey angular quartzite fragments in a milky and clear quartz cement.

ALTERATION: Quartz Sericite Limonite Hematite

COMMENTS: Both fragments and cement crosscut by stockworks of milky and clear quartz. Local sheared areas of sericite with quartz.

ALTERATION TYPE: Silicific'n Sericitic Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

COMMENTS: Northeast-trending quartz ledges or silicified zones 15 and 30 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Middle Proterozoic
Middle Proterozoic

GROUP

Purcell

FORMATION

Creston

IGNEOUS/METAMORPHIC/OTHER

Moyie Intrusions

LITHOLOGY: Quartzite
Microdiorite

HOSTROCK COMMENTS: Old reports describe "miner's porphyry dike" which was not found in place; recent assessment reports describe microdiorite float.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

COMMENTS: Biotite-grade regional metamorphism likely pre-mineralization.

CAPSULE GEOLOGY

The Shakespeare is an old showing located on the edge of and just off (west) Reverted Crown grant Lot 10228, immediately south of Liverpool Creek in the Perry Creek drainage. It is one of a series of subparallel veins, "ledges", or shears that have received recent exploration by Gallant Gold Mines Ltd. as part of the Perry Creek lode gold property that includes the old showings Homestake (082FSE012), Columbia (082FSE009), McIntosh (082FSE120) and British American Corp., or Petra (082FSE121).

The showings are hosted in quartzite of the Creston Formation; old reports mention the presence of a "miner's porphyry", likely a reference to microdiorite dikes found in float in this area and ascribed to a local source by recent work. Both these rock types belong to the Middle Proterozoic Purcell Supergroup, assuming that the microdiorites are part of the Moyie intrusions. Showings consist of several major "ledges" or zones of silicified rock composed of angular fragments of grey quartzite cemented by milky and lesser clear quartz, with minor disseminated pyrite and stains of limonite and hematite. Alteration is principally silicification; minor sericite is mentioned adjacent to the silicified and in places stockworked zones. Gold values up to 34 grams per tonne were reported in 1898, but subsequent sampling has been less (all 1986 samples were 0.07 gram per tonne gold or less) (Assessment Report

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RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 973
REPORT: RGEN0100

CAPSULE GEOLOGY

15649).

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR AR 1898-1016
EMPR ASS RPT 15649
GSC MAP 603A
GSC MEM 228, p. 68
GSC OF 820; 929; 2721

DATE CODED: 1995/10/04
DATE REVISED: 1995/12/14

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE120**

NATIONAL MINERAL INVENTORY:

NAME(S): **MCINTOSH (ANNIE)**, ANNIE, ANNA (L.10224),
ECLIPSE (L.10223)

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 27 15 N
LONGITUDE: 116 07 44 W
ELEVATION: 1650 Metres

NORTHING: 5478310
EASTING: 563134

LOCATION ACCURACY: Within 500M

COMMENTS: Centred on old workings on Lot 10224 as shown on map in Assessment Report 15649.

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite
COMMENTS: Minor disseminated pyrite, minor limonite stains.
ASSOCIATED: Quartz Limonite
COMMENTS: Stockwork of quartz veinlets form silicified zones.
ALTERATION: Quartz Limonite Hematite
COMMENTS: Zones of silicification are most common.
ALTERATION TYPE: Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
COMMENTS: Northeast-trending quartz ledges or silicified zones are subparallel to the Perry Creek fault.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzite
Microdiorite

HOSTROCK COMMENTS: Old reports describe "miner's porphyry dike" which was not found in place; recent assessment reports describe microdiorite float.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Biotite-grade regional metamorphism likely pre-mineralization.

PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP: Pre-mineralization
GRADE: Greenschist

CAPSULE GEOLOGY

The McIntosh is an old showing located at the boundary between Reverted Crown grants Eclipse (Lot 10223) and Anna (Lot 10224), immediately north of Shorty Creek, a tributary in the Perry Creek drainage. It is one of a series of subparallel veins, "ledges", or shears that have received recent exploration by Gallant Gold Mines Ltd. as part of the Perry Creek lode gold property that includes the old showings Homestake (082FSE012), Columbia (082FSE009), Shakespeare (082FSE119) and British American Corp. or Petra (082FSE121). The showings are also known as the Annie, on which an opencut exposed a quartz vein 8 metres wide stained by limonite assaying only trace gold.

The showings are hosted in quartzite of the Creston Formation; there are also microdiorite dikes found in float in this area and ascribed to a local source by recent work. Both these rock types belong to the Middle Proterozoic Purcell Supergroup, assuming that the microdiorites are part of the Moyie intrusions. Showings consist of several major "ledges" or zones of silicified rock composed of stockworks of quartz veinlets with minor disseminated pyrite cubes and hematite. Alteration is principally silicification adjacent to stockworked zones. All 1986 samples assayed 0.07 gram per tonne gold or less.

A VLF-EM (very low frequency-electromagnetic) survey carried out over the adjoining ground to the west by Trans-Arctic Exploration revealed northeast and northwest-striking conductors that likely

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reflect underlying structures favourable for mineralization, but did not detect the trace of the Perry Creek fault.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR AR 1915-110
EMPR ASS RPT 13610, 15649
GSC MAP 603A
GSC MEM 228, p. 68
GSC OF 820, 929; 2721

DATE CODED: 1995/10/04
DATE REVISED: 1995/12/14

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE121**

NATIONAL MINERAL INVENTORY:

NAME(S): **PETRA, B.A. CORP., BRITISH AMERICAN CORP., OYSTER (L.10228)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

MINING DIVISION: Fort Steele
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 26 40 N
LONGITUDE: 116 07 44 W
ELEVATION: 1700 Metres

NORTHING: 5477229
EASTING: 563146

LOCATION ACCURACY: Within 500M
COMMENTS: Centred on old workings on Lot 3719 as shown on map in Assessment Report 15649.

COMMODITIES: Gold Lead Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Hematite Galena Chalcopyrite Sphalerite
COMMENTS: Minor disseminated pyrite, up to 2 per cent hematite and traces of galena and chalcopyrite; sphalerite assumed from geochemistry.

ASSOCIATED: Quartz
COMMENTS: Stockwork of quartz veinlets up to 70 centimetres wide; some quartz stringers to 10 centimetres width contain 2-3 per cent disseminated pyrite.

ALTERATION: Quartz Hematite
COMMENTS: Silicification is the only alteration type described.

ALTERATION TYPE: Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
COMMENTS: Northeast-trending quartz ledges or silicified zones up to 3 metres wide, parallel to the Perry Creek fault; local shearing.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Quartzite
Microdiorite

HOSTROCK COMMENTS: Old reports describe "miner's porphyry dike" which was not found in place; recent assessment reports describe microdiorite float.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP: Pre-mineralization

GRADE: Greenschist

COMMENTS: Biotite-grade regional metamorphism likely pre-mineralization.

CAPSULE GEOLOGY

The B.A. Corp. is an old showing located on the edge of and just off (west) Reverted Crown grant Oyster (Lot 10228), immediately south of Liverpool Creek in the Perry Creek drainage. It is one of a series of subparallel veins, "ledges", or shears that have received recent exploration by Gallant Gold Mines Ltd. as part of the Perry Creek lode gold property that includes the old showings Homestake (082FSE012), Columbia (082FSE009) and McIntosh (082FSE120). The name British American Corp. has been renamed Petra.

The showings are hosted in quartzite of the Creston Formation; microdiorite dikes are found in float in this area and are ascribed to a local source by recent work. Both these rock types belong to the Middle Proterozoic Purcell Supergroup, assuming that the microdiorite is part of the Moyie intrusions. Showings consist of a stockwork of quartz veinlets to 70 centimetres wide with a few narrow stringers containing up to 2 per cent hematite with traces of chalcopyrite and galena; anomalous zinc suggests the presence of sphalerite. Disseminated euhedral pyrite to several millimetres is present.

Bulk soil sampling concentrates indicated highly anomalous gold, and trenches yielded assays up to 3.9 grams per tonne gold over a width of 10 metres, but subsequent sampling has been less (all 1986

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RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 977
REPORT: RGEN0100

CAPSULE GEOLOGY

samples were 0.07 gram per tonne gold or less; drilling under the trench yielded only 0.3 gram per tonne gold over 1.5 metres (Assessment Report 15649)).

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 8598, *13007, *15649
GSC MAP 603A
GSC MEM 228, p. 68
GSC OF 820; 929; 2721
WWW <http://www.infomine.com/index/properties/ZINGER.html>

DATE CODED: 1995/10/04
DATE REVISED: 1995/12/14

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE122**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD RUN**, CD

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 25 15 N
LONGITUDE: 116 10 24 W
ELEVATION: 1830 Metres

NORTHING: 5474568
EASTING: 559953

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located on a major anomaly found by recent exploration on the south-facing slope above Gold Run Lake.

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite Limonite

COMMENTS: Pyrite and limonite after pyrite are known in the shear zone on the Yellow Metal property (082FSE065) to the north.

ASSOCIATED: Quartz

COMMENTS: Gold values are found associated with quartz veins and stringers.

ALTERATION: Quartz Limonite

COMMENTS: Silicification is the only alteration described.

ALTERATION TYPE: Silicific'n Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear

CLASSIFICATION: Hydrothermal Epigenetic Mesothermal

TYPE: I01 Au-quartz veins

COMMENTS: North trending major shear zones project onto the property from the Hawk (Yellow Metal) (082FSE065) property to the north.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	

LITHOLOGY: Quartzite
Siltstone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

METAMORPHIC TYPE: Regional

RELATIONSHIP: Unknown

GRADE: Greenschist

COMMENTS: Age of Perry Creek mineralization widely believed post-metamorphism.

CAPSULE GEOLOGY

The Gold Run property as defined here covers the large CD claim group staked recently by Partners Oil and Minerals Ltd. near Richmond Lake at the head of Perry Creek. The main area of interest in the recent work covers the southern strike extension of gold-quartz vein mineralization discovered at the turn of the century on the Yellow Metal property (082FSE065), and recently explored by Unique Resources Ltd. as the Hawk claim.

The Gold Run property is underlain by grey, green, white-purple quartzites and siltstones with minor interbedded argillite which are part of the Creston Formation of the Middle Proterozoic Purcell Supergroup. These well-bedded rocks strike 030 degrees and dip steeply northwest.

The major showing on the property consists of a large geochemical anomaly (500 by 400 metres of greater than 100 parts per billion gold) that is on strike with a zone of shearing and anomalous gold found to the north on the contiguous Hawk claim (082FSE065). Peak values within the anomaly are in excess of 500 parts per billion gold; no other elements were analysed for. A second anomaly consists of one soil line 400 metres long with gold values over 100, locally over 1000 parts per billion. This anomaly also lies on the southern extension of a gold-mineralized shear known on the Hawk property to the north. The shear zones on the Hawk (Yellow Metal) property have great strike extent of up to 2500 metres, widths of up to 50-100 metres and gold assays ranging from trace to 30.5 grams per tonne (Assessment Report 16656); the zones strike 020 degrees and dip steeply east, cutting across the stratigraphy. Mineralized zones are

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CAPSULE GEOLOGY

characterized by minor pyrite, oxidized to limonite at surface, in quartz veins and stringers in silicified rock.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR AR 1915-108; 1922-126; 1932-162
EMPR ASS RPT 14212, 15284, *16656
EMPR PF (see Yellow Metal, 082FSE065-Report by A. Burton, 1987)
GSC MAP 603A
GSC MEM 228
GSC OF 820; 929; 2721
WWW <http://www.infomine.com/index/properties/ZINGER.html>

DATE CODED: 1995/10/05
DATE REVISED: 1995/12/14

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE123**

NATIONAL MINERAL INVENTORY:

NAME(S): **REAL THING (SURE THING)**, VIKING (L.6866), LADY GRACE (L.7216),
NORTHERN LIGHT (L.6024), SWENSON, REAL THING (L.6864),
ROARING KING (L.6025), CALL BACK (L.6863), GOLD CURE (L.6865),
CANBY FR. (L.7217), SURETHING (L.6023)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F08E
BC MAP:

Underground

MINING DIVISION: Fort Steele

LATITUDE: 49 24 50 N
LONGITUDE: 116 12 04 W
ELEVATION: 2260 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5473774
EASTING: 557947

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the common boundary of Reverted Crown grants Call Back
(Lot 6863), Real Thing (Lot 6864) and Lady Grace (Lot 7216).

COMMODITIES: Gold

Copper

MINERALS

SIGNIFICANT: Gold Copper Chalcopyrite Malachite

COMMENTS: Native gold, native copper, chalcopyrite and malachite are found in
old adits on Lots 6864 and 6866.

ASSOCIATED: Quartz Pyrite

COMMENTS: Pyrite is associated with gold in quartz veins.

ALTERATION: Quartz Malachite

COMMENTS: Silicification is the only alteration described.

ALTERATION TYPE: Silicific'n Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic Mesothermal

TYPE: I01 Au-quartz veins

COMMENTS: Veins trend either 020 degrees and dip 80 degrees east
conformable with the strike of the country rocks, or trend west and
dip south crosscutting the country rocks.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Creston	

LITHOLOGY: Quartzite
Siltstone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Purcell Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP: Unknown

GRADE: Greenschist

COMMENTS: Age of Perry Creek mineralization widely believed post-metamorphism.

CAPSULE GEOLOGY

The recently staked Swenson property covers the old Real Thing showings on Reverted Crown grants (Lots 6023-6025, 6863-6866, 7216-7217) centred on a prominent 2260 metre high peak west of Richmond Lake at the head of Perry Creek.

The Swenson property is underlain by grey to purple coloured quartzites and siltstones with minor interbedded argillite which are part of the Creston Formation of the Middle Proterozoic Purcell Supergroup. These well-bedded rocks strike 030 degrees and dip from vertical to 75 degrees east. Quartz is abundant, occurring as small stringers or veins conforming to the general strike of the country rock and as larger veins or lenses that crosscut the bedding; best mineralization is in the latter. Faulting and shearing is evident, with the largest displacement noted being 6 metres.

Two major showings on the property are found. The first old adit is located on Lot 6864 (Real Thing) and exposes a quartz vein that varies from 5 to 20 centimetres thick conforming with the strike of the country rock over a strike length of 22 metres, but does not appear to show any mineralization. A second adit is driven on a quartz vein that strikes westerly and dips to the south, crosscutting the bedding; it is approximately 30 centimetres wide at the mouth of the adit and pinches to a few centimetres 15 metres from the portal. At its widest point it is well mineralized with pyrite,

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CAPSULE GEOLOGY

chalcopyrite, native copper and traces of malachite. Gold is visible as small flakes the size of a pin head associated with native copper. Another mineralized quartz vein, on Lot 6866 (Viking) strikes 025 degrees, dips at 80 degrees to the east, is approximately 45 centimetres wide and is heavily mineralized with pyrite. It is traceable for 60 metres to the south.

BIBLIOGRAPHY

EM GEOS MAP 1998-3
EMPR ASS RPT 15284, 16656, *17573
GSC MAP 603A
GSC MEM 228
GSC OF 820; 929; 2721
WWW <http://www.infomine.com/index/properties/ZINGER.html>

DATE CODED: 1995/10/05
DATE REVISED: 1996/01/25

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE124**

NATIONAL MINERAL INVENTORY:

NAME(S): **ME**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08W 082F09W
BC MAP:

MINING DIVISION: Nelson
Fort Steele
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 30 00 N
LONGITUDE: 116 17 04 W
ELEVATION: 2050 Metres

NORTHING: 5483287
EASTING: 551811

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on a molybdenum geochemical anomaly just above a small lake in an east-flowing tributary to the west branch of Hellroaring Creek.

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Molybdenite
COMMENTS: Molybdenite is assumed from the geochemical anomaly.
ASSOCIATED: Pyrite Pyrrhotite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian Cretaceous-Tertiary	Gog	Cranbrook	Unnamed/Unknown Informal

LITHOLOGY: Quartzite
Grit
Granodiorite

HOSTROCK COMMENTS: Granodiorite stock is likely Early Cretaceous.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional Contact
COMMENTS: Mineralization likely related to Cretaceous stock.

PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP: Pre-mineralization
GRADE: Greenschist

CAPSULE GEOLOGY

A molybdenum anomaly was found by soil sampling on the southeast portion of the ME4 claim, just above a small lake at the head of an east-flowing tributary at the headwaters of the west branch of Hellroaring Creek.

The area is underlain by quartzites and grits of the Cranbrook Formation (Lower Cambrian Gog Group), intruded by a small stock of Mesozoic granodiorite, likely of Early Cretaceous age. Contact metamorphic effects peripheral to this medium-grained intrusion appear to be minimal, but the rocks are metamorphosed to biotite facies regionally. Molybdenite mineralization was not located in place but is assumed to be present. Pyrite and pyrrhotite occur as disseminations up to 10 per cent by volume in the Cranbrook Formation, which is marked by a prominent gossan.

BIBLIOGRAPHY

EMPR ASS RPT 12934
GSC MAP 15-1957; 603A
GSC MEM 228
GSC OF 820; 929; 2721

DATE CODED: 1995/10/05
DATE REVISED: 1995/12/15

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE125**

NATIONAL MINERAL INVENTORY:

NAME(S): **HALL, PAUL**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F08W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 18 00 N
LONGITUDE: 116 29 44 W
ELEVATION: 1770 Metres

NORTHING: 5460929
EASTING: 536674

LOCATION ACCURACY: Within 500M

COMMENTS: Located in drillhole H-89-1 which intersected minor mineralization.

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz Calcite Pyrite
ALTERATION: Tremolite Actinolite Talc
ALTERATION TYPE: Talc
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Dutch Creek	

LITHOLOGY: Limestone
Dolomitic Limestone
Argillite
Argillaceous Limestone
Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Hall property was staked by Cominco to explore for stratiform lead-zinc mineralization in the Middle Aldridge Formation. It lies 22 kilometres north of Creston in the upper headwaters of the Arrow Creek watershed. Cominco conducted an induced polarization survey over an area of anomalous soil geochemistry first discovered by silt sampling; it was also explored by Amoco as the Paul property.

The original stream silt anomaly had lead and zinc values up to 480 and 2750 parts per million respectively; the source was defined by soil sampling and profiling, giving values as high as 12,000 parts per million lead and 4230 parts per million zinc (Assessment Report 19533). One diamond-drill hole was put down by Cominco about 1 kilometre southwest of Mount Bohan.

The property in the area of the drillhole is underlain by carbonate rocks of the Dutch Creek Formation of the Middle Proterozoic Purcell Supergroup. Lithologies include limestone, dolomitic limestone and variable argillites; locally the limestone is argillaceous. From 63 to 86 metres in the 147 metre drillhole, there is a breccia of white calcite and grey to white quartz replacing the limestone; some alteration is associated, including tremolite-actinolite and talc. Mineralization is very limited in the core; very weak pyrite, galena and sphalerite can be seen in the breccia zone, with greater amounts of disseminated pyrite in the underlying thin-bedded argillites.

Another area of anomalous lead in contour soil lines was found on the eastern side of the Hall property (162 parts per million lead) but no source was discovered.

BIBLIOGRAPHY

EMPR ASS RPT 8486, 17951, 18122, *19533
GSC MAP 603A
GSC MEM 228

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
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PAGE: 984
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 820; 929; 2721

DATE CODED: 1995/10/05
DATE REVISED: 1995/12/15

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE127**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUN**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 09 00 N
LONGITUDE: 116 18 34 W
ELEVATION: 1050 Metres

NORTHING: 5444360
EASTING: 550357

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location centred on area of geochemical sampling, Sun 5 claim.

COMMODITIES: Lead Silver Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrrhotite
COMMENTS: Galena and sphalerite in quartz veins; "elevated lead and zinc" in the wacke beds.

ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Sedimentary
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au E14 Sedimentary exhalative Zn-Pb-Ag
COMMENTS: East-west striking quartz veins and fractures; north striking wacke beds.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Middle Aldridge	Moyie Intrusions

LITHOLOGY: Quartzite
Shale
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Sun claims are located about 3 kilometres southeast of Kitchener, on a steep north-facing slope between Russell Creek and Birch Creek; access is by bulldozed trail leading south from Kitchener.

The area is underlain by sedimentary rocks of the Middle Aldridge Formation and dioritic intrusions of the Moyie intrusions, both belonging to the Purcell Supergroup of Middle Proterozoic age. Hostrocks are described as quartzites, in part calcareous, and thinly bedded shales with a varve-like appearance. The strike is due north with a gentle east dip at about 30 degrees. Folding on an east-west axis is evident, and may have controlled east-west fracturing that hosts the mineralization.

The area of the claims covers some showings known since before the turn of the century, which consist of a number of east-west trending fractures which exhibit scattered areas of galena and sphalerite. The individual veins range in thickness from 5 to 15 centimetres and are contained in an area of about 100 by 200 metres. Numerous quartz veins and veinlets are also located in this area. Two adits were driven below and across the veins in the late 1930s. Recent work by Cominco discovered north-striking wacke beds that contain pyrrhotite and elevated lead and zinc; however, no economic occurrences of mineralization were found.

Geochemical surveys in more recent times (Assessment Reports 12239, 14623 and 18154) have disclosed strong geochemical anomalies for lead (over 1000 parts per million) but only weak anomalies for zinc. Rock specimens assayed indicated anomalous silver is associated with the galena. Geophysical surveys by Cominco using the UTEM (University of Toronto electromagnetic) system failed to show any conductors.

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BIBLIOGRAPHY

EMPR ASS RPT *12239, 14180, 14623, 18154
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125
EMPR OF 2000-22
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1995/10/23
DATE REVISED: 1995/12/01

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE128**

NATIONAL MINERAL INVENTORY:

NAME(S): **ENG 1**, YAHK, YAK

MINING DIVISION: Fort Steele

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F01E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 30 N
LONGITUDE: 116 03 44 W
ELEVATION: 1160 Metres

NORTHING: 5441775
EASTING: 568419

LOCATION ACCURACY: Within 500M

COMMENTS: Located on drillholes E90-1 and E90-2 on the ENG 1 claim.

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Sphalerite Galena

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Quartzite
Gabbro Sill
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The ENG 1 property is located 4.5 kilometres north-northeast of Yahk, centred on diamond-drill holes E90-1 and E90-2 (Assessment Report 20827) on a flat bench at an elevation of 1160 metres.

The claims are underlain by Aldridge Formation quartzites intruded by gabbro sills of the Moyie intrusions, both of the Purcell Supergroup of Middle Proterozoic age. Limited exploration by Cominco Ltd. and Kennco Inc. have indicated the presence of quartz veins with sulphides and some disseminated pyrrhotite and sphalerite. Drilling by Kokanee Explorations Ltd. intersected minor laminated pyrrhotite and some pyrite.

Abitibi Mining Corp. drilled 3 holes totalling 304 metres in 1998 on the Yahk property. The holes intersected zones of galena, sphalerite and pyrrhotite fracture filling in altered sediments of the Aldridge formation.

Rio Algom Ltd. is seeking interest in the property in 1999.

BIBLIOGRAPHY

EM EXPL 1998-68-69
EM GEOS MAP 1998-2
EMPR ASS RPT 7626, *20827
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125; 1997, pp. 9-1-9-22
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721
GCNL #219(Nov.16), 1998; #72(Apr.15), 1999; #120(June 22), 2000
Placer Dome File
Falconbridge File
Falconbridge File
Falconbridge File

DATE CODED: 1995/11/10
DATE REVISED: 1996/02/13

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

quartz vein that has been traced by an adit, trenching and blasting over a strike length of 138 metres. The vein averages 0.9 to 1.0 metres wide and strikes approximately east-west with a very flat dip of 5 to 15 degrees to the south. The hangingwall and footwall of the vein are in slightly sericite and chlorite altered granite and contain small slivers of quartz veinlets for up to 0.5 metre from the vein. Fracturing of the vein is pronounced in places but fault offsets were not observed.

Mineralization consists mainly of galena, pyrite, sphalerite, chalcopyrite and malachite with rare pyrrhotite and melanterite; the dominant sulphide, galena, is found as small isolated pods or stringers in the vein, mainly less than 5 per cent of the vein. Assays over widths of up to 1.2 metres are up to 2.1 per cent lead, 0.11 per cent zinc and 338 grams per tonne silver; all gold assays were nil. Silver assays average about 35 grams per tonne to 1 per cent combined lead plus zinc (Assessment Report 7845).

Magnetometer and VLF (very low frequency electromagnetic) surveys carried out on the property failed to show any anomalies (conductors) worthy of follow-up (Assessment Report 9316).

The adits on the property might be the documented 1951 and 1952 producers for the Cricket No. 2, which is the property near Kuskanook operated by E. Bainbridge. A 40-tonne shipment from the Mohawk No. 1 was also made in 1976.

BIBLIOGRAPHY

EMPR AR 1951-A41; 1952-A43
EMPR ASS RPT *7845, 9316
EMPR BC METAL MM00981; MM01040
EMPR INDEX 3-193
GSC MEM 228 (Map 603A)
GSC OF 929; 2721

DATE CODED: 1995/11/10
DATE REVISED: 1995/12/07

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE130**

NATIONAL MINERAL INVENTORY:

NAME(S): **VANCOUVER (NORTHERN)**, KOOTENAY, VANCOUVER (L.3797),
KOOTENAY (L.3798)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07E
BC MAP:
LATITUDE: 49 24 40 N
LONGITUDE: 116 41 03 W
ELEVATION: 2020 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Common boundary of Lots 3797 (Vancouver) and 3798 (Kootenay).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5473207
EASTING: 522910

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Limonite
COMMENTS: Only pyrite recorded; galena and sphalerite assumed from assays.
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Cretaceous			Bayonne Batholith

LITHOLOGY: Granite
Granodiorite
Aplite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Purcell Mountains

INVENTORY

ORE ZONE: TRENCHES

REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1989
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Silver	139.0000	Grams per tonne	
Gold	0.5500	Grams per tonne	
Lead	0.5600	Per cent	
Zinc	0.2700	Per cent	

COMMENTS: Grab sample of veins in old trenches.
REFERENCE: Assessment Report 17527.

CAPSULE GEOLOGY

The Vancouver (Lot 3797) and Kootenay (Lot 3798) Reverted Crown grants are located on the west flank of Mount Sherman at about 2000 metres elevation. The showings are situated on the relatively gentle south-facing slope at the headwaters of Martell Creek, near the crest of the ridge between Akokli and Sanca creeks, about 4 kilometres east of the shore of Kootenay Lake and 1.5 kilometres southwest of the Gold (German) Basin showing (082FSE039).

The showings are described in Assessment Report 17527 as massive to vuggy limonite-stained quartz veins containing minor pyrite, exposed in old trenches on the Kootenay (northern) Reverted Crown grant. The veins are entirely hosted in granite and granodiorite of the middle Cretaceous Bayonne batholith; aplite float is common on the Vancouver (southern) Reverted Crown grant, where an extensive shear zone was also noted. The veins strike 122 degrees and dip 22 degrees south where observed. Assays of the veins in old trenches reveal weak values in silver (up to 139 grams per tonne), lead (up to 0.56 per cent), zinc (up to 0.27 per cent) and traces of gold (up to 0.55 gram per tonne) (Assessment Report 17527).

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RUN TIME: 16:27:53

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BIBLIOGRAPHY

EMPR ASS RPT *17527, 19214
EMPR OF 2000-8
GSC MAP 603A
GSC OF 929; 2721

DATE CODED: 1995/11/14
DATE REVISED: 1996/01/25

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
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PAGE: 994
REPORT: RGEN0100

BIBLIOGRAPHY

GSC OF 929; 2721

DATE CODED: 1995/11/15
DATE REVISED: 1995/12/08

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE132**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOCKHART**, LK-3

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07W 082F10W 082F07E 082F10E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 29 35 N
LONGITUDE: 116 45 29 W
ELEVATION: 1000 Metres

NORTHING: 5482297
EASTING: 517521

LOCATION ACCURACY: Within 500M

COMMENTS: Showings (Lower and LK-3) are located precisely on map accompanying Assessment Report 8889; Upper showing is on 082F10 to the north (082FNE map sheet).

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
COMMENTS: Pyrite is rare in the veins but abundant (probably metamorphic in origin) in the surrounding metasedimentary rocks.

ASSOCIATED: Quartz

ALTERATION: Sericite
COMMENTS: Minor muscovite and sericite in the white quartzite boulder conglomerate.

ALTERATION TYPE: Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic Horsethief Creek Undefined Formation

LITHOLOGY: Quartzite
Argillite
Limestone
Siliceous Boulder Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 750.0000 Grams per tonne
Lead 14.0000 Per cent
COMMENTS: Quartz veins are up to 15 centimetres thick.
REFERENCE: Assessment Report 8889.

CAPSULE GEOLOGY

The Lockhart is a new showing discovered in the late 1970s during construction of a logging road (actually, the Upper showing, which is on map sheet 82F10 to the north). Subsequent road building and exploration in the early 1980s discovered the Lower and LK-3 showings at an elevation of 1000 metres, about 4 kilometres north of Boswell on the east side of Kootenay Lake.

The country rock consists of quartzite, argillite, limestone and quartzite boulder conglomerate of the Horsethief Creek Group of Upper Proterozoic age (Windermere Supergroup). The local formations are unnamed; the rocks strike northerly. Mineralization consists of quartz veins up to 15 centimetres thick containing pod-like and erratic concentrations of galena and sphalerite; grab samples assay up to 14 per cent lead and 750 grams per tonne silver, with zinc not specified (Assessment Report 8889). Minor pyrite is associated with the veining at the Upper showing, but at the lower showings pyrite is

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RUN TIME: 16:27:53

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PAGE: 996
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CAPSULE GEOLOGY

confined to disseminations in the argillites and is likely metamorphic in origin. Minor sericite alteration is noted in the quartzite boulder conglomerate at the Upper showing; this conglomerate is noted as a preferred host to mineralization at several locations on the property.

BIBLIOGRAPHY

EMPR ASS RPT *8889, 10554, 10677
EMPR OF 2000-8
GSC MEM 228 (Map 603A)
GSC OF 929; 2721

DATE CODED: 1995/11/15
DATE REVISED: 1996/01/25

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE133**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTH 40**, AMIC (YUKON), YUKON,
 NORTH 42, NORTH FORTY

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 082F02W
 BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 10 20 N
 LONGITUDE: 116 56 49 W
 ELEVATION: 1800 Metres

UTM ZONE: 11 (NAD 83)

LOCATION ACCURACY: Within 1 KM

NORTHING: 5446603
 EASTING: 503867

COMMENTS: The showing is well located through claim and geology maps in Assessment Report 11026, on a flat bench south of Next Creek and 2.5 kilometres north of John Bull Mountain.

COMMODITIES: Lead Zinc Silver Gold

MINERALS

SIGNIFICANT: Galena Pyrite Sphalerite
 ASSOCIATED: Quartz
 ALTERATION: Clay Sericite
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 101 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Jurassic			Nelson Intrusions
Middle Cretaceous			Bayonne Batholith

LITHOLOGY: Biotite Amphibole Granite

HOSTROCK COMMENTS: Mine stock described as a biotite amphibole calcic granodiorite in Geological Survey of Canada Memoir 228.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
 TERRANE: Ancestral North America
 METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Amphibolite
 COMMENTS: Staurolite-kyanite-sillimanite facies.

INVENTORY

ORE ZONE: FLOAT REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1983
SAMPLE TYPE:	Grab		
COMMODITY		GRADE	
Silver		23.0000	Grams per tonne
Gold		19.5000	Grams per tonne
Lead		0.6700	Per cent
Zinc		0.1300	Per cent

COMMENTS: Vein float.
 REFERENCE: Assessment Report 11026.

CAPSULE GEOLOGY

The Amic (Yukon) claims are located on a new showing discovered in 1982 when following up a stream sediment anomaly using a heavy metal kit. A vein with 300 metres strike length and a fissure zone were found striking 045 degrees and dipping almost vertically. The vein and fissure are hosted in the Mine stock, part of the Nelson intrusions of Middle Jurassic age, described in Geological Survey of Canada Memoir 228 as calcic biotite amphibole granite and thus distinct from the Bayonne batholith to the south, which does not contain significant amphibole. However, the mineralization may be related to the middle Cretaceous Bayonne batholith, which is post-amphibolite grade metamorphism.

The quartz vein and the fissure contain galena, pyrite and sphalerite as small pockets; assays of up to 0.67 per cent lead, 0.13 per cent zinc, 23 grams per tonne silver and 19.5 grams per tonne gold occur in vein float and outcrop over up to 25 centimetres width (Assessment Report 11026).

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CAPSULE GEOLOGY

Geochemical surveying and trenching by Cima Resources Ltd. in 1982 revealed the presence of several subsidiary veins with similar strike on the property.

Bluebird Minerals Ltd. drilled 6 holes totalling 1132 metres in 1997.

BIBLIOGRAPHY

EM EXPL 1997-49
EMPR ASS RPT *11026, 20444, 23957, 24151, 25428
EMPR FIELDWORK 1994, pp. 135-155
GSC MEM 228 (Map 603A)
GSC OF 929; 2721

DATE CODED: 1995/11/22
DATE REVISED: 1995/12/19

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE134**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRENE**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 45 N
LONGITUDE: 116 58 19 W
ELEVATION: 1765 Metres

NORTHING: 5436257
EASTING: 502049

LOCATION ACCURACY: Within 500M

COMMENTS: Located on common location post for Irene 1, 2 and 3 claims.

COMMODITIES: Copper Silver Gold Zinc Lead

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Sphalerite Galena Malachite
COMMENTS: Sphalerite and galena are rare.
ASSOCIATED: Quartz Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: 106 Cu±Ag quartz veins

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Proterozoic	Horsethief Creek	Irene Volcanic	
Upper Proterozoic	Horsethief Creek	Toby	

LITHOLOGY: Amygdaloidal Vesicular Basalt
Agglomerate
Chlorite Schist
Pebble Conglomerate
Limestone
Dolomite

HOSTROCK COMMENTS: Toby conglomerate occurs along the eastern boundary of the claims; limestone/dolomite as intercalations in the volcanics.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: Chlorite facies of regional metamorphism.

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

CAPSULE GEOLOGY

The Irene property consists of three claims staked in 1990 to cover strong gold, base metal and indicator element stream sediment anomalies in Char Creek. The claims are centred on the common location post at 1765 metres elevation on the west side of Char Creek; they extend to Mount Irene, almost to the similar copper-silver showings known as the Motherlode (082FSE080) and Copper Queen (082FSE053) on the south side of Mount Irene.

Hostrocks to the quartz-carbonate vein showings discovered on the Irene claims are mainly amygdaloidal or vesicular basalt and agglomerate of the Irene Volcanic Formation in places slightly metamorphosed to regional greenschist grade (chlorite facies) and thus appearing as metabasalt or chlorite schist. Lenses of limestone and dolomite are intercalated in the volcanics, which are underlain near the eastern boundary of the claims by pebble conglomerate of the Toby Formation. Both these units belong to the Horsethief Creek Group of Upper Proterozoic age.

Mineralization consists of minor pyrite and chalcopyrite found in thin (usually less than 20 centimetres) irregular and discontinuous quartz-carbonate veins as both float and outcrop occurrences. The veins are commonly malachite stained and contain minor gold values (up to 0.24 gram per tonne) and silver values (up to 11.7 grams per tonne). Copper assays as high as 0.27 per cent were recorded; these veins are concentrated in places in limestone or dolomite beds. Rare sphalerite and galena were found in a quartz vein varying from 3 to 20 centimetres in width; trace chalcopyrite was also found as amygdale fillings with calcite.

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RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1000
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 22054
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1995/11/23
DATE REVISED: / /

CODED BY: CHBL
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE135**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHUNTER**, CASTLE

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F02W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 00 N
LONGITUDE: 116 55 34 W
ELEVATION: 1675 Metres

NORTHING: 5434869
EASTING: 505397

LOCATION ACCURACY: Within 1 KM

COMMENTS: Centre of Shunter claims (map in Assessment Report 11439).

COMMODITIES: Copper Silver Zinc Lead

MINERALS

SIGNIFICANT: Tetrahedrite
ASSOCIATED: Dolomite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I06 Cu±Ag quartz veins J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Mount Nelson	

LITHOLOGY: Dolomite
Limestone

HOSTROCK COMMENTS: Dutch Creek Formation underlies the Mount Nelson on the eastern part of the property.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
COMMENTS: About the chlorite-biotite greenschist boundary.

PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE: Greenschist

CAPSULE GEOLOGY

Assessment Report 11439 reporting on exploration on the Castle, Queen and King claims near the headwaters of Maryland Creek, 30 kilometres west-southwest of Creston, describes mineralization on the adjoining Shunter claims, quoting from an unpublished report by L.S. Trenholme, P. Eng., in 1982. A seam of tetrahedrite, 2.5 centimetres thick, occurs in massive white dolomite and elsewhere in thin-bedded limestone, probably part of the Mount Nelson Formation (or less likely, part of the underlying Dutch Creek Formation). Both these formations are part of the Middle Proterozoic Purcell Supergroup. Samples in the report by Trenholme are said to have assayed up to 2775 grams per tonne silver along with significant copper, zinc and lead.

BIBLIOGRAPHY

EMPR ASS RPT 11439
EMPR FIELDWORK 1994, pp. 135-155
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1995/11/23
DATE REVISED: 1995/12/19

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE136**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEL, DODGE, SULLIVAN TWO,**
DODGE-SULLIVAN TWO

MINING DIVISION: Nelson

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F02E
 BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 01 30 N
 LONGITUDE: 116 37 44 W
 ELEVATION: 1525 Metres

NORTHING: 5430301
 EASTING: 527130

LOCATION ACCURACY: Within 1 KM

COMMENTS: Headwaters of Dodge Creek near 1525 metres elevation (location of tourmalinite showing, Brown et al. Fieldwork 1994, page 138).

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
 ASSOCIATED: Quartz Carbonate Talc
 ALTERATION: Tourmaline Albite Sericite Chlorite
 ALTERATION TYPE: Tourmalin^zn Albitic Sericitic Chloritic
 MINERALIZATION AGE: Middle Proterozoic

DEPOSIT

CHARACTER: Stratabound Disseminated
 CLASSIFICATION: Sedimentary Exhalative Replacement
 TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Proterozoic	Purcell	Middle Aldridge	
Middle Proterozoic			Moyie Intrusions

LITHOLOGY: Muscovite Biotite Garnet Phyllite
 Micaceous Quartzite
 Quartz Wacke
 Argillite
 Calc-silicate Siltstone
 Gabbro Sill
 Tourmalinite

HOSTROCK COMMENTS: Mineralization associated with calcsilicate siltstone layer.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
 TERRANE: Ancestral North America
 METAMORPHIC TYPE: Regional RELATIONSHIP: Post-mineralization GRADE: Greenschist
 COMMENTS: Regional garnet-staurolite grade metamorphism.

INVENTORY

ORE ZONE: TRENCHES REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1992
 SAMPLE TYPE: Grab
 COMMODITY GRADE
 Silver 24.0000 Grams per tonne
 Lead 1.8700 Per cent
 Zinc 1.4600 Per cent

COMMENTS: Assays of representative material from surface trenches.
 REFERENCE: Assessment Report 21589.

CAPSULE GEOLOGY

Mineralization in the Dodge-Sullivan Two system is spread over a large area; the location is centred on tourmalinite showings on the northern edge of the Dodge claims (Assessment Report 14951) near the headwaters of Dodge Creek, a south-flowing tributary to Boundary Creek. Further lead-zinc mineralization also occurs on the gently sloping east spur of Mount Rykert and in the headwaters of Urmston Creek (on the Sullivan Two claim; Assessment Report 17387).

The area is underlain by Middle Proterozoic Purcell Supergroup sedimentary rocks, metamorphosed to middle or upper greenschist facies (garnet-staurolite grade in places). In particular, the property is underlain by Middle Aldridge strata, thought from correlation of marker horizons to lie 900 metres above the Lower to

CAPSULE GEOLOGY

Middle Aldridge contact at which the Sullivan (082FNE052), a world-class sedimentary exhalative lead-zinc-silver deposit lies.

Hostrocks on the property include muscovite-biotite-garnet phyllite, micaceous quartzite, thin to massive bedded quartz wacke, argillite, and a calcsilicate siltstone layer intimately associated with mineralization. Gabbro sills belonging to the Moyie intrusions, also part of the Purcell Supergroup, are commonly intercalated with the metasedimentary rocks. These rocks strike generally north-northeast and dip gently at 20 to 30 degrees east.

Exploration on the Dodge-Sullivan Two property was prompted by the report of "large quantities of milling grade galena-quartz float" found in a burned area (Minister of Mines Annual Report 1929). All efforts so far have failed to relocate the site of, or source of, this float. However, mineralization consisting of a layer of quartz, carbonate and talc rock (the calcsilicate layer) containing disseminated galena, sphalerite and pyrite, with significant silver values, was discovered on the Dodge claim and traced geochemically onto the Sullivan Two claim. This mineralization is structurally overlain by a tourmalinite pipe with fragmental rocks typical of those at the Sullivan deposit. However, since the stratigraphy in this area is thought to be overturned, it is likely that the tourmalinite and associated albitized rocks are actually below the level of the stratabound mineralization. Sericitic and chloritic alteration are also noted on the property; such alteration is prominent at the Sullivan deposit. Drilling traced the calcsilicate layer below the surface and investigated a garnetiferous horizon which is exposed at surface as a manganiferous gossan; manganiferous garnets are prominent just below the ore horizon at the Sullivan deposit. Assays of representative material from surface trenches are up to 1.87 per cent lead, 1.46 per cent zinc and 24 grams per tonne silver; however, no mineralized interval was intersected in diamond drilling in 1990 to 1991 (Assessment Report 21589). Core losses in blocky ground led to the abandonment of four holes and the conclusion that the main stratigraphic target had not been tested.

A deep-penetrating electromagnetic survey by Cominco Ltd. on the Dodge claims revealed only weak cross-over conductors (Assessment Report 19225). In 1996, Quest International Resource Corporation drilled approximately 4000 metres in 8 holes on the Del claims at the head of Dodge Creek.

BIBLIOGRAPHY

- EM EXPL 1996-E2
- EMPR AR 1929-C360
- EMPR ASS RPT 13858, 14951, *16037, *16243, 17837, 19225, *21589, 22344, 22523
- EMPR FIELDWORK 1994, pp. 135-155
- EMPR OF 2000-22
- EMPR PF (Prospectus, White Knight Resources Ltd., 1989)
- GSC MAP 603A
- GSC MEM 228
- GSC OF 929; 2721
- GCNL #127, 1985; #97, #115, #125, #128, #129, 1990
- IPDM Nov. 1985
- SMF Golden-Tonkin Resources Ltd., 1989

DATE CODED: 1995/11/24
DATE REVISED: 1996/11/13

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE137**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELMO, JAIM**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F07E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 23 00 N
LONGITUDE: 116 33 04 W
ELEVATION: 2000 Metres

NORTHING: 5470167
EASTING: 532580

LOCATION ACCURACY: Within 1 KM

COMMENTS: Centre of Elmo claim; Assessment Report 11448.

COMMODITIES: Molybdenum Tungsten Copper

MINERALS

SIGNIFICANT: Molybdenite Scheelite Chalcopyrite
ASSOCIATED: Quartz Fluorite Muscovite Magnetite Pyrite
ALTERATION: Muscovite
ALTERATION TYPE: Greisen
MINERALIZATION AGE: Middle Cretaceous

DEPOSIT

CHARACTER: Stockwork
CLASSIFICATION: Porphyry
TYPE: L05 Porphyry Mo (Low F- type) L07 Porphyry W

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Cretaceous			Bayonne Batholith

LITHOLOGY: Quartz Monzonite

HOSTROCK COMMENTS: Two discrete phases, medium grained equigranular and coarse grained equigranular to megacrystic.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Purcell Mountains
TERRANE: Ancestral North America
COMMENTS: Post-metamorphic intrusion hosts mineralization.

CAPSULE GEOLOGY

The Elmo claim is located 33 kilometres north of Creston in the headwaters of Sanca Creek. The mineralization is found near the centre of the claim about 1.25 kilometres west of Mount Dickson, at about 2000 metres elevation. The claim covers a double cirque basin that faces north. The claim is entirely underlain by rocks of the middle Cretaceous Bayonne batholith; within the claim area there are two discrete phases, a medium grained equigranular and a coarse grained equigranular to megacrystic (porphyritic) quartz monzonite. Both phases are cut to varying degrees by a stockwork of quartz-muscovite (greisen) veinlets. Molybdenite, scheelite, fluorite, magnetite, pyrite and chalcopyrite occur as infrequent accessory minerals within the quartz veinlets, most frequently where the veinlets are widest in certain areas of the porphyritic quartz monzonite.

The claims were explored by geochemical survey (soil sampling which revealed highly anomalous values for molybdenum and tungsten (Assessment Report 11448: Billiton Canada Ltd.). The area had been previously explored by Placer Development Ltd. as the Jaim claim (Assessment Report 7886).

BIBLIOGRAPHY

EM FIELDWORK 1999, pp. 225-236
EMPR ASS RPT 7886, *11448
EMPR OF 2000-8
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1995/11/28
DATE REVISED: 1995/12/19

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE138**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAVOLA CREEK**, LOVOLA CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F08W
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 27 40 N
LONGITUDE: 116 18 34 W
ELEVATION: 1370 Metres

NORTHING: 5478947
EASTING: 550041

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location arbitrarily chosen in Lovola Creek (note: current name is spelled differently from the historic spelling, Lavola Creek, in Bulletin 28, page 15).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Gold
COMMENTS: Placer gold
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Cambrian
Quaternary

GROUP

Gog

FORMATION

Eager

IGNEOUS/METAMORPHIC/OTHER

Glacial/Fluvial Gravels

LITHOLOGY: Gravel
Clay
Argillite
Siltstone

HOSTROCK COMMENTS: Bedrock geology consists of Cambrian Eager Formation argillite and siltstone.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The location of the Lavola Creek placer gold occurrence (number 212 in Bulletin 28, page 15) is poorly known, being described only as "a tributary of Goat River north of Kitchener". The topographic map shows a Lovola Creek in this position, and the occurrence is arbitrarily plotted on this stream. Nothing further is known except for the recorded production of 280 grams of gold in the period 1936-1940. The placer gold is assumed to be present in Quaternary glaciofluvial gravel and clay surficial deposits. Bedrock consists of argillite and siltstone of the Cambrian Eager Formation.

BIBLIOGRAPHY

EMPR BULL *28, p. 15
GSC MAP 603A
GSC MEM 228
GSC OF 820; 2721

DATE CODED: 1996/01/11
DATE REVISED: 1996/01/26

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE998**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHA SOUTH, BILLY**

MINING DIVISION: Fort Steele

STATUS: Anomaly
REGIONS: British Columbia
NTS MAP: 082F01E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 00 N
LONGITUDE: 116 12 04 W
ELEVATION: 1500 Metres

NORTHING: 5437027
EASTING: 558335

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location (latitude and longitude) as given in Assessment Report 22057 for geochemical anomaly.

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite

COMMENTS: Geochemical anomaly (200 parts per million lead, 250 parts per million zinc) only; no minerals described in Assessment Report 22057). Presence of galena and sphalerite is assumed.

ASSOCIATED: Pyrrhotite

COMMENTS: Pyrrhotite assumed to be present.

MINERALIZATION AGE: Middle Proterozoic

DEPOSIT

CHARACTER: Unknown

CLASSIFICATION: Sedimentary

TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Middle Proterozoic

GROUP

Purcell

FORMATION

Middle Aldridge

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Quartzitic/Quartzose Turbidite
Argillaceous Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Sha South geochemical anomaly is located on the Sha 29 and 30 claims, approximately 8 kilometres west of Yahk (Assessment Report 22057). Reconnaissance geophysical surveys by UTEM (University of Toronto electromagnetic) method disclosed several low-level conductors on the claims (Assessment Reports 17044, 18163, 18164). Earlier horizontal-loop electromagnetic and ground magnetic surveys had also shown several weak conductors and anomalies (Assessment Report 11210).

The area is underlain by the peri-cratonic Middle Proterozoic Purcell Supergroup, a thick succession of siliciclastic and lesser carbonate rocks. The Purcell Supergroup is well known for hosting a number of significant deposits that include the Sullivan (082FNE052) sedimentary-exhalative lead-zinc deposit and the Troy copper-silver deposit in Montana.

The claims are underlain by quartzitic turbidites and argillaceous siltstones of the Middle Aldridge Formation. No mineralization is reported, but spot highs of up to 200 parts per million lead and 250 parts per million zinc were found in soil samples (Assessment Reports 15025, 22057).

BIBLIOGRAPHY

EM GEOS MAP 1998-2
EMPR ASS RPT 11210, 15025, 17044, 18163, 18164, *22057, 23866, 23961
EMPR FIELDWORK 1993, pp. 129-151; 1994, pp. 111-125; 1997, pp. 9-1-9-22
GSC MAP 603A
GSC MEM 228
GSC OF 929; 2721

DATE CODED: 1995/10/23
DATE REVISED: 1995/10/23

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSE999**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHA NORTH**

MINING DIVISION: Nelson

STATUS: Anomaly
REGIONS: British Columbia
NTS MAP: 082F01W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 11 30 N
LONGITUDE: 116 18 34 W
ELEVATION: 1650 Metres

NORTHING: 5448992
EASTING: 550315

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located on approximate area of geochemistry grids (Assessment Report 15109).

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite
COMMENTS: Geochemical anomaly only; presence of galena and sphalerite assumed.
ASSOCIATED: Pyrrhotite
COMMENTS: Pyrrhotite assumed to be present in argillaceous units hosting the geochemical anomalies.

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Sedimentary
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag
COMMENTS: The area is bound on the west by the Iron Mountain fault and on the east by the Kidd Creek fault; a number of minor northeast and northwest faults have been mapped on the property.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Proterozoic	Purcell	Middle Aldridge	Moyie Intrusions
Middle Proterozoic			

LITHOLOGY: Quartzitic/Quartzose Wacke
Argillaceous Siltstone
Gabbro

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Purcell Mountains
RELATIONSHIP: Regional
GRADE: Greenschist

CAPSULE GEOLOGY

The Sha North property comprises the Sha 24-28 claims, which are located on the north side of the Highway 3 corridor, not contiguous with the Sha (082FSE104) and Sha South (082FSE998) groups, but explored by Cominco contemporaneously with the Sun (082FSE127) group. The Sha North claims are on the south and west slopes of Mount Kitchener, about 5 kilometres northeast of McConnell (Kitchener).

The property is underlain by sedimentary rocks of the Purcell Supergroup of Middle Proterozoic age, intruded by gabbro sills and dikes of the same age belonging to the Moyie intrusions. The sedimentary rocks include thin bedded quartzitic wackes and argillaceous siltstones; geochemical values up to 400 parts per million lead and 475 parts per million zinc appear to be correlated with the latter. There is no description of sulphides present, but it can be assumed that they are likely pyrrhotite, galena and sphalerite.

The sedimentary rocks dip moderately to the east and are bounded to the west by the Iron Mountain fault and to the east by the Kidd Creek fault. Numerous minor northeast and northwest-striking faults have been mapped on the property.

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GSC MAP 603A
GSC MEM 228

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1008
REPORT: RGEN0100

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DATE CODED: 1995/10/23
DATE REVISED: 1995/12/01

CODED BY: CHBL
REVISED BY: CHBL

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Drill indicated reserves in the Zinc Zone were reported as 36,280 tonnes at 3.16 per cent zinc (Spence, 1959, as reported in Auckland Expl L Prospectus, 11/06/85, Report by D.P. Taylor, p. 12). Salmo-Malartic Mines was dissolved in 1969.

The reverted Crown-grants were acquired in 1979 by John Mirko of Vancouver, and associates. The surrounding area was staked as The Crunch and The Rock claims (18 units each).

Total Resources Inc purchased the claims from Mirko by an agreement dated February 1980; the company name was changed in December 1980 to Extotal Resources Inc. Work by the company in 1980-81 included geological mapping, sampling, petrological studies and 2078 metres of underground diamond drilling in 74 holes. Based on this work the Silver Zone contains drill proven: 49,110 tonnes at 234.8 grams per tonne silver with minor lead-zinc; drill indicated: 12,179 tonnes at similar grade (A.M. de Quadros, 1981, as reported in Auckland Expl L Prospectus, 11/06/85, Report by D.P. Taylor, p. 15).

In 1983 former owners, Mirko & assoc, optioned a 60 per cent interest in the property from Extotal. In November/December 1983 Chopper Mines Ltd., under an agreement with Mirko, carried out rehabilitation of the B adit and bulk sampling.

In November 1984 Mirko & associates formed Auckland Exploration Ltd to continue work under the option agreement with Extotal.

The Aspen occurrence is probably a manto-type deposit hosted by limestone of the Lower Cambrian Laib Formation (Reeves Member) which is correlative with the Lower Cambrian Badshot Formation. The deposits have been strongly affected by folding, faulting, and by the emplacement of the Middle to Late Jurassic Nelson Intrusions. Three distinct stratabound, dolomitic (slump?), ore-bearing breccia horizons are recognized as follows:

1) Upper Zinc dolomitic breccia which hosts sphalerite-pyrite-pyrrhotite in a calcite-dolomite-olivine-serpentine-talc gangue. Sphalerite grains often display pyrrhotite exsolution lamellae.

2) Middle Silver dolomitic breccia which hosts pyrite-sphalerite-galena-tetrahedrite in a diopside-quartz-calcite-wollastonite-serpentine-humite gangue. Less than 1.5 per cent total sulphides are present. Sphalerite often displays chalcopyrite exsolution lamellae. The unit is 1 to 8 metres thick and is traced about 1100 metres on surface. Tetrahedrite occurs as small, irregular aggregates in an otherwise unmineralized, silicified dolomite and it may be easily mistaken for carbonaceous material.

3) Lower Lead-Zinc-Silver dolomitic breccia which hosts sphalerite-galena-tetrahedrite in a calcite-dolomite-olivine-wollastonite gangue. Assay values range from 2.3 to 6 per cent zinc, 2 to 24 per cent lead, and 291 to 2057 grams per tonne silver.

The zones have a general north-northwest trend and dip about 40 to 50 degrees northeast. The Middle Silver horizon contains blebs of tetrahedrite both in dolomite fragments and in the breccia matrix. Sulphide content is generally low but can be up to 60 per cent near fold noses in fracture zones. The Middle Silver zone may locally contain up to 15 per cent zinc, 14 grams per tonne gold and 1371 grams per tonne silver. The silver content shows a strong association with silica content (Assessment Report 9053). A weighted average drill hole sample graded 246.85 grams per tonne silver, 2.40 grams per tonne gold, 3.95 per cent zinc and 0.39 per cent lead (Assessment Report 9053).

Production, recorded for three years, totalled 28 tonnes from which 31 grams of gold, 36,359 grams of silver, 431 kilograms of lead and 365 kilograms of zinc were recovered. Reserves published in the Northern Miner (March 11, 1937), indicated 29,030 tonnes averaging about \$9 per tonne combined silver and gold. Also indicated was approximately 90,720 tonnes of ore in a low-grade zinc zone. Cominco's work in 1959 outlined 36,287 tonnes of 3.16 per cent zinc (Taylor, 1984).

Diamond drilling in 1951 also indicated a considerable tonnage of marginal material within replacement zones in the dolomitized Reeves limestone (Energy, Mines and Resources Canada, Mineral Bulletin, MR 198, page 209).

Auckland Explorations Ltd. optioned the property in 1984. Proven reserves in the silver zone are reported as 49,120 tonnes grading 235 grams per tonne silver, with minor lead and zinc. Also reported are 12,180 tonnes of indicated of similar grade material

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GSC MAP 299A; 1090A
GSC MEM *172; 176, p. 65; 308, p. 134
GSC OF 1195
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Placer Dome File
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/15

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW002**

NATIONAL MINERAL INVENTORY:

NAME(S): **BUNKER HILL (L.2939)**, MORMON GIRL, BUNKER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 03 44 N
LONGITUDE: 117 23 16 W
ELEVATION: 1130 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5434445
EASTING: 471672

LOCATION ACCURACY: Within 500M

COMMENTS: The Bunker Mine is located about 9.5 kilometres northwest of Nelway, on the east slopes of Limpid Creek, approximately 2.0 kilometres north-northeast from its junction with the Pend d'Orielle River.

COMMODITIES: Gold

Silver

Tungsten

Molybdenum

MINERALS

SIGNIFICANT: Pyrite Galena Scheelite Molybdenite Pyrrhotite

ASSOCIATED: Quartz

ALTERATION: Garnet

COMMENTS: Two types of mineralization occur on the property; (1) quartz veins (past production), and (2) skarn.

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated

CLASSIFICATION: Hydrothermal Skarn Epigenetic

TYPE: K04 Au skarn

I01

Au-quartz veins

K05 W skarn

I02

Intrusion-related Au pyrrhotite veins

SHAPE: Irregular

MODIFIER: Faulted

COMMENTS: The scheelite occurs in the skarn zone with near massive pyrrhotite.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Cambrian

Undefined Group

Laib

Nelson Intrusions

Jurassic

LITHOLOGY:

Limestone

Argillite

Quartzite

Garnet Skarn

Hornfels

Pelite

Granite

Lamprophyre Dike

Aplite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Kootenay

Plutonic Rocks

METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization

GRADE: Hornfels

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1984

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

1.6000

Grams per tonne

Tungsten

0.0990

Per cent

COMMENTS: Chip sample from hornfels-skarn alteration zone. The best tungsten (Wo3) assay was 0.29 per cent Wo3.

REFERENCE: Assessment Report 12758.

CAPSULE GEOLOGY

Lower Cambrian Laib Formation quartzites and pelites close to granitic stocks of the Middle to Late Jurassic Nelson batholith host two types of mineralization: (a) quartz veins carrying pyrite and traces of molybdenite and (b) skarn zones hosting pyrrhotite and tungsten (scheelite). In 6 years, between 1933 and 1942, a total of 340 tonnes of ore were mined from which 3,298 grams of gold and 9,642

CAPSULE GEOLOGY

grams of silver were recovered.

The quartz veins vary in attitude, and are composed of glassy quartz with disseminated pyrite and traces of molybdenite and galena. The veins are 0.3 to 1.5 metres in width.

Closer to the granitic contact, skarn zones have developed in the impure limestones and argillites of the Laib Formation. The hornfels-skarn altered zones host sporadic scheelite disseminated with pyrite in garnet-bearing skarn and scheelite with anomalous gold values within local pods of relatively massive pyrrhotite. A chip sample taken from one such zone assayed 1.6 grams per tonne gold and 0.099 per cent tungsten (Assessment Report 12758). The best tungsten assays are 0.22 to 0.29 per cent WO₃, but most analysis are less than 0.1 per cent.

The veins and skarn zones are associated with late stage faulting, as well as crosscutting aplitic and lamprophyric dykes.

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- GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/07

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW003**

NATIONAL MINERAL INVENTORY:

NAME(S): **ED, ED NO. 8, CONDOR,
INTERNATIONAL LEAD, IRON, EDWARD VIII**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 00 13 N
LONGITUDE: 117 11 12 W
ELEVATION: 1100 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5427874
EASTING: 486348

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the International Boundary along Lead Creek which enters the South Fork of the Salmo River, about 8.5 kilometres east of Nelway.

COMMODITIES: Lead Zinc Silver

MINERALS

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

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Replacement Epigenetic
TYPE: J01 Polymetallic manto Ag-Pb-Zn 105 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 200 x 150 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: The area of exposed mineralization is 200 by 150 metres.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Cambrian Undefined Group Nelway

LITHOLOGY: Dolomite
Cherty Dolomite
Brecciated Dolomite
Gossan

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Middle Cambrian Nelway Formation dolomites contain clusters and vein-like lenses of galena and honey colored sphalerite. The main showings, which consist of limonitic gossan zones in dolomite, occur on both sides of Lead Creek. Mineralization consists of galena and sphalerite disseminated in cherty dolomite and brecciated dolomite exposed over an area of about 200 metres by 150 metres. The sulphides occur in relatively small, irregularly spaced, low grade areas.

In 1953, 2 tonnes of ore were shipped, from which 156 grams of silver, 1069 kilograms of lead and 20 kilograms of zinc were recovered. In 1970, a further 255 tonnes were shipped, yielding 124 grams of gold, 1,306 grams of silver, 577 kilograms of lead and 764 kilograms of zinc.

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GSC MEM 308
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WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/28

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

level crosscut was driven during the winter but results were disappointing and the option was dropped in 1912. W.R. Salisbury & associates, of Salmo, in 1913 leased the area containing the workings and small amounts of carbonate ore were mined until the lease expired in August 1915. During this period the owners, Horton & Billings, drove the Zincton crosscut to explore the adjacent Zincton claim. On the expiry of the above lease the entire property was optioned to a Spokane syndicate operating under the name Hudson Bay Zinc Company. The low level No. 7 crosscut (3,100 level) was started in 1915 and reached a length of 579 metres on completion in 1916. Diamond drilling (473 metres) from the crosscut failed to find ore and the option was given up in 1917.

Crown-grants were issued to P.F. Horton and Agnes Billings on the Garnet (Lot 10809) and Zincton (Lot 10810) claims in 1919 and on the H.B. (Lot 12672) and 10 other claims and fractions (Lots 12668-12671 and 12673-12678) in 1921.

The Victoria Syndicate, Limited, optioned the property in 1925 and began driving the No. 4 level (3,500 level) crosscut. This was completed at a length of 335 metres and from it drifting north and south in the orebody continued into 1926. The option was subsequently given up and P.F. Horton one of the owners, carried out some work on the property in 1927. Exploration work to that date was all done in the heavily oxidized zone at the north and on No. 1 orebody where the flat-plunging ore was exposed on surface. Oxidation here extended to the full depth of the ore zone, about 91 metres below surface.

The Consolidated Mining and Smelting Company returned in 1927 to purchase the 18 Crown-granted claims and fractions, but the property remained idle until 1948. Starting about 1946, the company began geological investigations that led to an intensive diamond drilling program beginning in 1948. Large bodies of 9, low-grade disseminated sulphides plunging gently south from the oxidized orebody were indicated by this drilling. In June, 1949 an underground program began to investigate the drill results. The No. 4 level was rehabilitated and from the face the adit was extended south for nearly 457 metres. A parallel drive was subsequently made about 70 metres to the west and connected to the main drive by 3 crosscuts at 61-metre intervals. Diamond drilling from these two drives and from exploration raises in 1950 partly delimited two orebodies - the No. 1 and No. 2 - and work until 1953 was aimed at developing these orebodies for production. In 1951 construction of a 1,000 ton per day concentrator began and a new adit level (No. 8) was driven 823 metres north from the Sheep Creek valley millsite to the ore zone. The concentrator was completed early in 1953 but due to low lead and zinc prices, was not put into operation. All work ceased on March 31 and was not resumed until April 1955; milling began in May.

The Garnet (082FSW249) zone outcrops on the Garnet and Legal Tender claims between elevations of 1067 and 1158 metres on the Sheep Creek slope about 0.5 kilometre north of the concentrator. The Legal Tender claim (Lot 10823) was staked on this showing in about 1899. In 1912 the claim was Crown-granted to George Klavano. Development work at that time apparently consisted of a few short adits. In 1926 the claim was part of the Black Jack group of 4 claims. This group was optioned by P.F. Horton & associates in 1926 and late in the year exploration work was done in about a dozen trenches crosscutting the zone. The Legal Tender was part of the group sold to Cominco in 1927; the Black Jack claims, lying to the west of the Legal Tender, were apparently abandoned. Diamond drilling by the company in 1948-49 in more than 30 holes delimited a more or less continuous mineralized zone 15 metres wide lying 46 to 61 metres west of the Garnet fault. Mining of the Garnet zone began in 1965 as an open pit operation and was later incorporated with the underground operation. The mine and mill closed on November 1, 1966. The company name was changed in 1966 to Cominco Ltd. Plans to re-open the mine were announced late in 1972. The mill and underground workings were rehabilitated and production resumed in February 1973. Mining and milling operations continued until August 1978 when the mine closed. Measured and indicated reserves, as of December 31, 1978, were reported at 409000 tons, at 0.1 per cent lead and 4.1 per cent zinc (Canadian Pacific Limited, Form 10-K, December 31, 1978).

David Minerals Ltd. by an agreement dated May 8, 1981 purchased the mine, mill and adjacent properties from Cominco Ltd. for \$750,000; a 20 acre parcel was subsequently sold to Goldbelt Mines Inc. for a millsite. Renovation of the H.B. mill was carried out to prepare a flotation circuit to custom mill gold-bearing sulphide ores, and a second circuit to treat molybdenite-gold ore from the company's Rossland properties (82 F/4, Mo 2 and 3). The gold circuit was put into operation on ore from the Gold Belt property in December 1981.

CAPSULE GEOLOGY

The HB orebodies are currently thought to be Kootenay Arc-type carbonate hosted sedimentary exhalative (sedex) deposits. The orebodies are located within dolomitized limestone of the Lower Cambrian Laib Formation, Reeves Member (correlative with limestone of the Badshot Formation). The east boundary of the Laib Formation is in contact with argillites of the Lower to Middle Ordovician Active Formation, on a fault contact, with the Active rocks overthrust from the east over the Reeves rocks.

Two distinct calcareous layers of the Reeves Member can be recognized in the area, an upper one about 110 metres thick separated from a lower 12-metre member by 15 to 30 metres of micaceous brown limey argillite. The HB orebodies occur within a hundred metres or so to the west of the thrust fault. It is thought that the mineralization is related to the intrusion of granitic stocks of the Middle to Late Jurassic Nelson Intrusions with the nearest outcrop about 1 kilometre away from the mine. The only intrusives present in the mine are post-ore diabase dykes up to 3 metres thick.

In the vicinity of the HB mine, the beds are folded into a broad synclinerium, and the limestone layers in the mine are on the west limb of this structure. There is evidence of much isoclinal folding within the trough of the synclinerium, with axial planes steeply inclined to the east and folds plunging 20 degrees to the south. There may be similar folding along the west limb within the mine area, but the portions of the folded beds revealed by the mine workings indicate that here the limestone has only formed thickened wrinkles. Within these wrinkles the beds are highly distorted by complex folding. In the central portion of the structures there is cleavage banding which strikes north and dips steeply. The primary folding is disturbed by major crossfolding in at least two places, one at the north end of the mine, the other just south of the main orebodies. The crossfolds plunge steeply to the north and resemble "S" type dragfolds.

The principal ore zones consist of three steeply dipping, parallel zones lying approximately side by side and extending as pencil-like shoots for about 900 metres along the gentle south plunge of the controlling structures. The largest and most easterly ore zone has a maximum height of about 140 metres and a maximum width of 30 metres. Within these zones are steeply dipping discontinuous ore stringers with a lead to zinc ratio of 1:5.

In addition to the steep stringer lodes there is a second type consisting of flat lying, slightly brecciated zones with a lead to zinc ratio of about 1:2.5. These zones plunge at 20 degrees to the south, in general agreement with the plunge of the other orebodies. There are several separate ore zones of the flat lying variety. The layers of ore range from a few metres to 12 metres in thickness, but are generally from 3 to 5 metres thick. The sulphide mineralization within these layers is fairly regular and resembles bedding.

There is evidence to indicate ore deposition was controlled by shear zones within the folded limestone; the best ore concentrations occurring at the junctions between steeply dipping shears (the pencil-like ore bodies) and flat lying shears (the flat-lying brecciated orebodies).

The mineralogy of the ore is relatively simple with pyrite, sphalerite and galena in order of abundance and minor pyrrhotite found locally. The northern portion of these bodies is exposed at surface, near the original HB claim, and are oxidized to a depth of about 100 metres at that point. Where the ore is protected by enclosing dolomite relatively little oxidation has occurred. Other secondary minerals include calamine, smithsonite, anglesite, and the rare zinc phosphate, spencerite.

Wallrock alteration is typical of lead-zinc deposits in the area. The ore zones are enveloped by a broad zone of dolomitization which is bordered along its contact with the limestone by a narrow zone in which limestone is replaced by fine-grained silica. Talc and tremolite alteration, thought to be pre-ore, is concentrated near the silica-rich zone resulting from the silicification of dolomite. An appreciable amount of talc is found locally within the ore zone.

A smaller zone, located to the southwest of the main HB mine, is known as the Garnet orebody (082FSW249). The Garnet zone was mined from the surface from a small open pit, whereas the main mine is entirely underground.

The HB mine produced a total of 6,656,101 tonnes of ore in 29 years between 1912 and 1978. Recovered from this ore were 29,425,521 grams of silver, 49,511,536 kilograms of lead, 260,431,646 kilograms of zinc, 2,019,586 kilograms of cadmium, 105,412 kilograms of copper and 6,159 grams of gold. Measured and indicated reserves published December 31, 1978 by Canadian Pacific Limited were given as approximately 36,287 tonnes grading 0.1 per cent lead and 4.1 per cent zinc (Energy, Mines and Resources Canada Mineral Bulletin MR

CAPSULE GEOLOGY

198, page 209).

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GCNL #150, 1981; #171, 1983
W MINER May, 1979, p. 60
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/18

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW005**

NATIONAL MINERAL INVENTORY:

NAME(S): **LUCKY BOY (L.9188)**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 18 N
LONGITUDE: 117 12 24 W
ELEVATION: 825 Metres

NORTHING: 5442854
EASTING: 484926

LOCATION ACCURACY: Within 500M

COMMENTS: On Crown Grant Lot 9188 south of Sheep Creek, just east of its confluence with Annie Rooney Creek.

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite
ALTERATION: Dolomite Silica
ALTERATION TYPE: Carbonate Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated Podiform Massive
CLASSIFICATION: Sedimentary Exhalative
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag J01 Polymetallic manto Ag-Pb-Zn
K05 W skarn
SHAPE: Tabular
MODIFIER: Faulted Sheared
DIMENSION: 5 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: The dimension is for the thickness of the sulphide zone.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	

LITHOLOGY: Limestone
Dolomite
Dolomitic Limestone

HOSTROCK COMMENTS: Mineralization occurs in the Reeves Member of the Laib Formation. The Reeves Member is correlative with the Badshot Formation.

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Drill Core
COMMODITY
Lead 0.0130 Per cent
Zinc 4.7000 Per cent
COMMENTS: From a 0.5-metre drill interval.
REFERENCE: Assessment Report 17710.

CAPSULE GEOLOGY

The Lucky Boy showing is within limestone of the Lower Cambrian Laib Formation, Reeves Member which is correlative with limestone of the Badshot Formation. Several granitic stocks of the Middle to Late Jurassic Nelson Intrusions disrupt the strata. The area is underlain by a north plunging complex fold structure.

Pyrite, sphalerite and galena mineralization is controlled by steeply dipping shears, subparallel to the banding in dolomitized limestones. Veins, up to 1.3 metres wide, have been exposed but were found to be discontinuous in extent.

A drill program conducted in 1987 by Cominco Ltd. outlined two separate mineralized zones within the synclinal structure. Both zones occur at the same stratigraphic level, near the base of the Reeves Member. The host is a medium crystalline pinkish or white metadolomite.

The sulphide zone ranges in thickness between 0.3 and 5.0 metres. Within the zone, sulphides, mainly sphalerite, occur as

CAPSULE GEOLOGY

weak disseminations with occasional patches of heavier disseminations, streaks and thin bands, and in a few cases as small, nearly massive lenses. These lenses of massive sphalerite are rarely more than 0.5 metres thick. In nearly all cases the sulphide bands, streaks and lenses are parallel with the local foliation and/or bedding. The thickness and grade of the sulphides improve on the crest and in the trough of the attenuated isoclinal folds.

One of the highest assays taken from a 0.5 metre length of drill core graded 0.013 per cent lead, 4.7 per cent zinc, 1.27 grams per tonne silver and 0.0274 per cent cadmium (Assessment Report 17710).

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1990, pp. 9-31
EMPR GEM 1973-57; 1974-67
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 2000-22
EMPR PF (Geology Sketch - unknown author, date; Yellowjack Resources Ltd., Filing Statement, Nov. 16, 1988)
GSC BULL *29
GSC MAP 299A; 1090A; 1145A
GSC MEM 308
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/19

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW006**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACK ROCK NORTH (L.14406)**, BLACK ROCK NO. 10 (L.14408)

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F03E
 BC MAP:

MINING DIVISION: Nelson
 UTM ZONE: 11 (NAD 83)
 NORTHING: 5442918
 EASTING: 484359

LATITUDE: 49 08 20 N
 LONGITUDE: 117 12 52 W
 ELEVATION: 970 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 7.0 kilometres southeast of Salmo on the north side of Sheep Creek, near the confluence of Sheep and Annie-Rooney Creeks.

COMMODITIES: Zinc Lead Copper Germanium Gallium

MINERALS

SIGNIFICANT: Sphalerite Galena
 ASSOCIATED: Quartz
 ALTERATION: Dolomite Silica Wollastonite
 ALTERATION TYPE: Carbonate Skarn Silicific'n
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Podiform Disseminated
 CLASSIFICATION: Skarn
 TYPE: E14 Sedimentary exhalative Zn-Pb-Ag K02 Pb-Zn skarn
 K09 Wollastonite skarn
 SHAPE: Tabular
 MODIFIER: Folded Sheared
 DIMENSION: 9 x 5 Metres
 COMMENTS: The dimensions are for the largest sphalerite lens.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Undefined Group	Laib	

LITHOLOGY: Dolomitic Limestone
 Dolomite
 Limestone
 Hornfels
 Wollastonite Skarn
 Skarn
 Quartzite
 Phyllite

HOSTROCK COMMENTS: The mineralization is hosted by the Reeves Member (Laib Formation) which is correlative with the Badshot Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Kootenay
 METAMORPHIC TYPE: Regional
 PHYSIOGRAPHIC AREA: Selkirk Mountains
 RELATIONSHIP: Syn-mineralization
 Post-mineralization
 GRADE: Hornfels

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1986
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Copper	0.0350 Per cent
Gallium	0.0002 Per cent
Germanium	0.0187 Per cent
Lead	0.6200 Per cent
Zinc	2.3500 Per cent

COMMENTS: Samples of limestone from L.14408 assayed 187 grams per tonne germanium and 2.0 grams per tonne gallium.
 REFERENCE: Assessment Report 15873.

CAPSULE GEOLOGY

The Black Rock North showing lies within dolomitized limestone of the westernmost unit of the Lower Cambrian Laib Formation, Reeves Member (correlative with the Badshot Formation). The Reeves limestone is interbedded with quartzites and phyllites with near vertical

CAPSULE GEOLOGY

dips. Minor amounts of skarn minerals have developed within the limestone and hornfelsed sediments.

In the showing area, north trending shears have been welded by irregular lenses of white quartz which are up to 1 metre in width but are barren of sulphides. Scattered lenses of disseminated sphalerite are hosted by dolomite and limestone and the largest of these lenses is about 5 metres in width and has a north-south strike length of about 9 metres. The Black Rock North is south and west of the HB mine (082FSW004) on Aspen Creek.

In 1986, mineralization consisting of alternating layers of galena, sphalerite and wollastonite, interpreted as skarn mineralization, was found in place on the HB Mine property immediately east of the Black Rock (Lot 14408) claim. Samples of the limestone from the claim assayed 2.35 per cent zinc, 0.62 per cent lead, 0.035 per cent copper, 187 grams per tonne germanium and 2.0 grams per tonne gallium (Assessment Report 15873).

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EMPR ASS RPT 7215, 8132, 15159, *15873
EMPR BULL *41, p. 104; 109
EMPR EXPL 1979-57; 2980-53; 1986-C42-43
EMPR OF 2000-22
EMPR PF (Geological map, Surface Plan, Diamond-Drill Hole Location Map; MacLeod, J.W.: Report on 1980 Work Program for Black Rock Group, Salmo, British Columbia)
GSC MAP 1145A
GSC MEM 172; 308
GSC OF 1195
GCNL #150, 1988

DATE CODED: 1985/07/24
DATE REVISED: 1987/10/19

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW007**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACK ROCK SOUTH**, BLACK ROCK (L.14416,15457)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 38 N
LONGITUDE: 117 13 13 W
ELEVATION: 1080 Metres

NORTHING: 5441622
EASTING: 483929

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 7.0 kilometres southeast of Salmo, on the south side of Sheep Creek, near the confluence of Sheep and Annie-Rooney Creeks.

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Pyrite Galena
ALTERATION: Dolomite Limonite
ALTERATION TYPE: Carbonate Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Undefined Group	Laib	

LITHOLOGY: Dolomitic Limestone
Limestone
Dolomite
Black Limestone
Quartzite

HOSTROCK COMMENTS: The mineralization occurs in dolomite of the Reeves Member of the Laib Formation. The Reeves Member is correlative with the Badshot Fm.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Black Rock South showing lies within dolomitized limestone of the westernmost unit of the Lower Cambrian Laib Formation, Reeves Member (correlative with the Badshot Formation). Grey and black limestones were mapped with quartzite beds.

The showing consists of small lenses of crackled dolomite and black limestone which contain minor discrete blebs, disseminations and irregular streaks of sphalerite, galena, and pyrite. The mineralization is reportedly fracture-controlled and rusty limonitic boxworks are characteristic of zones of higher sulphide concentration.

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EMPR ASS RPT 7215, 8132, 15159, *15873
EMPR BULL 41, p. 104; 109
EMPR EXPL 1979-57; 1980-53; 1986-C42-43
EMPR OF 2000-22
EMPR PF (Geological Map, Surface Plan, Diamond Drill Hole Location Map; Report on 1980 work program for Black Rock Group, Salmo, B.C. by J.W. MacLeod)
GSC MAP 1145A
GSC MEM 172; 308
GSC OF 1195
GCNL #150, 1988

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/19

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW008**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRON CAP**, REVELL

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 09 19 N
LONGITUDE: 117 08 34 W
ELEVATION: 1373 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5444727
EASTING: 489589

LOCATION ACCURACY: Within 500M

COMMENTS: Located just north of Sheep Creek, along the east side of Nugget Creek, near the junction of Nugget and Sheep Creeks.

COMMODITIES: Lead Zinc Silver Gold

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Pyrrhotite
ASSOCIATED: Calcite Dolomite
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: J01 Polymetallic manto Ag-Pb-Zn
DIMENSION: 35 x 1 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: The dimensions are for the mineralized lensoidal zones.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Ordovician Jurassic	Undefined Group	Active	Nelson Intrusions

LITHOLOGY: Limestone
Dolomite
Granite
Gossan

HOSTROCK COMMENTS: Active Formation ranges from Lower to Middle Ordovician and is intruded by the Sheep Creek stock.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca Plutonic Rocks PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Kootenay

INVENTORY

ORE ZONE: OUTCROP REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1959
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Silver	418.3000 Grams per tonne
Gold	0.3400 Grams per tonne
Lead	17.9000 Per cent
Zinc	13.9000 Per cent

COMMENTS: The sample width is 1.83 metres.
REFERENCE: Bulletin 41, pages 105,106.

CAPSULE GEOLOGY

The Iron Cap occurrence is hosted within limestone and dolomite of the Lower to Middle Ordovician, Active Formation. The occurrence is close to the eastern margin of the granitic, Sheep Creek stock of the Middle to Late Jurassic Nelson Intrusions. Workings on the property include two old shafts, a few bulldozer strippings and diamond drill holes made in 1951 and 1952.

Grey and white crystalline limestone and dolomite contain disseminations and blebs of sphalerite, galena, pyrite, and pyrrhotite in lensoidal zones which are less than about 35 metres long and 1 metre wide. The sulphides appear to parallel vague banding in the carbonates, but the length of the mineralized zone appears to be nearly at right angles to the banding. The mineralized outcrops weather to form a limonitic gossan on surface. A sample across 1.83 metres of the highest grade material assayed 0.34 grams per tonne

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1026
REPORT: RGEN0100

CAPSULE GEOLOGY

gold, 418.29 grams per tonne silver, 17.9 per cent lead and 13.9 per cent zinc (Bulletin 41, page 107).

Five tonnes were mined in 1914 and 5,785 grams of silver and 2,268 kilograms of lead were recovered.

BIBLIOGRAPHY

EMPR AR 1914-510; 1924-193; 1925-450; 1928-245; 1951-138; 1952-146
EMPR BC METAL MM01020
EMPR BULL 31, p. 75; *41, p. 105; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43
EMPR OF 1988-1; 1989-11
GSC MAP 50-19A; 299A; 1090A; 1091A; *7145A
GSC MEM *172, p. 69; 308, pp. 120, 132
GSC OF 1195
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/11

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW009**

NATIONAL MINERAL INVENTORY: 082F3 Zn1

NAME(S): **JERSEY (L.9070)**, JERSEY-EMERALD, BISMUTH GOLD,
LOWER JERSEY, EMERALD LEROY, LEROY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 05 55 N
LONGITUDE: 117 13 16 W
ELEVATION: 1465 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located on Iron Mountain, between Lost and Sheep Creeks.

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5438442
EASTING: 483859

COMMODITIES: Lead Zinc Silver Cadmium Tungsten
Molybdenum Gold Bismuth

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Pyrrhotite Arsenopyrite
Molybdenite Stibnite Bismuth
ASSOCIATED: Dolomite Calcite
ALTERATION: Dolomite Silica
ALTERATION TYPE: Carbonate Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Stratabound Massive Disseminated
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: E13 Irish-type carbonate-hosted Zn-Pb E12 Mississippi Valley-type Pb-Zn
SHAPE: Regular
MODIFIER: Folded Faulted
DIMENSION: 9 Metres STRIKE/DIP: 015/10S TREND/PLUNGE:
COMMENTS: The ore bands are up to 9 metres thick.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	Nelson Intrusions
Jurassic			

LITHOLOGY: Dolomite
Limestone
Dolomitic Limestone
Granite
Lamprophyre Dike

HOSTROCK COMMENTS: Ore occurs in the Reeves Member of the Laib Formation.
The Reeves limestone is correlative with the Badshot Formation.

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

This property lies on the summit between Sheep & Lost Creeks, about 11 kilometres southeast of Salmo. Although the Emerald has in recent years been a tungsten producer (082FSW010), its early history as a lead-zinc producer is mentioned here because the Jersey workings were later extended into Emerald ground (082FSW310) and production figures for the two have not been recorded separately.

Production of lead-zinc ore from the Emerald was begun in 1906 by the owner, J. Waldbesen. In 1917 Iron Mountain Ltd. was formed to operate the mine and a 25 ton mill was put into operation. The Emerald was a small but steady producer of lead-zinc ore from 1906 to 1925.

A small amount of shallow development work was done on the Jersey claim from 1916 to 1919 and some ore was shipped, however the main ore deposit was not discovered at this time.

Canadian Exploration Ltd., while operating the Emerald tungsten mine, carried out an extensive diamond drilling program on the Jersey during 1948 and a large tonnage of lead-zinc ore was outlined. During 1948-49 the Emerald tungsten operation was closed down and the mill, beside the Nelson-Nelway Highway, was converted to a lead-zinc operation and production from the Jersey began in March 1949. The mine has operated continuously since that time, development work being done on all seven ore zones. Track mining has been used in A, C, and D zones and trackless

CAPSULE GEOLOGY

mining in A, D, E, F, and G zones. The A zone has been developed from the south end of the Jersey zone to a point north of the Emerald, a distance of 1524 metres.

Ore reserves as of April 1, 1965 are reported at 671,075 tonnes grading 1.2 per cent lead and 4.1 per cent zinc.

The Jersey mine is a Kootenay Arc-type sedimentary exhalative deposit that occurs in the Kootenay Arc within what is called the Mine Belt, an area of carbonate hosted lead-zinc deposits associated with Lower Cambrian limestones of the Reeves Member (Laib Formation) and its equivalent, the Badshot Formation.

The dominant structure of the Mine Belt is the north trending Jersey anticline, an isoclinal fold whose axial plane dips 45 degrees to the east. The Jersey orebodies are gently dipping tabular or lenticular bands of sulphide which lie on the normal limb of the anticline parallel to the banding in the sediments. The orebodies trend 015 degrees and plunge 10 degrees southerly over a distance up to 1800 metres. The maximum east-west width is 600 metres.

The Reeves limestone is 120 to 150 metres thick in the mine area. Lead-zinc mineralization, occurring mainly in dolomite near the base of the Reeves Member, varies from 8 to 30 metres in thickness. The limestone and dolomite varies from a blue-green banded type to a white massive type. The dolomites are typically finer grained than the limestones. The Truman Member of the Laib Formation conformably underlies the Reeves Member, and forms the mine footwall rocks. This member consists of hard, dense, reddish green skarn and a brown argillite. The skarn is characterized by tungsten and minor molybdenum mineralization. The mine is bound on the east side by the Argillite (Iron Mountain) fault which down faults younger beds on the east side. The Dodger and Emerald stocks of the Middle to Late Jurassic Nelson Intrusions underlie the mine area.

Secondary, symmetrical anticlinal and synclinal fold structures along the normal limb of the anticline have been used to delineate ten ore zones (A to J) within the deposit. Mineralization occurs more strongly in the fold troughs relative to the fold crests. The amplitude of these folds rarely exceeds 15 metres and their axis trends slightly east of north. Numerous post-ore faults and lamprophyre dykes crosscut the stratigraphy.

Five ore bands, ranging in thickness from 0.3 to 9 metres are recognized in the mine. These bands in order of stratigraphic sequence are: 1) Upper Lead Band; 2) Upper Zinc Band; 3) Middle Zinc Band; 4) Lower Zinc Band; and 5) Lower Lead Band. Ore mineralization consists of fine-grained sphalerite and galena with pyrite, pyrrhotite and minor arsenopyrite. Cadmium is associated with sphalerite, silver with galena. Iron content of the sphalerite is low (about 6 per cent). The overall grade of the deposit is about 3.7 per cent zinc and 1.2 per cent lead.

In the A zone the ore bands are very close together and frequently have been mined as a unit up to 24 metres thick. Throughout the remainder of the mine these bands have been mined separately or in combinations.

The Lower Jersey zone is a zinc and lead enriched dolomite horizon located about 60 metres below the previously mined Jersey orebody. The zone was recognized in 1996 when a new mine model was prepared on the basis of surface and underground geology as well as two underground drillholes drilled prior to the mine's closure. Within the area previously tested, the widest mineralized intercept is 9 metres and the best single intersection graded 8.1 per cent zinc and 3.8 per cent lead across 1 metre (George Cross News Letter No. 27, February 7, 1997).

The Bismuth Gold zone is a flat lying, gold-enriched horizon which overlies and trends parallel to the east limb of the former Jersey deposit. Two holes drilled into this zone in 1996 intersected a flat lying, 9-metre thick, pyrrhotitic horizon with gold grades ranging from 2.0 to 8.3 grams per tonne. A review of the mine records for drilling completed in the 1940s and 1950s indicates this gold-rich sulphide zone was intersected in surface and underground drillholes over a north-south distance of 1000 metres. These records suggest the body ranges from 1 to 18 metres in thickness (George Cross News Letter No.27, February 7, 1997).

The Jersey mine commenced milling of lead-zinc ores in 1949 and continued until 1970 when operations ceased due to depletion of ore reserves. The mine produced about 6.4 million tonnes of ore from which 115 thousand tonnes of lead, 263 thousand tonnes of zinc and 21.5 thousand kilograms of silver were recovered.

Sultan Minerals Inc. explored and drilled the area in 1996 (1700 metres in 16 holes) and 1997 (1204 metres in 16 holes underground). The best intersection was 2.65 per cent zinc and 4.62 per cent lead over a 5-metre core length (4 metres true thickness). Sultan had plans for more work in 1999.

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EMPR PF (in *082FSW010 - Property Photos; *Bradley, O.E., (1968):
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Website (May 1999): Jersey-Emerald Property, 3 p.)
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GSC OF 1195
GSC P 50-19
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GCNL *#27(Feb.7), #223(Nov.20), #240(Dec.31), 1997
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DATE CODED: 1985/07/24
DATE REVISED: 1997/04/02

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW010**

NATIONAL MINERAL INVENTORY: 082F3 W1

NAME(S): **EMERALD TUNGSTEN**, JERSEY, EMERALD

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 06 25 N
LONGITUDE: 117 13 41 W

NORTHING: 5439369
EASTING: 483355

ELEVATION: 1160 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: The Emerald Tungsten deposit lies east of Emerald lead-zinc mine (082FSW310). The production is included with Jersey mine (082FSW009).

COMMODITIES: Tungsten Molybdenum Bismuth Gold

MINERALS

SIGNIFICANT: Scheelite Wolframite Molybdenite Pyrrhotite Pyrite
 Chalcopyrite Bismuth Arsenopyrite Gold Telluride

COMMENTS: Molybdenum is only a minor constituent of the ore.

ASSOCIATED: Quartz Apatite Cassiterite Vesuvianite Fluorite

ALTERATION: Wollastonite
 Garnet Pyroxene Tourmaline Powellite Calcite

 Biotite K-Feldspar Sericite

COMMENTS: Kaolinite, tremolite and silica are also reported as alteration types.

ALTERATION TYPE: Skarn Tourmalin'z'n Oxidation Potassic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Skarn Replacement
 TYPE: K05 W skarn I02 Intrusion-related Au pyrrhotite veins
 SHAPE: Regular
 MODIFIER: Folded

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Undefined Group	Laib	
Jurassic			Emerald Stock

LITHOLOGY: Limestone
 Argillite
 Granite
 Black Quartz Breccia
 Dolomite

HOSTROCK COMMENTS: Mineralization occurs at the contact of the Reeves and Argillite members of the Laib Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The property lies on the summit between Sheep and Lost Creeks, about 13 kilometres southeast of Salmo. The early development work on the Emerald was done on a lead-zinc showing by J. Waldbesen and by Iron Mountain Ltd.; reference is made to this development in the Jersey (082FSW009).

After being inactive from about 1925 to 1940, the owners, Iron Mountain Ltd., increased their holdings from 17 to 41 claims and carried out exploration and a small amount of development for 3 years which led to the discovery of scheelite to the west of the principal lead-zinc showing early in 1942. Later in the year, scheelite ore was found on the Dodger (082FSW011) property to the east of the lead-zinc zone. At about the same time the Feeney (082FSW247) ore body, about 183 metres north of the Empire, was discovered.

In August 1942 the property was purchased by the Dominion Government who operated it through the Wartime Metals Corporation. A mill was built beside the Nelson-Nelway Highway and put into production in August 1943 but on September 10th an order was received to close down.

Early in 1947 the property was bought by Canadian Exploration Ltd. and production was resumed in June. Exploration for additional tungsten ore was extended to a study of the Jersey (082FSW009)

CAPSULE GEOLOGY

showing which was dominantly zinc bearing and by the end of 1948 a considerable tonnage of lead-zinc ore had been proven on the Jersey. The tungsten operation was closed down and the mill converted to a lead-zinc operation for production from the Jersey.

Early in 1951 the Canadian Government bought back from the company the known Emerald tungsten orebodies and the partly developed Dodger (082FSW011). An agreement was made for Canadian Exploration Ltd. to build a tungsten mill and to mine tungsten ore on a fee basis. A 227 tonnes mill was built near the portal of the Emerald 3,800 level and put into production in December 1951. Further diamond drilling on company ground demonstrated the existence of a large tonnage of tungsten ore so the company agreed to buy the tungsten operation from the Government. The mill operated until the end of 1958. On the Emerald claim all ore was mined from above the 3,800 level main haulageway by open pitting and underground mining. An inclined shaft was put down to the 2,730 level and 9 levels established off this, the bottom one 344 metres vertically below the 3,800 level. All ore was mined out above this lowest level. A small orebody on the Feeney claim was mined out by 1955. The mining of the Dodger zone was completed in 1957.

Diamond drilling on the Invincible claim revealed a tungsten orebody 245 to 275 metres below the surface that is estimated to contain 350,000 tonnes grading 0.83 per cent tungstic oxide. The sinking of a 275-metre vertical shaft was begun but the project was abandoned in 1958 on completion of a sales contract with the United States General Services Administration. Work was resumed on the property in 1967. A geophysical survey was made of the Invincible claim (Lot 12084) and 394 metres of diamond drilling was done in 2 holes in the Tungsten King workings (082FSW034, 321, 322).

Drilling during 1968 on the Invincible (082FSW218) showing totalled 2875 metres. Development work was begun in 1969 and production began in mid-October 1970. The Emerald tungsten mill was rehabilitated to handle about 454 tonnes per day. Ore reserves at the end of 1970 from three separate zones totalled 435,500 tonnes averaging 0.65 per cent W03. Initial production was from the rehabilitated Dodger workings since the Invincible ore zone had not been reached. The Invincible drift was advanced to 1310 metres during the year; the orebody was developed by a decline trackless haulageway. Mill capacity was increased to around 544 tonnes per day during 1971. The company name was changed in 1972 to Canex Placer Limited. Ore reserves were exhausted and the mine closed in August 1973, and in 1977, Canex's assets were acquired by Placer Development Limited. In 1979, Mentor Exploration and Development Co., Limited optioned the property from Placer. In 1980, they diamond drilled 4504 metres in 11 holes plus one wedged hole. The best intersection was 0.36 per cent W03 over 1.07 metres.

The Emerald Tungsten zone is located on the west side of the Emerald Stock granite of the Middle to Late Jurassic Nelson Intrusions. The zone occurs within the Lower Cambrian Laib Formation along the contact of the Reeves Member limestone with the Emerald Member argillite as well as on the limestone-granite contact.

The strata strike about 020 degrees and dip between 45 and 70 degrees east; many of the beds are actually overturned. The granite appears at the surface as a north trending elongate stock. West of the stock are argillite and skarn bands of the Truman Member (Laib Formation), which forms an isoclinal anticline overturned to the west. The Reeves limestone is on the west limb of this anticline, and dips 25 to 70 degrees east, terminating at depth against granite. It is succeeded on the west by the Emerald argillite that also dips east. Both the Emerald and nearby Feeney (082FSW247) ore zones are transected by the Granite fault; drilling, east and north of the fault, located the Invincible (082FSW218) tungsten zone at the same stratigraphic horizon.

Within the deposit four distinct types of mineralization can be recognized: sulphide, "greisen", skarn, and quartz ores. The sulphide-type consists of irregularly shaped "replacement" bodies in limestone and dolomite, consisting of pyrrhotite, calcite, biotite and scheelite. Locally quartz, pyrite, molybdenite and chalcocopyrite may be present. The "greisen"-type of ore is in altered granite and extends as much as 12 metres into the granite from the contact with the limestone. The ore consists of potash feldspar, in some places completely kaolinized, abundant quartz, sericite, pyrite, tourmaline and scheelite. Locally, calcite or ankerite, apatite, pyrrhotite or molybdenite may be present. The skarn-type of ore, occurring mainly at or near the contact of limestone and argillite, consists of garnet, diopside, calcite and quartz with small amounts of pyrrhotite, pyrite, scheelite and molybdenite. The quartz-type ore, which in many places grades into greisen, is silicified limestone intersected by numerous veins of quartz containing abundant ankerite,

CAPSULE GEOLOGY

large crystals of scheelite, a few flakes of molybdenite, and orange-fluorescing crystals of apatite. Near the veins are found disseminated scheelite and pyrite with some pyrrhotite and tremolite. Also reported are native bismuth, arsenopyrite, gold, tellurides, cassiterite, vesuvianite, fluorite, and wollastonite (G. Ray, 1995).

Scheelite is the main tungsten mineral but minor powellite and wolframite have also been reported. Most of the scheelite occurs as fine, disseminated grains in lenticular skarn zones which extend an average of about 5 to 6 metres from the granite contact along the limestone-argillite contact. Grades are 0.5 to 1.5 per cent W03.

The Emerald Tungsten mine was worked in 1943, 1947 to 1949 (inclusive) and again from 1951 to 1958 (inclusive). Production to the end of 1957 amounted to 597,100 tonnes of ore (Bulletin 41, page 119). Production for the Emerald deposit, combined with that of the Feeney (082FSW247) and Dodger (082FSW011) deposits, is recorded with the production statistics of the Jersey mine (082FSW009).

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DATE CODED: 1985/07/24
DATE REVISED: 1995/03/13

CODED BY: GSB
REVISED BY: GR

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

258,500 tonnes of tungstic oxide (WO₃) ore, (Bulletin 41, page 119). Between May 1970 and August 1973, 204,960 tonnes of ore with an average grade of 0.54 per cent WO₃ was produced from the mine (Geology, Exploration and Mining in British Columbia 1973, page 57). During this latter mine life, ore was combined and processed with ore from the nearby Invincible mine (082FSW218) and therefore specific amounts of commodities recovered from the Dodger are not available.

The Dodger was commonly referred to as the Dodger 4200 mine, the East Dodger was called the Dodger 4400 Mine, but both essentially mined the same orebody at different levels and were joined by workings on the 4300 level. All ore was trucked via the Dodger 4200 level workings to the mill near the 4200 level portal. The production statistics are included with those of the Jersey mine (082FSW009).

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DATE CODED: 1985/07/24
DATE REVISED: 1995/03/13

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REVISED BY: GR

FIELD CHECK: N
FIELD CHECK: Y

CAPSULE GEOLOGY

Jack Pot hill, the Santiago claim (Lot 5381) was Crown-granted to F.D. Le Mieux in 1902. The adjacent Big H, Highland Chief, Snowflake, Lerwick and Hercules claims (Lots 5619-5623 respectively) were Crown-granted to The British Lion Mining and Milling Company, Limited Liability in 1902-03. Exploration was done in open cuts, a 55-metre adit on the Big 4 claim, and a shaft on the Lerwick claim. The mineralization proved to be mainly zinc, which was of little interest at that time. The Crown-grants were subsequently cancelled.

The Jack Pot (Jackpot) group of 11 claims was staked in July 1948 by E.P. Haukedahl and E.H. and S.W. Barclay, of Ymir. The claims covered the ground between the two groups of Crown-grants, as well as some of the cancelled Crown-grants. The West zone showings were probably a re-staking of the Highland Chief claim. The Lerwick zone was restaked as the Ink Spot claim, and the East zone was staked as the Two Spot claim.

Late in 1948, New Jersey Zinc Explorations Limited optioned the claims. A road was built to the showings in 1949 and geological and geophysical surveys, trenching and bulldozer stripping were carried out. Diamond drilling on the Main zone, originally held as the Big 4 claim, was done in 21 holes totalling 2078 metres. Diamond drilling on the East zone, began in 1950 and continued into 1951. An adit at 1334 metres elevation (4400 adit) on the west side of Spot Creek, a tributary of Active Creek, was driven southwesterly for 305 metres to the East zone in 1951 and underground diamond drilling was in progress at year end. In 1952, assessment work was done in one diamond drill hole totalling 270 metres. During 1953-54 the 4400 adit was extended to a total length of 924 metres. A second adit (4100 adit), 90 metres in elevation below the 4400 adit, was driven as two headings, one north for 264 metres and the other south for 834 metres. Diamond drilling in 4 holes totalling 395 metres was done from the adits in 1954. The 4400 adit encountered zinc-lead mineralization at intervals but the 4100 adit did not encounter the mineralized zone.

New Jersey Zinc Explorations Limited surrendered its charter in 1954 and the property was transferred to New Jersey Zinc Exploration Company (Canada) Ltd. Further diamond drilling during 1966-68 was done in 4 holes totalling 536 metres on the Ink Spot and Spot No. 3 Fr. claims.

Cominco Ltd. optioned the property in 1973 and during 1973-74 carried out surface and underground geological mapping, and 640 metres of surface diamond drilling in 6 holes on the Two Spot claim. During 1975-77 Cominco carried out 4178 metres of surface and underground diamond drilling in 83 holes on the Two Spot and Canadian Girl claims. Reserves were reported at about 3,000,000 tonnes of 5 per cent combined zinc-lead mineralization (Northern Miner 05/03/81).

Tri Basin Resources Ltd in 1981 optioned a 50 per cent joint venture interest in 6 Crown-grants and 27 recorded claims (132 units) and began a program of geophysics and diamond drilling. Work in 1982 on the Jackpot, and on the Hunter V-Double Standard property (082FSW014, 015) adjoining to the west, included geochemical soil, biogeochemical, induced potential and magnetometer surveys and 1337 metres of diamond drilling in 12 holes. Work in 1983 included 1733 metres of diamond drilling in 23 holes in the vicinity of the Hunter V-Double Standard. By the end of 1983 Tri Basin had earned its 50 per cent joint venture interest with New Jersey Zinc (a wholly owned subsidiary of Gulf and Western Industries Inc). Based on work to date the mineralization is reported as: drill indicated 943,250 tonnes grading 4.68 per cent combined lead-zinc; and drill inferred and speculated - 2,928,400 tonnes, no grade stated (Tri Basin Resources Ltd. Filing Statement 148/84).

A further regional potential of approximately 2,225,000 tons is reported by New Jersey Zinc.

The Jackpot orebodies are currently thought to be Kootenay Arc-type carbonate hosted sedimentary exhalative (Sedex) deposits. The orebodies are located within dolomitized limestone of the Lower Cambrian Laib Formation, Reeves Member (correlative with limestone of the Badshot Formation).

In the occurrence area, the host Reeves member is complexly folded and faulted and close to the north margin of the Hidden Creek stock of the Middle to Late Jurassic Nelson Intrusions. The dolomite strikes about 290 degrees with a south dip and is bounded to the north by quartzites of the Lower Nevada Member of the Quartzite Range Formation. The contact is concordant but interpreted as a bedding plane fault. The mineralized dolomite zones vary in thickness from 1.5 to 15 metres wide, alternate with similar zones of limestone and locally contain small, irregular masses of yellowish green serpentine.

The mineralized zones on the Jackpot claims are called the East (082FSW013), Lerwick (082FSW256), Main and West (082FSW013) zones.

CAPSULE GEOLOGY

The East zone is exposed between elevations 1310 to 1554 metres on the steep slope west of Spot Creek. The Lerwick zone is exposed about 610 metres to the southwest between elevations 1707 and 1769 metres on the same slope. The Main zone is on the steep north facing slope of the hill about 460 metres northwest of Lerwick. The West zone is 305 metres southwest of the Main zone. These four zones of sulphide mineralization contain predominantly sphalerite with pyrite and very minor galena. Mineralization is restricted to zones of dolomite in Reeves limestone, although locally sulphide minerals occur in calcite within the dolomite zones.

Mineralization in the Main zone consists of sphalerite, pyrite, pyrrhotite and minor galena in serpentinized dolomite. The sulphides appear to follow the banding in the dolomite, which dips gently south but is locally steep and complexly folded. The mineralized zone plunges south at about 205 degrees at a low angle, parallel to the plunge of complex minor folds seen on surface. Individual mineralized zones are not extensive laterally but may contain in the order of 4 to 9 per cent zinc and minor lead. Recent reports indicate minor cadmium content in the ore. The mineralized dolomite also contains tremolite and diopside locally, and some scheelite may be present in skarn near the granite contacts. The occurrence has had extensive exploration work carried out but no significant production has been documented.

Tombstone Explorations Co. Ltd. acquired the Jackpot property from New Jersey Zinc Explorations Company (Canada) Ltd. in 1997.

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DATE CODED: 1985/07/24
DATE REVISED: 1991/05/23

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW013**

NATIONAL MINERAL INVENTORY: 082F3 Zn7

NAME(S): **JACKPOT EAST**, JACKPOT, EAST,
JACK POT, TWO SPOT

STATUS: Developed Prospect

MINING DIVISION: Nelson

REGIONS: British Columbia

NTS MAP: 082F03E

UTM ZONE: 11 (NAD 83)

BC MAP:

LATITUDE: 49 14 38 N

LONGITUDE: 117 08 48 W

ELEVATION: 1465 Metres

NORTHING: 5454579

EASTING: 489325

LOCATION ACCURACY: Within 500M

COMMENTS: The East zone is located about 800 metres northeast of the Jackpot Main zone (082FSW012), (Bulletin 41, Figure 8). See also Jackpot West (082FSW255) and Jackpot Lerwick (082FSW256).

COMMODITIES: Zinc

Lead

Tungsten

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Sphalerite Galena Scheelite

ASSOCIATED: Dolomite

ALTERATION: Dolomite

Diopside

Tremolite

ALTERATION TYPE: Carbonate

Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated

CLASSIFICATION: Sedimentary Exhalative

Syngenetic

TYPE: E12 Mississippi Valley-type Pb-Zn

E13

Irish-type carbonate-hosted Zn-Pb

SHAPE: Irregular

MODIFIER: Folded

Faulted

DIMENSION: 30

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: The dimensions are for the mineralized zone.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Lower Cambrian

Jurassic

GROUP

Undefined Group

FORMATION

Laib

IGNEOUS/METAMORPHIC/OTHER

Hidden Creek Stock

LITHOLOGY:

Dolomite
Limestone
Granite
Skarn
Hornfels
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Kootenay

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains

Plutonic Rocks

RELATIONSHIP:

GRADE: Hornfels

CAPSULE GEOLOGY

The Jackpot East prospect is located on the ridge between Hidden and Porcupine creeks, 10 kilometres northeast of Salmo. See also Jackpot Main (082FSW012), Jackpot West (082FSW255) and Jackpot Lerwick (082FSW256).

The Jackpot orebodies are currently thought to be Kootenay Arc-type carbonate hosted sedimentary exhalative (sedex) deposits. The orebodies are located within dolomitized limestone of the Lower Cambrian Laib Formation, Reeves Member (correlative with limestone of the Badshot Formation). In the occurrence area, the host Reeves Member is complexly folded and faulted and is in close proximity to the north margin of the Hidden Creek stock of the Middle to Late Jurassic Nelson Intrusions.

The carbonates form the core of the Jackpot syncline which trends slightly northeast and dips about 60 degrees east above 1370 metres elevation. Below this elevation the dip changes through vertical to west dipping. The core carbonates are underlain by brown biotite hornfels and white to brown, micaceous limestone of the Truman Member of the Laib Formation and by fine grey micaceous quartzites of the Lower Cambrian Reno Formation. The hornfels is locally altered to a banded diopside rock and the limestones are locally altered to skarn and reportedly carry scheelite. The east limb of the syncline is in fault contact with the Ordovician Active Formation argillites.

CAPSULE GEOLOGY

The Jackpot East mineralization consisting of pyrite, pyrrhotite, sphalerite, and minor galena is confined to bands of dolomite up to about 3 metres thick which alternate with barren dolomites. Sulphides are disseminated and grade ranges from 3 to 15 per cent zinc and minor lead (Bulletin 41). The mineralized zone including barren horizons is in the order of 30 metres thick although individual mineralized horizons have not proven to be laterally extensive. The occurrence has had extensive exploration work but no significant production has been documented. For reserves and work history refer to Jackpot Main (082FSW012).

Tombstone Explorations Co. Ltd. acquired the Jackpot property from New Jersey Zinc Explorations Company (Canada) Ltd. in 1997.

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1990, pp. 9-31
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Exploration Company (Canada) Ltd.)
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GSC MEM 94; 172; 308
GSC OF 1195
GSC P 50-19; 51-4
GCNL #32, 1982; Sept.27, 1983
N MINER March 4, 1982
WWW <http://www.tombstone-exp.com>
Tri Basin Resources Ltd., Filing Statement, 1984

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/24

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW014**

NATIONAL MINERAL INVENTORY: 082F3 Ag1

NAME(S): **HUNTER V (L.2212)**, DOUBLE STANDARD (L.2213), JACKPOT,
MERCIA FR. (L.2224), TUGULLA (L.3419), VULGAR FR. (L.3420),
SILVER BULLION (L.3421), AURORA (L.6064)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 14 15 N
LONGITUDE: 117 10 02 W
ELEVATION: 1775 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located on the Hunter V Crown Grant (Lot 2212) about 700 metres southwest of the Jackpot Main zone (082FSW012), (Bulletin 41, Figure 8).

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5453872

EASTING: 487827

COMMODITIES: Silver Gold Limestone Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Pyrite Galena Tetrahedrite Silver
ASSOCIATED: Calcite
ALTERATION: Limonite Tremolite
ALTERATION TYPE: Oxidation Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: E12 Mississippi Valley-type Pb-Zn E13 Industrial Min.
SHAPE: Irregular Irish-type carbonate-hosted Zn-Pb
MODIFIER: Folded Faulted

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	Hidden Creek Stock
Jurassic			

LITHOLOGY: Limestone
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE: Hornfels

CAPSULE GEOLOGY

The property is located between elevations of 1524 and 1758 metres on the south side of Porcupine Creek, 8.8 kilometres northeast of Salmo. The Jack Pot property (082FSW012) adjoins to the east.

The Hunter V claim was located in May 1900 by A.A. Vernon. This and adjacent claims were acquired by W. Davis, of Nelson, and exploration work began in shallow shafts on the Hunter V and Double Standard claims. Late in 1902, the Double Standard Syndicate was organized to begin shipments of fluxing ore to the Nelson smelter. The B.C. Standard Mining Company, Limited was incorporated in June 1903 to acquire the property. An aerial tramway in 3 sections totalling 4663 metres was installed to connect with the Nelson and Fort Sheppard railway. Seven claims, the Hunter V, Double Standard (082FSW015), Mercia Fr., Tugulla, Vulgar Fr., Silver Bullion, and Aurora (Lots 2212, 2213, 2224, 3419-3421, and 6064 respectively) were Crown-granted to the company in 1903. Fluxing ore mined from open pits, one at an elevation of 1707 metres, and the other 76 metres lower and about 305 metres to the northwest, was shipped to smelters at Nelson, Trail, Northport, and Granby.

In mid 1905 the company was forced to liquidate and the property was leased to Hall Mining and Smelting Company, Limited, operator of the smelter at Nelson. A changeover was made to underground mining and a new adit was begun below the Double Standard open pit in 1906. The mine closed and the lease was given up in 1907, when the Hall smelter closed.

The Consolidated Mining and Smelting Company of Canada Limited purchased the property in 1919 and development work was begun in a new adit in 1925. A replacement of the aerial tramway was erected to

CAPSULE GEOLOGY

connect with what was now the Great Northern Railway, and shipments of low-grade ore to meet the fluxing requirements of the Trail smelter began in 1927. Development work in crosscuts, drifts and raises continued into 1929 because the silver values had decreased to such an extent that the operation became unprofitable.

New Jersey Zinc Exploration Company (Canada) Ltd., owner of the adjacent Jack Pot property, acquired the Hunter V Crown grants prior to 1959. Cominco Ltd. carried out exploration work under an option agreement on the New Jersey Zinc property during the period 1973-77 but no specific mention was made of work on the Hunter V.

The Hunter V deposit, part of the Jackpot orebodies, consisted of low-grade ores in the order of 4.35 grams per tonne silver and 0.016 grams per tonne gold. However, production between 1902 and 1929 benefitted from smelter credits for the lime content of the shipped ores and this allowed the operation to continue. The ores consisted of fine-grained sphalerite and pyrite with minor galena, tetrahedrite and native silver within a limestone matrix which contained about 22 per cent silica. Native silver occurred on fracture planes in the oxidized ore and was associated with limonite. The sulphide zone has apparently been completely mined out as later descriptions note that little or no sulphides are now visible in the old workings.

The Jackpot orebodies are currently thought to be Kootenay Arc-type carbonate hosted sedimentary exhalative (sedex) deposits. The orebodies are located within dolomitized limestone of the Lower Cambrian Laib Formation, Reeves Member (correlative with limestone of the Badshot Formation). The occurrences are within limestone which has been complexly folded and faulted close to the north margin of the Middle to Late Jurassic Hidden Creek stock (Nelson Intrusions). The limestones have an east trend with variable dips ranging from 10 to 40 degrees south.

Tombstone Explorations Co. Ltd. acquired the Jackpot property from New Jersey Zinc Explorations Company (Canada) Ltd. in 1997.

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1905-168; 1906-150,248; 1907-104,213; 1925-248,366; 1926-369;
1927-303; 1928-332; 1929-285,351; 1948-132; 1968-241
EMPR ASS RPT 6250, 9785, 10602, 10883, 10885, *11163, 11450
EMPR BC METAL MM01018
EMPR BULL *41, pp. 121-126; 109
EMPR EXPL 1975-31; 1976-34; 1977-E43
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR GEM 1973-58; 1974-68
EMPR INDEX 3-200
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 2000-22
EMPR PF (Surface Geological Plan of the Jackpot-Hunter V, New Jersey
Zinc Explorations Ltd., 1949)
EMR MP CORPFILE (Cominco Ltd.)
GSC MAP 175A; 299A; 1090A; 1091A; *1145A
GSC MEM *94, pp. 3,55,62,116; 172, p. 64
GSC OF 1195
CANMET RPT 811, Part 5, p. 207
WWW <http://www.tombstone-exp.com>

DATE CODED: 1985/07/24
DATE REVISED: 1991/01/24

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW015**

NATIONAL MINERAL INVENTORY: 082F3 Ag1

NAME(S): **DOUBLE STANDARD (L.2213)**, JACKPOT, HUNTER V (L.2212),
MERCIA FR. (L.2224), TUGULLA (L.3419), VULGAR FR. (L.3420),
SILVER BULLION (L.3421), AURORA (L.6064)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 14 25 N
LONGITUDE: 117 10 18 W
ELEVATION: 1663 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located about 6 kilometres southeast of Ymir on Crown Grant Lot 2213.
The Double Standard glory hole is located 1 kilometre west-southwest
of the Jackpot Main zone (082FSW012), (Bulletin 41, Figure 8).

Open Pit
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5454181
EASTING: 487504

COMMODITIES: Silver Gold Limestone Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Pyrite Galena Tetrahedrite Silver
ASSOCIATED: Calcite
ALTERATION: Limonite Tremolite
ALTERATION TYPE: Oxidation Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Stratabound
CLASSIFICATION: Sedimentary Exhalative Syngenetic Industrial Min.
TYPE: E12 Mississippi Valley-type Pb-Zn E13 Irish-type carbonate-hosted Zn-Pb
SHAPE: Irregular
MODIFIER: Folded Faulted

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	Hidden Creek Stock
Jurassic			

LITHOLOGY: Limestone
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE: Hornfels

CAPSULE GEOLOGY

The Double Standard (Lot 2213) is located between elevations of 1524 and 1758 metres on the south side of Porcupine Creek, 8.8 kilometres northeast of Salmo. The Jack Pot property (82FSW012) adjoins to the east.

The Hunter V claim was located in May 1900 by A.A. Vernon. This and adjacent claims were acquired by W. Davis, of Nelson, and exploration work began in shallow shafts on the Hunter V and Double Standard claims. Late in 1902 the Double Standard Syndicate was organized to begin shipments of fluxing ore to the Nelson smelter. The B.C. Standard Mining Company, Limited was incorporated in June 1903 to acquire the property. An aerial tramway in 3 sections totalling 4663 metres was installed to connect with the Nelson and Fort Sheppard railway. Seven claims, the Hunter V, Double Standard, Mercia Fr., Tugulla, Vulgar Fr., Silver Bullion, and Aurora (Lots 2212, 2213, 2224, 3419-3421, and 6064 respectively) were Crown-granted to the company in 1903. Fluxing ore mined from open pits, one at an elevation of 1707 metres, and the other 76.2 metres lower and about 304.8 metres to the northwest, was shipped to smelters at Nelson, Trail, Northport, and Granby.

In mid 1905 the company was forced to liquidate and the property was leased to Hall Mining and Smelting Company, Limited, operator of the smelter at Nelson. A changeover was made to underground mining and a new adit was begun below the Double Standard open pit in 1906. The mine closed and the lease was given up in 1907, when the Hall smelter closed.

The Consolidate Mining and Smelting Company of Canada Limited purchased the property in 1919 and development work was begun in a new adit in 1925. A replacement of the aerial tramway was erected to

CAPSULE GEOLOGY

connect with what was now the Great Northern Railway, and shipments of low-grade ore to meet the fluxing requirements of the Trail smelter began in 1927. Development work in crosscuts, drifts and raises continued into 1929 because the silver values had decreased to such an extent that the operation became unprofitable.

New Jersey Zinc Exploration Company (Canada) Ltd., owner of the adjacent Jack Pot property, acquired the Hunter V Crown grants prior to 1959. Cominco Ltd. carried out exploration work under an option agreement on the New Jersey Zinc property during the period 1973-77 but no specific mention was made of work on the Hunter V.

The Double Standard occurrence is within limestone of the Reeves Formation of the Lower Cambrian Laib Formation which has been complexly folded and faulted in close proximity to the north margin of the Hidden Creek stock. This stock is part of the Middle to Late Jurassic Nelson Intrusions. The limestones have an east-west trend with variable dips from 10 to 40 degrees south. The Jackpot orebodies are currently thought to be Kootenay Arc-type carbonate hosted sedimentary exhalative (sedex) deposits.

The low-grade ores were in the order of 4.35 grams per tonne silver and 0.016 grams per tonne gold but production between 1902 and 1929 benefitted from smelter credits for the lime content and this allowed the operation to continue. The ores consisted of fine-grained sphalerite and pyrite with minor galena, tetrahedrite, and native silver within a limestone matrix which contained about 22 per cent silica. Native silver occurred on fracture planes with limonite in the oxidized ore. The sulphide zone has apparently been completely mined out as later descriptions note that little or no sulphides are now visible in the old workings.

Production was included with the Hunter V mining operation (082FSW014).

Tombstone Explorations Co. Ltd. acquired the Jackpot property from New Jersey Zinc Explorations Company (Canada) Ltd. in 1997.

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- EMPR AR 1902-160; 1903-148,242; 1904-127; 1905-168; 1906-150,248;
1907-213; 1925-248,366; 1926-369; 1927-303; 1928-332; 1929-285,
351; 1948-132; 1968-241
EMPR ASS RPT 6250, 9785, 10602, 10883, 10885, *11163, 11450
EMPR BULL *41, pp. 121-126; 109
EMPR EXPL 1975-31; 1976-34; 1977-E43
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR GEM 1968-241; 1973-58; 1974-68
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 2000-22
GSC MAP 175A; 299A; 1090A; 1091A; *1145A
GSC MEM 30, pp. 150,154; *94, pp. 3,55,62,116; 172, p. 64
GSC OF 1195
WWW <http://www.tombstone-exp.com>

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/24

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW016**

NATIONAL MINERAL INVENTORY:

NAME(S): **JUMBO (L.12688)**, JUMBO 1 (L.12687)

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 06 09 N
LONGITUDE: 117 11 28 W
ELEVATION: 1555 Metres

NORTHING: 5438868
EASTING: 486050

LOCATION ACCURACY: Within 500M

COMMENTS: On the southwestern flank of Nevada Mountain.

COMMODITIES: Tungsten Molybdenum

MINERALS

SIGNIFICANT: Scheelite Molybdenite Pyrite Galena Sphalerite

COMMENTS: Only minor galena, sphalerite and molybdenite is contained in the quartz veins.

ASSOCIATED: Quartz

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein

CLASSIFICATION: Skarn Hydrothermal

TYPE: K05 W skarn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Ordovician
Jurassic

GROUP

Undefined Group

FORMATION

Active

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Limestone
Argillite
Granite
Skarn

HOSTROCK COMMENTS: Lost Creek stock of the Nelson Intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Kootenay

METAMORPHIC TYPE: Contact

Plutonic Rocks

RELATIONSHIP: Syn-mineralization

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Hornfels

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1951

SAMPLE TYPE: Channel

COMMODITY

GRADE

Molybdenum

0.0300

Per cent

Tungsten

0.5000

Per cent

COMMENTS: The sample was taken across 1.5 metres. The assays are actually for tungstic oxide (WO3) and molybdenite (MoS2).

REFERENCE: Geological Survey of Canada Economic Geology Series 17, page 103.

CAPSULE GEOLOGY

Argillites, limy argillites, and grey limestone units 3 to 10 metres thick of the Lower to Middle Ordovician Active Formation are in close contact with the western margin of the Lost Creek granite stock of the Middle to Late Jurassic Nelson Intrusions. The limestones are locally altered to skarn and carry disseminated scheelite which has a yellowish fluorescence.

A channel sample across 1.5 metres assayed 0.5 per cent WO3 and 0.03 per cent MoS2 (Geological Survey of Canada Economic Geology Series No. 17, page 103). Locally, a quartz vein follows the granite-skarn contact and is observed to host pyrite with minor galena, sphalerite, and molybdenite.

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EMPR AR 1918-172; 1922-354; 1932-195; 1943-148; 1964-126
EMPR ASS RPT 9893
EMPR BULL *41, p. 126; 10 (Rev.); 109
EMPF OF 1991-17

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1045
REPORT: RGEN0100

BIBLIOGRAPHY

GSC EC GEOL *#17, p. 103; #20, p. 298
GSC MAP 1145A
GSC MEM 94; 308
GSC OF 1195
GSC P 49-22; 50-19; 52-13

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/20

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1047
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 1090A; 1144A
GSC MEM 308
GSC OF 1195
GSC P 51-4
WWW <http://www.infomine.com/index/properties/PORT.html>

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/12

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW018**

NATIONAL MINERAL INVENTORY: 082F3 Pb2

NAME(S): **LOMOND**, INTERNATIONAL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 12 N
LONGITUDE: 117 20 09 W
ELEVATION: 750 Metres

NORTHING: 5427881
EASTING: 475438

LOCATION ACCURACY: Within 500M

COMMENTS: The main showing area lies along Lomond Creek.

COMMODITIES: Iron Lead Zinc Silver

MINERALS

SIGNIFICANT: Galena Cerussite Anglesite
ASSOCIATED: Dolomite Calcite
ALTERATION: Limonite Cerussite Anglesite Goethite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Disseminated Massive Podiform
CLASSIFICATION: Residual Sedimentary Industrial Min.
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag
DIMENSION: STRIKE/DIP: 090/25S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Middle Cambrian Undefined Group Nelway

LITHOLOGY: Dolomite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: PIT

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1959
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 10.3000 Grams per tonne
Lead 1.2000 Per cent
Zinc 2.7000 Per cent

COMMENTS: The sample width is 1.52 metres.
REFERENCE: Bulletin 41, page 129.

CAPSULE GEOLOGY

The property is located on the east side of the Pend D'Oreille River at the British Columbia-Washington border, approximately 56 kilometres south of Nelson.

The International group was staked prior to 1908 by George Bell and associates and subsequently optioned to Shallenberger and Mcleod, of Spokane. Fifteen claims (Lots 6598-6612) were Crown-granted to H.H. Shallenberger in 1913. Several hundred metres of underground work in 2 adits and a raise was apparently carried out by the International Lead and Iron Company, of Spokane, prior to 1915. International Crown Mines Consolidated, a Washington company, is reported to have acquired an option on the Shallenberger property in 1929.

No further activity was reported until 1946 when Sheep Creek Gold Mines, Limited optioned the property. Diamond drilling totalling 249 metres was completed before the option was dropped. Messrs. Burgess and Lundgwen leased the property from G. Shallenberger, of Nelson, in 1948. Limonite ore from surface workings was shipped during 1947-1948 to Lehigh Cement Works at Metaline Falls for use in the manufacture of cement. During this same period Shallenberger prospected the property for lead-zinc showings and shipped sorted galena to the smelter at Trail. Limonite ore was mined under contract by D.G. White and G. Gimple during 1950.

The property was sold late in 1951 by Mrs. Shallenberger to E.G.

CAPSULE GEOLOGY

Brown & associates who incorporated International Lead & Zinc Mines Ltd. Geological mapping and bulldozer trenching was carried out in 1952. The company charter was surrendered in 1958.

In the vicinity of Lomond Creek highly oxidized, lead-zinc sulphides are exposed within the Middle Cambrian Nelway Formation. The zones of oxidized sulphides appear confined to the middle and upper stratigraphy of the Nelway Formation which consists of cream and grey banded dolomite containing discontinuous lenses of black dolomite. The black dolomite is commonly mottled with spots of white calcite. The trends are variable but the sediments have a general east strike and dip to the south at 25 degrees or greater.

The main showing area, once the site of mining iron oxide for a cement additive, lies along Lomond Creek at about 750 metres elevation. Associated showings are located adjacent to the Pend d'Oreille River and about 450 metres north of the main showings. These showings are described as podiform, oxidized sulphides, which are a few metres in size and which occur relatively closely spaced along an exposed strike length of about 300 metres. At least one of these pods is 6 by 15 metres in size and 5 metres thick. The oxidized sulphide zones occur within a stratigraphic interval of about 15 metres and are described as generally conformable to the dolomitic banding of the cream or mottled dolomites although at least some are hosted by black dolomite. Locally, crosscutting relationships are observed and the oxidized material is at least partly fracture controlled in some exposures. Walker (1934) described a 0.3 to 2-metre thick oxidized zone in an adit next to the Pend d'Oreille River. He does, however, indicate the zone dips west while the dolomites strike at 065 degrees and dip 80 degrees southeast. Fyles (1959) described, from the area of the main showings, two bands 1.5 and 3.6 metres thick separated by about 3 metres of crumbly dolomite. These oxidized bands are generally conformable to the dolomitic banding but locally crosscut the banding or follow fracture surfaces.

The oxidized zones consist of seams and pods of earthy brown limonite containing harder areas of goethite. Within the soft earthy limonite are nodules of galena with thin coatings of anglesite. Transparent to translucent crystals of cerussite occur mostly encrusted on the goethite. A sample of this material from the large pit at the main showings assayed 10.3 grams per tonne silver, 1.2 per cent lead and 2.7 per cent zinc (Bulletin 41, page 129). Just south of the Canada - USA border, within stratigraphy equivalent to the Nelway Formation, are pyrite rich, lead-zinc sulphide ores such as at the Yellowhead occurrence in Washington State. The Lomond showings are likely the weathered surface equivalents of such pyrite rich sulphide zones.

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1946-148; 1947-165; 1948-136; 1949-174; 1950-128; 1951-143; 1952-
150
EMPR ASS RPT 51, *6416, *6880, 11447, 12927, 19817
EMPR BC METAL MM01031
EMPR BULL *41, p. 128; 109
EMPR EXPL 1977-E43; 1978-E51; 1983-58
EMR MP CORPFILE (International Lead and Zinc Mines Ltd.)
GSC MAP 299A; 1090A; *1145A
GSC MEM *172, p. 62; *308, pp. 120,193
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/07

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW019**

NATIONAL MINERAL INVENTORY:

NAME(S): **LONE SILVER**, HOPE, MASCOT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 02 50 N
LONGITUDE: 117 15 29 W
ELEVATION: 870 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5432737
EASTING: 481143

LOCATION ACCURACY: Within 500M

COMMENTS: Located east of Rosebud Lake.

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite Tetrahedrite

ASSOCIATED: Quartz Dolomite

COMMENTS: Two ore hosts, quartz veins in shears and dolomitic breccias.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au E14 Sedimentary exhalative Zn-Pb-Ag
SHAPE: Irregular
MODIFIER: Folded Fractured
COMMENTS: Modifier is also sheared.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Cambrian	Undefined Group	Nelway	
Ordovician	Undefined Group	Active	

LITHOLOGY: Dolomitic Breccia
Argillite
Dolomite
Phyllite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Lone Silver occurrence is immediately east of Rosebud Lake and located on the Black Bluff fault. To the northwest of the fault are black, graphitic argillites and calcareous sediments of the Lower to Middle Ordovician Active Formation. On the southeast side of the fault are dolomites and limestones of the Middle Cambrian Nelway Formation. The dolomites form a large anticlinal structure with a shallow plunge to the southwest, truncated at a shallow angle by the Black Bluff fault.

Mineralization consisting of pyrite, chalcopyrite, galena, sphalerite, and tetrahedrite is of two main types. The dolomites within the Nelway Formation are commonly brecciated and the small angular fragments of dolomite contains disseminated sulphides in the matrix. Small quartz veinlets occur within the dolomite breccia zones. Within the Active argillites the Black Bluff fault has formed planar faults and shears characterized by graphitic schist and quartz veining along shears and fractures with the quartz veining carrying sulphides. The dolomitic breccia zones are characteristically high in silver-copper values while the vein/shears in the Active Formation have been more productive of gold, silver, lead, and zinc. Ore zones of both types have proven to be limited in extent and scattered along the trend of the Black Bluff fault.

Production to date has totalled approximately 174 tonnes from which about 2,674 grams of gold, 693 kilograms of silver, 10,746 kilograms of lead, and 3,693 kilograms of zinc have been recovered.

BIBLIOGRAPHY

EMPR AR 1909-272; 1910-243; 1914-510; 1915-445; 1936-E16,18; 1937-A39,E49; 1938-A36,E40
EMPR ASS RPT 9165, 10692, *10842, 11452, 15799, 18363
EMPR BC METAL MM01032

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1051
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL *41, pp. 130-132; 109
EMPR EXPL 1980-51; 1982-49
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2, 2000-22
EMPR PF (Report by W.J. Weymark, 1969; L.R. Leslie, 1937)
GSC MAP 49-22; 299A; 1090A; 1091A; *1145A
GSC MEM 308, p. 150
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/27

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW020**

NATIONAL MINERAL INVENTORY:

NAME(S): **MEADOW VIEW**, MORTGAGE LIFTER, MEADOW VIEW 7

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F03W
 BC MAP:
 LATITUDE: 49 05 10 N
 LONGITUDE: 117 15 18 W
 ELEVATION: 915 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: See Figure 3 in Bulletin 41.

MINING DIVISION: Nelson
 UTM ZONE: 11 (NAD 83)
 NORTHING: 5437060
 EASTING: 481381

COMMODITIES: Silver Gold Copper Molybdenum

MINERALS

SIGNIFICANT: Silver Tetrahedrite Pyrite Molybdenite
 ASSOCIATED: Calcite
 ALTERATION: Silica Malachite Powellite
 ALTERATION TYPE: Silicific'n Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Disseminated
 CLASSIFICATION: Replacement Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Undefined Group	Laib	
Jurassic			Nelson Intrusions
Eocene			Coryell Intrusions

LITHOLOGY: Limestone
 Dolomite
 Argillite
 Monzonite
 Granite
 Augite Biotite Monzonite

HOSTROCK COMMENTS: Mineralization occurs in the Reeves Member of the Laib Formation.
 The Reeves Member is correlative with the Badshot Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca Plutonic Rocks PHYSIOGRAPHIC AREA: Selkirk Mountains
 TERRANE: Kootenay

INVENTORY

ORE ZONE: SHOWING REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1926
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Silver	2220.0000 Grams per tonne
Gold	1.3700 Grams per tonne
Copper	0.2900 Per cent

REFERENCE: Minister of Mines Annual Report 1926, page 281.

CAPSULE GEOLOGY

The Meadow View deposit occurs in the Lower Cambrian Laib Formation within limestone of the Reeves Member near its contact with black argillites of the Emerald Member. The Laib Formation has a general northeast trend in the area, and the showings occur on the overturned limb of the Jersey anticline. Within one to two kilometres are granite stocks or plugs of the Middle to Late Jurassic Nelson Intrusions and augite-biotite monzonite of the Middle Eocene Coryell Intrusions. It is unknown if these intrusives have any association with the mineralization.

Mineralization is associated with siliceous alteration zones within the limestone and consists of disseminated tetrahedrite, some native silver, pyrite, and minor molybdenite. Copper staining and some molybdcic oxide is common. Analysis of sorted ore material indicates copper values range from 0.21 to 0.74 per cent. Gold averaged 0.4 to 1.37 grams per tonne and silver averaged from 0.9 kilograms to 2.4 kilograms per tonne (Minister of Mines Annual Report

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CAPSULE GEOLOGY

1926, page 281).

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GSC MAP 1090A; *1145A
GSC OF 1195

DATE CODED: 1985/07/24
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REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

name (Consolidated) was changed in 1966 to Cominco Ltd. During 1978 the company carried out a magnetometer survey over 4 kilometres, and 266 metres of diamond drilling in 3 holes.

The Molly mine is hosted by granites of the Lost Creek stock of the Middle to Late Jurassic Nelson Intrusions, which are intruded into a sequence of argillites and limy argillites of the Ordovician Active Formation. The granite is quartz rich and appears to have an upper fine-grained, aplitic chilled zone or border capping in the order of 2 metres thick.

The aplite is sparsely impregnated with molybdenum but the main molybdenum ore occurs below this capping within a zone about 3 metres thick containing numerous joints parallel to the intrusive contact. The best mineralization appears within this sheeted zone where the intrusive contact dips at low angles and/or where there are prominent fractures intersecting this sheeting. Molybdenite occurs as selvages on the joint planes or disseminated between the joints. The more massive granite below the sheeted zone is host to very little molybdenite. Tungsten, as scheelite, occurs locally disseminated in skarn zones of small size.

Records indicate that the Molly mine produced at least 171 tonnes of ore which carried 3.5 to 5.88 per cent MoS₂. From 1914 to 1917, a total of 11,366 kilograms of molybdenum were produced. Minor pyrite, pyrrhotite, and uraninite are also associated with the deposit. A sample assayed 0.13 equivalent uranium (Geological Survey of Canada, Economic Geology #16).

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DATE CODED: 1985/07/24
DATE REVISED: 1991/02/26

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW022**

NATIONAL MINERAL INVENTORY: 082F6 Zn1

NAME(S): **OXIDE**, MARILYN 1-12, OXIDE 4,
INTERNATIONAL, SULFIDE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:
LATITUDE: 49 16 07 N
LONGITUDE: 117 08 39 W
ELEVATION: 1370 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Oxide 4 adit (Assessment Report 5797).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5457327
EASTING: 489512

COMMODITIES: Zinc Lead Silver Gold Manganese

MINERALS

SIGNIFICANT: Pyrite Galena Manganite Hemimorphite Parahopeite
Pyromorphite
ASSOCIATED: Limonite Clay
ALTERATION: Limonite Manganite Hemimorphite Parahopeite Pyromorphite
Clay
ALTERATION TYPE: Oxidation Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Shear
CLASSIFICATION: Residual Epigenetic Industrial Min.
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag
SHAPE: Irregular
MODIFIER: Faulted Fractured
DIMENSION: 458 x 180 x 9 Metres STRIKE/DIP: 010/80E TREND/PLUNGE:
COMMENTS: Dimension of Oxide mineralized zone, attitude of Oxide fault.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Ordovician	Unnamed/Unknown Group	Active	

LITHOLOGY: Limonite Gossan
Gouge
Argillite
Limestone
Quartzite

HOSTROCK COMMENTS: The mineralization is within the Oxide fault and it is unknown if it is vein material or an alteration of strata.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay Ancestral North America PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: ADIT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1948
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 3.4000 Grams per tonne
Gold 0.3400 Grams per tonne
Lead 1.4000 Per cent
Zinc 15.7000 Per cent
COMMENTS: The sample width is 3.05 metres.
REFERENCE: Bulletin 41, page 134.

CAPSULE GEOLOGY

The Oxide occurrence is located on the divide between Oscar and Porcupine creeks. The main showings outcrop at the 1555-metre elevation just to the west of the north-south striking "Oxide Pass", about 1.2 kilometres east of the summit of Jubilee Mountain and 5.5 kilometres east southeast of Ymir.

The area is underlain by black argillite, slate and quartzite of the Lower(?) to Middle Ordovician Active Formation and Lower Cambrian quartzite, schist, argillite, slate and limestone. The Oxide fault separates Lower Cambrian metasediments on the west from Ordovician

CAPSULE GEOLOGY

sediments to the east.

Mineralization is hosted by the Oxide fault which strikes 010 degrees with a dip of 75 to 80 degrees east. East of the fault are black argillites and limestones and on the west side are white and micaceous quartzites. The fault, marked by a wide zone of crushed and sheared rock, contains a muddy clay-like gouge about 45 centimetres thick.

The mineralized zone at the Oxide adit is highly oxidized and is exposed along strike for 458 metres. The width is variable but may be up to 9 metres wide. Drilling and underground development indicate the oxidized zone extends more than 180 metres in depth. The limonitic gossan contains hemimorphite and parahopeite as the major zinc minerals and a few nodules of galena and pyromorphite as the major lead minerals. Manganese, up to 23 per cent, and minor pyritic quartz, with low gold assays, is present locally.

The highest assay from samples taken in the adit in 1948 was 0.34 grams per tonne gold, 3.4 grams per tonne silver, 1.4 per cent lead and 15.7 per cent zinc (Bulletin 41).

The International adit, to the south, intersects a similar zone, up to 7.3 metres wide, which hosts lead and zinc in oxidized material.

Development work was done from two adits on the north side of Porcupine Creek at elevations of 1204 and 1356 metres.

Early work on the showings was done in two short adits; one located about 152 metres below the crest of the pass was driven 18 metres; details of this early work are lacking. The showings were rediscovered in 1943 by Ed. Haukedahl, of Ymir, and held for a number of years in association with A. Bremner and A. Phare, also of Ymir.

Leta Explorations Limited held an option on the property in 1944 and carried out about 183 metres of diamond drilling in 2 holes. International Mining Corporation (Canada) Limited, a subsidiary of International Mining Corporation acquired an option on the property in 1945. Considerable trenching was done on the Porcupine creek side of the pass and diamond drilling on one hole cut the oxidized zone 152 metres below the crest of the pass. Late in 1946 work began in extending the old 18-metre adit at a 1356-metre elevation. Part of the drift had to be abandoned due to swelling ground and from a point 47 metres from the portal drifting was continued about 9 metres in the foot-wall. By September 1947, when the option was terminated, the adit had been driven north 10 degrees east for 196 metres from the portal. Three crosscuts were driven to investigate the zone, one at 41 metres from the portal, one at 122 metres from the portal, and one at the face, 196 metres from the portal. The crosscut at the face was extended west for 23 metres and a hole was drilled down at minus 54 degrees, a distance of 115 metres, to pass through the zone which appeared to be about 5 metres wide. The company reported a total of 294 metres of drifting and crosscutting. At that horizon, about 152 metres below the pass, the zone still comprised oxidized material of sub-ore grade. In the early part of 1948 the owners drive a 24-metre adit just below the crest of the ridge on the north side of "Oxide Pass" to cut the oxide zone at an angle of about 30 degrees.

New Jersey Zinc Explorations Limited optioned the property in mid 1948, and subsequently purchased. Considerable exploratory drilling was done in the latter part of the year in an attempt to locate an unoxidized part of the zone. In 1950 a new adit ("0 x 4") was begun at the 1204-metre elevation, 152 metres below and 344 metres south 15 degrees east of the "International adit". At 122 metres from the portal running silt was encountered and work ceased. In 1952 a branch adit was begun at 89 metres from the portal and driven north for 30 metres to about 9 metres east of the caved heading. When work ceased in January 1954 the adit had been extended to a length of 266 metres.

In 1954 New Jersey Zinc Explorations Limited surrendered its charter and the property was transferred to New Jersey Zinc Exploration Company (Canada) Ltd. In 1962 the company carried out 204 metres of diamond drilling in 2 holes; an additional 140 metres in 2 holes was drilled in 1965.

The Oxide claim (15 units) was owned in 1976 by Jack Butla of Trail. A geochemical soil survey (195 samples) was carried out during the year.

Cominco Ltd. conducted geological mapping and geochemical sampling on the Oxide property in 1998. Indo Metals Ltd. acquired the property from Cominco Ltd. in 1999.

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WWW <http://www.infomine.com/index/properties/OXIDE.html>

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/12

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW023**

NATIONAL MINERAL INVENTORY:

NAME(S): **PETE CREEK, PY**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 11 N
LONGITUDE: 117 18 23 W
ELEVATION: 862 Metres

NORTHING: 5433399
EASTING: 477614

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 2 kilometre north-northwest of where Creggan Creek enters the Salmo River.

COMMODITIES: Zinc Lead Silver

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Sphalerite Galena

ASSOCIATED: Silica Tremolite

ALTERATION: Silica Diopside

COMMENTS: Limited reports indicate a "green silicate" mineral - probably diopside.

ALTERATION TYPE: Skarn Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Disseminated
CLASSIFICATION: Residual Epigenetic Skarn
TYPE: K02 Pb-Zn skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Undefined Group	Laib	Nelson Intrusions
Jurassic			

LITHOLOGY: Limestone
Quartzite
Skarn
Dolomite
Granite

HOSTROCK COMMENTS: Mineralization is associated with the Reeves Member of the Laib Formation. The Reeves Member is the equivalent of the Badshot Fm.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Kootenay

Plutonic Rocks

METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization

GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1959

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

34.3000

Grams per tonne

Lead

3.4800

Per cent

Zinc

5.1000

Per cent

COMMENTS: The sample width is 1.53 metres.

REFERENCE: Bulletin 41.

CAPSULE GEOLOGY

Limited geological descriptions indicate the development of sulphide mineralization within altered quartzitic and limestone (Reeves Member) units of the Lower Cambrian Laib Formation. The first showing is about 122 metres south of Pete Creek at 862 metres elevation. There is a small lens of sphalerite and galena at the contact between a medium to coarse-grained, tremolitic limestone and what is defined as "granitized quartzite" which may be a tongue of granitic intrusive. A chip sample across 1.53 metres at this site contained 34.3 grams per tonne silver, 3.48 per cent lead, and 5.1 per cent zinc but the mineralization is extremely limited in extent (Bulletin 41, page 135).

About 458 metres southwest of this showing there is an occurrence of massive pyrrhotite at the contact between Reeves

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limestone and "granitized siliceous rocks". The mineralization was traced 23 metres along a strike of 075 degrees. The limestones at this site are described as crystalline, grey limestone partly altered to a green silicate rock (skarn) in contact with the above mentioned "granitized siliceous rocks". Fyles (1959) shows Laib Formation limestones and quartzites in contact with granites of the Middle to Late Jurassic Nelson Intrusions in the vicinity of the showings.

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GSC OF 1195

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CAPSULE GEOLOGY

alteration which weathers buff. Poor exposures make it difficult to identify the full extent of the dolomitization but the main showing alteration is in the order of 30 to 50 metres thick and terminates against a northwest trending, northeast dipping transverse fault about 300 metres southwest of portal 1. The dolomite thins to the northeast to less than 30 metres. Zones of dolomitization have also been identified at various stratigraphic levels in the Reeves limestone along Red Bird and Harcourt creeks. South and west of Red Bird Creek, the Reeves limestone and associated stratigraphy is masked by an east to west overthrust wedge of Lower and (?) Middle Ordovician Active Formation argillites which is in the order of 600 metres thick.

The sulphide zones consist of oxidized sphalerite, galena and pyrite which plunge to the southwest within the trend of the host limestone. The zones are oxidized to a depth of 240 to 360 metres and at surface consist of a soft, earthy groundmass containing small nodules of brown limonitic material or a whitish material containing secondary lead and zinc minerals such as cerussite, anglesite, and smithsonite. Although on surface much of the gossanous material is locally transported resulting in the extent and setting of the source being obscured, underground mapping indicates a mineralized zone parallel to host rock attitudes, which is in the order of 183 metres along strike and 0.3 to 6 metres width.

Within the oxidized zone there is up to 30 per cent combined lead and zinc with zinc being dominant. A 0.24-metre drill core sample assayed 17.5 grams per tonne silver, 3.39 per cent lead, 8.95 per cent zinc, 0.02 per cent cadmium, 0.005 per cent germanium and 0.10 grams per tonne gold (Assessment Report 14960). Minor gallium is also associated with the sulphides.

Over 650 metres of underground development has been done on the deposit from 1925 to 1974, as well as hundreds of metres of diamond drilling.

Indicated reserves at Red Bird are 2,177,040 tonnes grading 18.5 per cent zinc, 68.5 grams per tonne silver, and 6.5 per cent lead (Assessment Report 15722).

The main showings are at elevations of 760 and 915 metres on the north side of Red Bird Creek about 1.6 kilometres south-southwest of the junction of the Pend D'Oreille and Salmo Rivers.

The Red Bird group comprising the Red Bird, Lead Pot, and Lead Cup claims, was owned in 1924 by S. Coulter and A.J. Campbell, of Ymir. Conrad Wolfe and associates optioned the claims in 1925 and incorporated the Red Bird Mining Company, of Spokane. Additional staking was done to a total of 17 claims. Over 305 metres of underground exploration work during the 1925-1927 period gave disappointing results. A controlling interest in Red Bird Mining was acquired by a Vancouver syndicate who during 1928 extended the lower adit several hundred metres and carried out a small amount of diamond drilling. The syndicate in February 1929 incorporated Boundary Basin Mines, Limited. No work was reported by the company. The workings at that time comprised a lower adit some 366 metres long, and at higher elevations 2 short adits, an 11-metre shaft, and open cuts. Sixteen claims and fractions, including the Lead Cup (Lot 13466), Lead Pot (Lot 13465), and Red Top (Lot 14148) were Crown-granted to Boundary Basin Mines in 1932 and 1934.

Hecla Mining Company, of Wallace, Idaho, purchased the property in 1944. Work by the company included geological mapping and limited surface work in 1947, and bulldozer stripping and 130 metres of diamond drilling in 2 holes in 1958. Cominco Ltd. optioned the property in 1961. Work during 1961-1962 included 211 metres of drifting and crosscutting, and 1247 metres of diamond drilling in 2 holes.

Reeves MacDonald Mines, Limited obtained a lease-option agreement from Hecla in 1973 and a program of exploration was begun to test for the projected westerly extension of the Annex zone in Red Bird ground. The program included a westerly lateral and diamond drilling from the 183-metre level of the Reeves mine. This work was successful in locating the faulted extension of the Annex zone. In 1974 some 65 metres of crosscutting and drifting and 1038 metres of diamond drilling were done as part of the development program. Some 1,700 tons of development ore was milled. Further development was deferred due to the marginal character of the ore (Hecla Operating Company, 1974 Annual Report).

Hecla Mining Company continued to hold 16 Crown-granted claims. Golden Eye Minerals Ltd. in 1985 acquired an option on an 80 per cent interest in the property from Diem Mines, Limited, a Canadian subsidiary of Hecla Mining Company. Late in 1985 Golden Eye gave Teck Corporation an option.

From 1995 to 1998 Redhawk Resources Inc. consolidated the Redbird and other properties under the Remac project name and

CAPSULE GEOLOGY

acquired additional claims as well. In 1998, two holes were drilled on the Caviar No. 5 claim south of the Redbird showing, and the Beer Bottle showing just west of the Redbird showing was re-trenched. This showing was sampled giving a footwall section grading 21.93 per cent zinc, 3.11 per cent lead, and 25.37 grams per tonne silver over 6.5 metres. The overlying hangingwall section yielded 5.27 per cent zinc, 1.82 per cent lead and 3.4 grams per tonne silver over 6.3 metres (Redhawk Resources Inc. 1999 Second Quarter Report).

Redhawk optioned the adjacent Reeves MacDonald Mine property (082FSW026) in April 2000 and plans to explore it and the Redbird property with joint ventures partner ZincOx Resources under the Remac project name. Historic properties included under this project include: Reeves MacDonald (082FSW026), Point (082FSW027), O'Donnell (082FSW029), and Annex (082FSW219).

The extensive, overlying zinc-oxide capping was not mined due to the lack of extraction technology at that time. The zinc oxide deposits occur over a distance of 3 kilometres, extend from the surface to a depth of up to 450 metres and contain zinc grades comparable to those of the primary sulphides. In 2000, Redhawk conducted a trenching and 2600-metre reverse-circulation drilling program to confirm the structural continuity and overall zinc grades of the oxidized zones. Highlights of the program included: Hole R-2000-02 (zone B) which assayed 15.43 per cent zinc and 1.55 per cent lead over 5.3 metres, and Hole R-2000-09 (zone C) which assayed 8.68 per cent zinc and 4.27 per cent lead over 12.2 metres. Follow-up drilling is planned for 2001. Metallurgical testing to demonstrate that zinc metal can be economically extracted from the oxides using new recovery technology is planned for 2001.

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GSC OF 1195
GCNL #111,#215, 1985; #121(June 24), 1998; #147(Aug.1), #182(Sept.22), #207(Oct.30), #228(Nov.29), 2000
INT PROS & DEV Dec., 1985
N MINER Nov.18, 1985; Jan.27, Feb., Nov.17, 1986; Aug.28, Oct.16, Nov.20, 2000
PR REL Redhawk Res. Inc. (Aug.19, Nov.17, 1997; Jan.21, Mar.4, May5, Jun.15, Aug.24, Nov.27, 1998; Jan.8, Apr.28, May18, Jul.9, Aug.13, Nov.11, Dec.9, 1999; Feb.17, Apr.12, 2000)
WWW <http://www.redhawkresources.com>
Placer Dome File

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CAPSULE GEOLOGY

or upslope from the No. 3 to the No. 1 adit, contains a section of Lower Cambrian Laib Formation black phyllites and siliceous grey argillites in fault contact with micaceous quartzites of the Lower and Upper Nevada members of the Lower Cambrian Quartzite Range Formation, which in turn are in conformable contact with a thick section of Lower Cambrian, Reno Formation micaceous quartzites. Reno Formation quartzites act as structural hanging wall and footwall to Reeves Member limestone (Laib Formation) which is host to the sulphide occurrence. To the north a second, thinner unit of Reeves limestone, in conformable contact with black phyllites of the upper Laib Formation, acts as the structural footwall to the more north unit of Reno Formation quartzites.

The main sulphide showing is on the sheared footwall contact of the Reeves limestone with Reno Formation micaceous quartzites. Smaller sulphide showings occur to the north within quartzite, limestone, and argillites. The main showing consists of two bands or lenses of coarsely crystalline galena, high iron sphalerite and pyrite with manganiferous siderite and locally arsenopyrite. The sulphides are shear controlled and partly replace the hangingwall limestone. Including sheared country rock the zone has a maximum thickness of 3 metres and thins along strike in both directions. The sulphides are relatively thick within a central, 15-metre long zone and then thin and disappear over a further 6 metres. The sulphides apparently disappear within 60 metres down dip.

The mineralization differs from the Reeves-MacDonald (082FSW026) type ore and is apparently more similar to that found at the Emerald mine (082FSW310). The deposit is primarily lead-zinc with variable amounts of pyrite but the sulphide proportions vary greatly at different locations. In contrast to other Reeves limestone deposits, the Red Rock occurrence has no dolomite associated with the sulphides. There is little oxidation of the sulphide ores. From sporadic production in 7 years between 1935 and 1979, a total 525 tonnes of ore were mined yielding 154,738 grams of silver, 155 grams of gold, 16 kilograms of copper, 85,059 kilograms of lead and 94,987 kilograms of zinc. The high proportion of silver indicates a high temperature epigenetic manto-type replacement deposit.

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GSC OF 1195
GSC P 50-19
GCNL #129,#131, 1982

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FIELD CHECK: N
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CAPSULE GEOLOGY

drilling during this period totalled about 3048 metres. Five promising ore zones were indicated.

Reeves MacDonald Mines, Limited, was incorporated in 1928 with Pend D'Oreille Mines & Metals Company, of Spokane, holding a controlling interest; the Victoria Syndicate retained a small interest in the new company. During 1929 the 1900 level was driven to intersect the Reeves orebody. Operations were suspended in 1930. The Drumlumin (Lot 12076), International Lead No. I (Lot 12692) and a number of other claims were Crown-granted to the company in 1931. Further crosscutting, and diamond drilling, was done in the 1,900 level during 1937-38. Work resumed in 1947 with a view to bringing the mine into production. A 450 tonne-per-day concentrator was installed and put into operation in August 1949; concentrator capacity was increased to 900 tons-per-day in 1950. With the exception of a two year closure (1953-1955) due to a decline in metal prices, operations were continuous until July 1971 when the ore reserves were depleted and the mine closed. The mine was developed from the 2438-metre long 1,900 level main haulage, and on the upper 2,650 level. The two levels are connected by an internal 55 degree shaft. Two internal inclined shafts extend from the 1,900 to the 1,100 level. Development work was carried to the 17-metre level, 562 metres below the 1,900 level. The B.L. and O'Donnell orebodies were developed from separate openings established at the 2,350 level.

Subsequent mining operations were carried out on the Annex part of the property (see 82 F/3, Zn 4).

Some salvage mining was done during the years 1972-1974, inclusive. Lateral development work and raising in 1974 totalled 252 metres. The mine and mill closed in April 1975.

The Reeves MacDonald zinc-lead-silver-cadmium mine is a Kootenay Arc-type sedimentary exhalative deposit hosted by a dolomitized envelope of Reeves Member limestone of the Lower Cambrian Laib Formation. Production from the various Reeves MacDonald orebodies for the period 1949 to 1971 inclusive, totalled 5,848,021 tonnes. From this ore 19,842 kilograms of silver, 203,616,006 kilograms of zinc, 57,692,784 kilograms of lead, 1,215,665 kilograms of cadmium and 27,584 kilograms of copper were recovered.

The Reeves, B.L., O'Donnell (082FSW028) and No. 4 and/or Prospect (082FSW029) orebodies are all faulted segments of a single ore zone located on the axis of the Reeves syncline which is developed as a secondary fold on the south limb of the Salmo River anticline. The Point (082FSW027), Prospect (082FSW029), and MacDonald are separate deposits although the Red Bird (082FSW024), Annex (082FSW219), and MacDonald are probably related by the same style of faulting as the above orebodies. The orebodies are fairly continuous downplunge but are segmented by a series of north striking normal faults which dip shallowly 25 to 40 degrees east and which downfault portions of the sulphide zone to the east.

The Reeves syncline plunges about 55 degrees southwest on a bearing of 215 degrees. It contains a core of Reeves limestone with massive sulphides within an envelope of dolomite along the synclinal axis. Truman Member (Laib Formation) green and brown phyllites, with minor limestone form the hangingwall and footwall limbs of the syncline and to the south the Truman Member is in fault contact with black and green phyllites of the Emerald Member (Laib Formation). On the north limb, the footwall side, phyllites of the Truman Member are in conformable contact with white quartzites of the Lower Cambrian Reno Formation.

The Reeves Member near the Reeves MacDonald mine is repeated three times by folding. It is found on both limbs of the Salmo River anticline and south of the anticline in what is known locally as the "Prospect Member". The Reeves Member is mainly limestone and locally contains dolomite. Small lenses of dolomite occur close to the Point, Reeves, B.L. and O'Donnell orebodies, and extensive masses are found in the Prospect Member.

The Reeves limestone is a grey weathering, grey or black and white banded rock. It is finely crystalline and locally massive. Dark grey bands are carbonaceous and may contain very fine muscovite. Although coarsely crystalline calcite and dolomite are usually present as crosscutting veinlets, the dolomitized zones are finer grained than the limestones and are of two general types:

- 1) Dolomite close to sulphides is usually mottled or has a streaky banding identified as a "tweedy" texture. This dolomite commonly has a lineation which plunges steeply southwest.
- 2) Dolomite in the Prospect Member is generally massive and light grey. Locally, it may be darker grey and poorly banded. Near the Pend d'Oreille River and locally near the Prospect adits, it is black and highly siliceous.

CAPSULE GEOLOGY

The Reeves ore zone is in the form of an attenuated syncline with limbs striking west and a plunge parallel to the axis of the Reeves syncline. Along the axial plane the orebody is about 105 metres long by 25 metres wide. The north limb extends about 150 metres to the west and is 0.3 to 0.6 metre thick although it thins to the west. The south, hangingwall limb contains only low grade discontinuous sulphides.

Sulphides occur as well-laminated bands and lenses of massive and disseminated pyrite, honey-colored sphalerite and galena in a medium to dark grey banded dolomite. Laminations are generally discontinuous and locally highly contorted. Commonly, the ore is brecciated, particularly on the synclinal limbs and the breccias contain rounded to angular, rotated fragments of dolomite and limestone in a sulphide matrix. Breccias are usually rich in pyrite. The ore is cut by narrow veinlets of coarsely crystalline white calcite, dolomite, and quartz with minor sphalerite and galena.

The Reeves-type sulphide ores contain an average of 1 per cent lead and 3 to 6 per cent zinc with a relatively consistent lead:zinc ratio of 1:5. Concentrations of other metals vary locally but silver is usually present in amounts of less than 34 grams per tonne. Copper may occur at up to 0.5 per cent locally and cadmium is present in the order of less than 1 gram per tonne based on production records from 1949 to 1971. Minor gallium and germanium has been reported from grab samples but average values and distribution is unknown.

The small amount of production from salvage mining (1972-1974) is recorded with the statistics of the Annex deposit (082FSW219). The Reeves MacDonald mine and mill were closed in April 1975.

The MacDonald ore zone is completely weathered limonitic clay containing secondary lead and zinc minerals. The portal of the MacDonald adit, located about 330 metres upstream from the Point zone, was caved about 1954. The 1900 level portal of the Reeves mine occurs about 120 metres east of the MacDonald adit and is considered to have been driven through part of the MacDonald zone.

In April 2000, Redhawk Resources Ltd. announced an option agreement with Reeves MacDonald Mines Limited on the Reeves MacDonald property. Redhawk along with joint venture partner ZincOx Resources will explore the Reeves MacDonald, Redbird (082FSW024) and Annex (082FSW219) properties under the Remac project name. See Redbird for further details.

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EMR MRD MC FILE 167, Feb.21, 1976
GSC BULL 29, p. 12
GSC MAP 49-22; 283A; 299A; 1090A; 1091A; *1145A; 1956-3
GSC MEM *172, p. 57; 308, pp. 111,184,192
GSC OF 1195
CIM 1957, Vol. 2, pp. 110-116; 1961, Vol. 54, #586, pp. 143-147;
1982, April, pp. 114-134
GCNL #242, 1975; #59, 1976; #59, 1977; #62,#169, 1978

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1069
REPORT: RGEN0100

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PR REL Redhawk Resources (Nov.11,Dec.9, 1999; Feb.17, Apr.12, May24,
2000)
WWW <http://www.redhawkresources.com>; <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/05

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW027**

NATIONAL MINERAL INVENTORY: 082F3 Zn3

NAME(S): **POINT**, REMAC, REEVES MACDONALD,
POINT Z, KOOTENAY (L.14439)

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 01 18 N
LONGITUDE: 117 22 30 W
ELEVATION: 518 Metres

NORTHING: 5429932
EASTING: 472583

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the bank of the Pend D'Oreille River (Bulletin 41, Figure 17).

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena
ASSOCIATED: Dolomite
ALTERATION: Limonite Dolomite
ALTERATION TYPE: Oxidation Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Breccia Disseminated Massive
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag
SHAPE: Cylindrical
MODIFIER: Folded Faulted

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Dolomite
Limestone
Dolomitic Breccia
Argillite
Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Point deposit, on the south limb of the Salmo River anticline, is located on the north side of the Pend d'Oreille River, about 450 metres west of the 1900 level portal of the Reeves MacDonald mine (082FSW026). The Reeves MacDonald mine and associated occurrences are Kootenay Arc-type sedimentary exhalative deposits.

The zinc-lead mineralization occurs within irregular, tabular or pod shaped envelopes of dolomitized limestone of the Lower Cambrian Reeves Member, Laib Formation. These limestones occur in a package of sediments with a general east-west trend but within a complex synclinal structure containing southwest plunging "Z" shaped drag folds and lineations.

The Reeves limestone is a grey weathering, grey or black and white banded rock. It is finely crystalline and locally massive. Dark grey bands are carbonaceous and may contain very fine muscovite. Dolomitized zones are finer-grained than the limestones although coarsely crystalline calcite and dolomite is usually present as crosscutting veinlets. There are two basic textural types:

- 1) Dolomite close to sulphides is usually mottled or has a streaky banding identified as a "tweedy" texture. This dolomite commonly has a lineation which plunges steeply southwest.
- 2) Dolomite in the "Prospect Member" is generally massive and light grey. Locally, it may be darker grey and poorly banded. Near the Pend d'Oreille River and locally near the Prospect adits, it is black and highly siliceous. See Reeves MacDonald (082FSW026) for an explanation of the "Prospect Member" and other related geological information.

Mineralization consists of bands and lenses of massive and disseminated pyrite, honey-colored sphalerite, and galena. The Point

CAPSULE GEOLOGY

ore zone consists of two sulphide horizons, each about 6 metres thick and separated by about 18 metres of barren dolomite. Disseminated, fine-grained yellow sphalerite and occasional grains of galena occur in a matrix of brecciated dolomite. Irregular, tabular masses of limonitic gossan probably represent original bodies of pyrite.

By 1960, no development had taken place on the Point zone and there is no mention of this zone after this period.

Refer to the Reeves MacDonald mine (082FSW026) for further details.

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DATE CODED: 1985/07/24
DATE REVISED: 1991/03/06

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW028**

NATIONAL MINERAL INVENTORY: 082F3 Zn3

NAME(S): **O'DONNELL**, REMAC REEVES MACDONALD,
RIVERSIDE (LOTS 14039, 14049)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:
LATITUDE: 49 01 48 N
LONGITUDE: 117 20 41 W
ELEVATION: 720 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located about 800 metres northeast of the Reeves MacDonald mine (082FSW026) glory hole (Bulletin 41, Figure 17).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5430848
EASTING: 474801

COMMODITIES: Zinc Lead Silver Cadmium Copper
 Gallium Germanium

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena
ASSOCIATED: Dolomite
ALTERATION: Limonite Dolomite
ALTERATION TYPE: Oxidation Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated Massive
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag
SHAPE: Cylindrical
MODIFIER: Folded Faulted
DIMENSION: STRIKE/DIP: TREND/PLUNGE: 215/55
COMMENTS: Attitude of Reeves syncline.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Dolomite
Limestone
Phyllite
Argillite
Dolomite Breccia
Lamprophyre Dike

HOSTROCK COMMENTS: The orebodies occur in the Reeves Member of the Laib Formation.
The Reeves Member is correlative with the Badshot Formation.

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

The O'Donnell orebody is a Kootenay Arc type sedimentary exhalative deposit situated within a dolomitized envelope of the Reeves Member limestone of the Lower Cambrian Laib Formation. The O'Donnell orebody, along with the Reeves, B.L. and No. 4 ore bodies which together make up the Reeves MacDonald mine (082FSW026), are all fault displaced segments of a single ore zone located on the axis of the Reeves syncline. The Reeves syncline is developed as a secondary fold on the south limb of the Salmo River anticline. Refer to the Reeves MacDonald for a summary of area geology and for production statistics which include O'Donnell ore.

The O'Donnell orebody, exposed in the O'Donnell adit, is enveloped by dolomite and seems to have a shape and plunge comparable to the Reeves orebody although the barren limestone between the dolomite halo and the Truman Member (Laib Formation) phyllites is thinner than it is to the west. The Reeves orebody is in the form of an attenuated syncline with limbs striking west and plunging parallel to the axis of the Reeves syncline.

Sulphides in the Reeves MacDonald orebodies occur as well laminated bands, lenses, and as disseminated pyrite, honey-colored sphalerite, and galena in a medium to dark grey banded dolomite. Laminations are generally discontinuous and locally highly contorted. Commonly the ore is brecciated, particularly on the synclinal limbs

CAPSULE GEOLOGY

and the breccias contain rounded to angular, rotated fragments of dolomite and limestone in a sulphide matrix. Breccias are usually rich in pyrite. Copper locally, may be about 0.5 per cent and cadmium is in the order of less than 1 gram per tonne, based on production records from 1949 to 1971. Minor gallium and germanium have been reported from grab samples. The ore is cut by narrow veinlets of coarsely crystalline, white calcite, dolomite and quartz with minor sphalerite and galena.

In April 2000, Redhawk Resources Ltd. announced an option agreement with Reeves MacDonald Mines Limited on the Reeves MacDonald property which includes the O'Donnell. Redhawk along with joint venture partner, ZincOx Resources will explore the Reeve MacDonald, Red Bird (082FSW024) and Annex (082FSW219) properties under the Remac project name. See Redbird (082FSW024) for further details.

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N MINER Aug.28, 2000

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/05

CODED BY: GSB
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FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

mineralization with limited extent. By 1960, the zone has been tested by two short adits which expose very irregular and sparse mineralization containing spot highs of 10 per cent lead and 9 per cent zinc over widths of about 60 centimetres (Geological Survey of Canada Memoir 172, page 61). Surface trenching has exposed oxidized zones greater than 4 metres wide (Bulletin 41, page 146). It is not clear whether or not the Prospect deposit was developed further and contributed to the production of the Reeves MacDonald mine.

In April 2000, Redhawk Resources Ltd. announced an option agreement with Reeves MacDonald Mines Limited on the Reeves MacDonald property which includes the Prospect. Redhawk, along with a joint venture partner, ZincOx Resources will explore the Reeves MacDonald, Redbird (082FSW024) and Annex (082FSW219) properties under the Remac project name. See the Redbird occurrence for further details.

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1954-129; 1955-A48,53; 1956-A50,85; 1957-A46,46; 1958-A45,40;
1959-A48,63; 1960-A54,71; 1962-A49,76; 1963-A49,71; 1964-A55,
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REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

possibly sheared and silicified, and contain sparsely disseminated sulphides. The best assays from grab samples contain up to 1.4 grams per tonne gold, up to 70 grams per tonne silver, 1 to 4 per cent zinc and 3 to 7 per cent lead (Assessment Report 14903). Chip samples across vein widths on a regular spacing may be significantly lower in metal content.

From the Florence property, in 1937, 6 tonnes of ore were shipped yielding 2,343 grams of silver, 46 kilograms of lead and 83 kilograms of zinc; it is unclear if the property is related to the Salmo-Consolidated.

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W MINER Feb., 1979, p. 14

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/17

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW031**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHENANGO**, RAINBOW

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 02 00 N
LONGITUDE: 117 18 36 W
ELEVATION: 900 Metres

NORTHING: 5431208
EASTING: 477341

LOCATION ACCURACY: Within 500M

COMMENTS: Located just west of where Creggan Creek enters the Salmo River.

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stratabound Disseminated
CLASSIFICATION: Replacement Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au E14 Sedimentary exhalative Zn-Pb-Ag
SHAPE: Irregular
MODIFIER: Fractured

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian Undefined Group Laib

LITHOLOGY: Limestone
Dolomite
Quartz Vein
Graphitic Argillite

HOSTROCK COMMENTS: The limestone is of the Reeves Member. This member is the equivalent of the Badshot Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1959

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	44.5600	Grams per tonne
Lead	1.0600	Per cent
Zinc	2.5000	Per cent

COMMENTS: The sample width is 76 centimetres.

REFERENCE: Bulletin 41, page 149.

CAPSULE GEOLOGY

Lower Cambrian Laib Formation limestones (Reeves Member) and micaceous quartzites are exposed with what are likely Active Formation black, graphitic argillites on the north and south side of the Salmo River at Shenango Canyon. The geology described is similar to that in the vicinity of the Lone Silver (082FSW019) occurrence to the east; the Shenango occurrence is along the west strike extension of the Black Bluff fault. Highly sheared, graphitic argillite is exposed in an adit south of the Salmo River.

Mineralization is of two types:

- (1) A sulphide bearing quartz vein, averages 15 centimetres in width, strikes northeast and dips shallowly to the southeast. The vein contains a white quartz gangue with small lenses of galena, sphalerite, and pyrite. A sample across 76 centimetres contained 44.56 grams per tonne silver, 1.06 per cent lead, and 2.5 per cent zinc (Bulletin 41, page 149).
- (2) A zone 3 to 5 metres wide of Reeves Member limestone contains disseminated pyrite with minor galena and sphalerite. The zone is restricted to the south side of the northerly band of limestone and the sulphides are traceable along 125 metres of

CAPSULE GEOLOGY

strike length. Analysis indicates less than 1 per cent combined lead and zinc and less than 30 grams per tonne silver within the disseminated zone (Bulletin 41, page 149).

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GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/01

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW032**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER BELL**, MCCOLMANS, S.B.

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 11 28 N
LONGITUDE: 117 08 33 W
ELEVATION: 1952 Metres

NORTHING: 5448711
EASTING: 489617

LOCATION ACCURACY: Within 500M

COMMENTS: Located on Reno Mountain, east of Salmo (Bulletin 41).

COMMODITIES: Zinc Barite

MINERALS

SIGNIFICANT: Sphalerite Pyrite Barite

ASSOCIATED: Calcite

ALTERATION: Garnet Actinolite Calcite

COMMENTS: Other "lime silicates" are present but not identified.

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Breccia
CLASSIFICATION: Replacement Skarn Industrial Min.
TYPE: K02 Pb-Zn skarn 110 Vein barite

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Ordovician	Undefined Group	Active	
Jurassic			Hidden Creek Stock

LITHOLOGY: Limestone
Skarn
Granodiorite
Breccia

HOSTROCK COMMENTS: The Hidden Creek Stock is part of the Middle to Late Jurassic Nelson Intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Kootenay

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains

Plutonic Rocks

RELATIONSHIP: Syn-mineralization

GRADE: Amphibolite

CAPSULE GEOLOGY

The Silver Bell occurrence lies at about 1952 metres elevation along a northwest trending ridge formed along the contact of Lower to Middle Ordovician Active Formation limestones and the Hidden Creek granodiorite stock of the Middle to Late Jurassic Nelson Intrusions. Along the contact, grey crystalline limestone is locally altered to coarse calcite and actinolite and in places to garnet, actinolite and other lime silicates typical of skarn zones. The limestones have a general northeast trend with steep dips while the intrusive contact appears to dip east.

Mineralization consists of minor pyrite and barite within altered limestones about 1 metre from the granodiorite contact. In addition three zones of brecciated limestone, 1.2, 0.76, and 2.7 metres wide respectively, contain small pockets of dark brown sphalerite.

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EMPR BULL 31; *41, p. 150; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43
EMPR OF 1988-1; 1989-11
GSC MAP 50-19A; 299A; 1090A; 1145A
GSC MEM *172, p. 68,69; 308
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/18

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW033**

NATIONAL MINERAL INVENTORY:

NAME(S): **TRUMAN, MONA, TRILLIUM,
TRUMAN HILL**

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 19 N
LONGITUDE: 117 14 24 W
ELEVATION: 885 Metres

NORTHING: 5435481
EASTING: 482471

LOCATION ACCURACY: Within 500M
COMMENTS: Location of Mona Adit.

COMMODITIES: Lead Zinc Silver

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Sphalerite Galena
ASSOCIATED: Dolomite
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Disseminated Massive
CLASSIFICATION: Replacement Epigenetic
TYPE: J01 Polymetallic manto Ag-Pb-Zn
SHAPE: Regular
MODIFIER: Folded
COMMENTS: The deposit appears to be a manto-type carbonate-hosted deposit.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian Undefined Group Laib

LITHOLOGY: Dolomite
Limestone
Argillite
Quartzite
Phyllite

HOSTROCK COMMENTS: Mineralization occurs in the Reeves Member of the Laib Formation.
The Reeves Member is correlative with the Badshot Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1959
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 137.2000 Grams per tonne
Lead 7.4100 Per cent
Zinc 17.1000 Per cent

COMMENTS: The sample width is 0.20 metres.
REFERENCE: Bulletin 41, page 152.

CAPSULE GEOLOGY

A large anticlinal structure is exposed within Lower Cambrian Laib Formation and Lower Cambrian Reno Formation stratigraphy along the west flank of Truman Hill. The Reeves Member limestones (Laib Formation) are exposed on the east limb, near the Mona adit and also on the west limb near the base of the hill near the Trillium adit. To the east, the anticlinal stratigraphy is in fault contact with argillites of the Ordovician Active Formation. Reeves limestones are underlain by phyllites, argillites and quartzites of the Truman Member (Laib Formation) and the core of the anticline contains micaceous quartzites of the Reno Formation overlying white and brown, more massive quartzites of the Nevada Member of the Lower Cambrian Quartzite Range Formation.

Mineralization appears confined to dolomitized limestone at the base of the Reeves Formation. It consists of pyrite, pyrrhotite,

CAPSULE GEOLOGY

sphalerite, and galena both disseminated and in masses within 60 to 100 centimetre thick dolomite bands interlayered with barren limestone. In the Trillium adit the sulphides are coarser-grained, and more massive than at the Mona and occur associated with the sheared contact between whitish dolomite of the Reeves Formation and siliceous argillite of the Truman Member. The sulphides appear to be more closely related to the argillites at this location.

A 20 centimetre chip sample across the best mineralization assayed 137.2 grams per tonne silver, 7.41 per cent lead and 17.1 per cent zinc (Bulletin 41, page 152). The deposit description, along with the high amount of silver, indicates a manto-type deposit.

Sultan Minerals Inc. is exploring the area.

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EMPR ASS RPT 8130, 9063, *12152
EMPR BULL *41, p. 150; 109
EMPR EXPL 1980-52,53
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
GSC MAP 299A; 1090A; *1145A
GSC MEM 172, p. 67
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/26

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW034**

NATIONAL MINERAL INVENTORY:

NAME(S): **TUNGSTEN KING 1**, TUNGSTEN, CLUBINE

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 04 N
LONGITUDE: 117 14 04 W
ELEVATION: 915 Metres

NORTHING: 5436870
EASTING: 482881

LOCATION ACCURACY: Within 500M

COMMENTS: Located north of Lost Creek and east of Salmo River.

COMMODITIES: Zinc Lead Silver

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena
COMMENTS: Galena is assumed to be present because of the presence of lead in the assay.

ASSOCIATED: Dolomite Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

SHAPE: Regular

MODIFIER: Folded Faulted

DIMENSION: 3 Metres

COMMENTS: The total width of the mineralized zone.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	

LITHOLOGY: Limestone
Dolomite
Argillite

HOSTROCK COMMENTS: Mineralization occurs in the Reeves Member (Laib Formation) which is the equivalent of the Badshot Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1959

COMMODITY	GRADE	
Silver	6.8600	Grams per tonne
Lead	0.2700	Per cent
Zinc	8.4000	Per cent

COMMENTS: The sample width is 0.68 metres.
REFERENCE: Bulletin 41, page 153.

CAPSULE GEOLOGY

Disseminated pyrite and dark brown sphalerite occur within dolomite zones parallel to the banding of the Lower Cambrian Reeves Member (Laib Formation) limestones. The 30 to 90 centimetre wide mineralized horizons are separated by barren dolomites. Total width of the mineralized zone including barren dolomites is about 2 to 3 metres and the zone is underlain by unaltered limestones and argillites. The best assay was across 68 centimetres which contained 6.86 grams per tonne silver, 0.27 per cent lead and 8.4 per cent zinc (Bulletin 41, page 153). Other analysis indicated lower metal contents over similar widths.

Regionally, the attitudes of banding and the distribution of dolomite indicates that it and the showing occur in an open, south plunging syncline, with complex internal folding and faulting of the Lower Cambrian Laib Formation. To the east the Laib Formation is in fault contact with quartzites of the Reno Formation.

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RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 1084
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR AR 1942-81; 1943-80; 1950-128; 1953-119; 1955-53; 1958-39;
1959-63; 1960-70; 1967-246
EMPR ASS RPT 9063, 9893, 24910
EMPR BULL 10, p. 149; *41, p. 152; 109
EMPR EXPL 1980-52,53
EMPR OF 2000-22
GSC MAP 299A; 1090A; *1145A
GSC MEM 308
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/25

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW035**

NATIONAL MINERAL INVENTORY:

NAME(S): **DONNYBROOK (L.12685)**, RENO - DONNYBROOK, LAKE,
CLARENCE, NO. 3, MIDDLE,
CRESCENT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 11 15 N
LONGITUDE: 117 07 44 W
ELEVATION: 2013 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located north of Sheep Creek, near Salmo.
Production included with Reno (082FSW036).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5448308
EASTING: 490608

COMMODITIES: Gold Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
DIMENSION: 1 Metres
COMMENTS: Donnybrook vein.

105 Polymetallic veins Ag-Pb-Zn±Au
STRIKE/DIP: 080/80S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Reno	
Lower Cambrian	Undefined Group	Laib	

LITHOLOGY: Quartzite
Quartz Vein
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Reno-Donnybrook property is on the west limb of the western anticline in quartzites of the Lower Cambrian Reno Formation (correlative with rocks of the Hamill Group). The quartzites are in contact immediately to the west with argillites and calcareous argillites of the Lower Cambrian Laib Formation.

A series of quartz veins, containing visible gold, occur in Reno Formation quartzites, strike 012 degrees and dip vertically to steeply south. Gangue is quartz with occasional quartzite. Metallic sulphides are almost completely absent although visible gold occurs most frequently in areas of quartz stained with limonite.

On the Reno-Donnybrook property, seven parallel quartz veins called the Lake, Clarence, Donnybrook, No. 3 (Middle), No. 1 (or Reno Vein), No. 2, and Crescent have been identified north to south. South of the Crescent, quartz float indicates the possible presence of other veins. Most work has been concentrated on the No. 1, or Reno Vein, but the Donnybrook Vein, 518 metres north, is a well-defined 1 metre wide vein striking 080 degrees and dipping 80 degrees south. It is less oxidized than the Reno and gold values are lower. The Clarence and Lake veins to the north are similar to the Donnybrook Vein.

Refer to the Reno property (082FSW036) for a summary of the Sheep Creek mining camp.

BIBLIOGRAPHY

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EMPR BULL *31, p. 23; 41; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;

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BIBLIOGRAPHY

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EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
GSC MAP *299A; 1090A; *1145A
GSC MEM *172, p. 25; 308
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/10

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

silver, 2,858 kilograms of copper, 89,056 kilograms of lead and 60,907 tonnes of zinc. Some of this production has come from other nearby workings such as the Donnybrook (082FSW035) and the Bluestone (082FSW037).

The Sheep Creek mining camp consists of auriferous sulphide mineralization within a regional system of quartz veins controlled by faults. The camp hosts four distinct fault/fracture systems. All productive veins are associated with faults trending northeast and dipping southeast. The veins are particularly productive where they cross the axis of the two regional, northerly trending anticlines which dominate the geology of the camp. In addition there are a few northwest trending strike slip faults, north trending normal faults and flat faults, on which the hanging wall has been thrust westwards.

Ore occurs in shoots and is almost without exception confined to parts of fault zones in which one or both walls are quartzite. Other parts of the veins are either too narrow or low grade to be economic. The ore shoots are found at the intersection of northeast faults with quartzite stratigraphy, particularly the Upper Nugget and Upper Nevada Members of the Lower Cambrian Quartzite Range Formation (correlative with rocks of the Hamill Group). The underlying Motherlode quartzite is, without obvious reason, almost completely barren of economic gold mineralization. The veins contain a quartz gangue containing pyrite with lesser amounts of pyrrhotite, chalcopyrite, galena, and sphalerite. Visible gold is rare. Precious metal grades are exceedingly variable and zones of high grade appear to be distributed randomly. Such zones or ore shoots are rarely greater than a few tens of metres in size.

Throughout the camp, economic mineralization is found within a vertical range of less than 500 metres in any given vein and from north to south in the camp this vertical range occurs at progressively lower elevations. At the north end of the camp, near Reno Mountain, the economic zone lies at about 1675 to 2150 metres elevation and at the south end near Mount Waldie the zone is entirely below 915 metres above sea level. The veins may occur above the economic zone but are generally too narrow and below the zone the veins usually persist but are commonly wider and of lower grade. Higher grades of greater than 150 grams per tonne are generally restricted to the top of the zone.

BIBLIOGRAPHY

- EMPR AR 1909-121; 1910-102; 1911-160; 1913-130; 1914-328; 1915-136, 160; 1918-173; 1919-135; 1920-134,149; 1921-142; 1922-205,355; *1923-219; 1924-191,368; 1925-248,449; *1927-309; *1928-344; 1929-285,352; 1930-230,274; 1931-138,153; *1932-160,190; *1933-200,228; 1934-A27,29,E15; 1935-A7,A27,E15,E30,G45, G50; 1936-E47,G48; 1937-A39,41,E47; 1938-A36,A39,E3,E39; 1939-39,83; 1940-26,68; 1941-26,67; 1942-27,64; 1946-35,146; 1947-163; 1950-124; 1956-80; 1957-44
- EMPR BULL 1, p. 89; 10, p. 93,133; 20; *31, pp. 21,23,35,42,51,54; 41; 109
- EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
- EMPR GEM 1971-400; 1972-48; 1973-58
- EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
- EMPR PF (Starr, C.C. (1937): Notes and Memoranda on the Geology of the Reno Mine, 7 p.; Starr, C.C. (1930): Report on the Geology of the Reno Mine, 11 p.; Longitudinal Section - Reno Mine, 1938; Reno Mine - Geology (underground), 1930; Reno Mine, Surface Geology, 1930; Longitudinal Projections, Stopes and Levels with Assays, Reno Gold Mines Ltd., Febuary 1931; Endersby, S.A. (1974): Letter to J.E. McMynn; 2 p.)
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- GSC OF 1195
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- GCNL #147, 1988
- N MINER Aug. 15, 1988; Jan. 9, 1989
- Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/08

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW037**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUESTONE (L.9054), PHOENIX, RENO,
GOLD BELT, RHOMBERG (13494)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 10 28 N
LONGITUDE: 117 07 29 W
ELEVATION: 1758 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5446856
EASTING: 490909

LOCATION ACCURACY: Within 500M

COMMENTS: The adits are located about 2.4 kilometres west of Sheep Creek (Bulletin 31, Figure 1). The production data is included with the Reno (082FSW036) and Gold Belt (082FSW044) mines.

COMMODITIES: Gold

Silver

MINERALS

SIGNIFICANT: Gold Pyrite Pyrrhotite Chalcopyrite Galena

Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated

CLASSIFICATION: Hydrothermal

TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Cambrian

Undefined Group

Reno

Lower Cambrian

Undefined Group

Quartzite Range

LITHOLOGY: Quartzite
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Bluestone vein is a northeast trending quartz vein along a fault plane and is similar to the parallel veins at the Reno mine (082FSW036). Quartz is the gangue with ore consisting of some visible gold with disseminated pyrite. A geological cross-section by Starr (1940) shows two adits driven at 060 degrees into the western limb of the western anticline. The upper and lower adits start in argillite of the Lower Cambrian Reno Formation (correlative with Hamill Group rocks) and after about 65 and 130 metres, respectively, they enter quartzite of the Nevada Member of the Lower Cambrian Quartzite Range Formation (correlative with rocks of the Hamill Group). The upper and lower adits remain in the Nevada Member for about 45 and 140 metres, respectively, whereupon they re-enter Reno Formation argillites on the anticline's eastern limb. It is within the quartzites of the Nevada Member that the ore veins occur.

The property has belonged to Reno Gold Mines and the Gold Belt Mining Co. at various times but little specific information is recorded regarding grades and production, which is included with those mines. The Bluestone vein was not as productive as other related veins in the area. The tonnage mined to December 31, 1951 was 3174 tonnes, from which 40435 grams of gold was recovered (Bulletin 31, page 52).

Refer to the Reno mine for a summary of the Sheep Creek mining camp.

BIBLIOGRAPHY

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EMPR ASS RPT 16728 (Part 6), 16828, 16849
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PAGE: 1090
REPORT: RGEN0100

BIBLIOGRAPHY

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GSC OF 1195
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/07

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW038**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAYOTE (L.8343)**, COYOTE, RENO GOLD

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 10 11 N
LONGITUDE: 117 07 31 W
ELEVATION: 1708 Metres
LOCATION ACCURACY: Within 500M
COMMENTS:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5446331
EASTING: 490868

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite Galena
COMMENTS: Economic minerals are not well described.
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Reno	
Lower Cambrian	Undefined Group	Laib	

LITHOLOGY: Quartz Vein
Quartzite
Argillite
Calcareous Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America Kootenay
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHOWING
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core
COMMODITY: Gold
GRADE: 2.7800 Grams per tonne
COMMENTS: From a 0.30 metre drill interval.
REFERENCE: Assessment Report 16833.

CAPSULE GEOLOGY

The Cayote mine consists of over 570 metres of underground workings which tested northeast trending quartz veins within Lower Cambrian Reno Formation quartzites and Lower Cambrian Laib Formation argillites and calcareous sediments. The Laib Formation is correlative with the Lardeau Group and the Reno Formation with the Hamill Group.

The adit exposes one of the five major north trending normal faults known in the Sheep Creek camp. Some gold and silver values are reported from the Cayote but production is included with the Reno mine (082FSW036). It is difficult to identify grades and tonnages originating from the Cayote adit although it is apparent that results of the development were economically unsatisfactory.

In 1987, Lightning Minerals Inc. drilled four holes on the occurrence. The highest assay result achieved was 2.78 grams per tonne gold over a 0.30 metre interval (Assessment Report 16833).

Refer to the Reno mine for a summary of the Sheep Creek mining camp.

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EMPR ASS RPT 16728 (Part 9), 16828, *16833
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RUN TIME: 16:27:53

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BIBLIOGRAPHY

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GSC MAP 50-19A; 299A; 1068; 1090A; *1145A
GSC MEM 172; 308
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/06

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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PAGE: 1094
REPORT: RGEN0100

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GSC MEM *172, pp. 37,69; 308
GSC OF 1195
GCNL #217, 1987
N MINER Jan. 26, Mar. 9, 1987
V STOCKWATCH Nov.10, 1987
WIN May 1987

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/10

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW040**

NATIONAL MINERAL INVENTORY:

NAME(S): **NUGGET (L.8341)**, CALHOUN, O'DONNELL,
FAWN

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 10 04 N
LONGITUDE: 117 07 06 W
ELEVATION: 1875 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located north of Sheep Creek, near Salmo.

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5446114
EASTING: 491374

COMMODITIES: Gold Silver Lead Zinc Silica
Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins
DIMENSION: 60 x 1 Metres STRIKE/DIP: 065/75S TREND/PLUNGE:
COMMENTS: Dimension of ore shoots. Attitude of the southerly vein.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Proterozoic-Cambrian Hamill Quartzite Range

LITHOLOGY: Quartzite
Argillite
Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Ancestral North America

INVENTORY

ORE ZONE: FAWN REPORT ON: Y
CATEGORY: Indicated YEAR: 1987
QUANTITY: 3882 Tonnes
COMMODITY GRADE
Gold 28.4000 Grams per tonne
COMMENTS: Present reserves; not including low-grade material or possible reserves in areas of difficult access. Average gold grade.
REFERENCE: George Cross News Letter No. 217 (November 12), 1987.

ORE ZONE: NUGGET REPORT ON: Y
CATEGORY: Indicated YEAR: 1987
QUANTITY: 30089 Tonnes
COMMODITY GRADE
Gold 16.1000 Grams per tonne
COMMENTS: Present reserves; not including low-grade material or possible reserves in areas of difficult access. Average gold grade.
REFERENCE: George Cross News Letter No. 217 (November 12), 1987.

ORE ZONE: CALHOUN REPORT ON: Y
CATEGORY: Indicated YEAR: 1987
QUANTITY: 15184 Tonnes
COMMODITY GRADE
Gold 15.4000 Grams per tonne
COMMENTS: Present reserves; not including low-grade material or possible reserves in areas of difficult access. Average gold grade.
REFERENCE: George Cross News Letter No. 217 (November 12), 1987.

CAPSULE GEOLOGY

The Nugget veins occur within white quartzites, argillic quartzites and argillites of the Hadrynian-Lower Cambrian Reno and Quartzite Range formations (Hamill Group). Gold-bearing ore shoots are within quartzites of the Upper and Middle Nugget Member and Nevada Member of the Quartzite Range Formation. The ore shoots may be up to about one metre wide and are in the order of 10 to 60 metres along strike. The main workings have intersected the same shoot along a vertical extension in the order of 100 metres. Although there are a number of documented parallel veins (7), most production came from two main veins, the Calhoun and the Nugget, which are about 30 metres apart (Bulletin 31).

The sediments strike from 010 to 015 degrees and dip 60 degrees east and the showing lies on the west limb of the eastern anticline. The more northerly of the two main veins strikes 60 degrees and the southerly vein strikes 065 to 070 degrees. In the upper levels the veins dip about 75 degrees south but steepen at depth, while for most veins in the Sheep Creek camp the dips are near vertical and shallow with depth. The quartz veins may be very narrow or up to about one metre wide and contain crushed country rock and commonly bifurcate. There is little evidence of fresh sulphides even in the lower workings as they have been oxidized to limonite in association with disseminated free gold. Gold grades in the Nugget veins were apparently some of the higher values found in the camp and production records indicate much of the material contained about 35 grams per tonne gold. Mineralization in the veins includes pyrite, pyrrhotite, chalcocopyrite, galena, sphalerite and native gold.

Production figures have been intertwined historically between the Nugget and Motherlode (082FSW041) and later the Reno (082FSW036) occurrence. Production values have been separated out among the three as best as possible but some error may still exist. About 37,000 tonnes of ore was produced from the Nugget and 768 kilograms of gold, 283 kilograms of silver, 3294 kilograms of lead and 1273 kilograms of zinc recovered. Most production took place between 1907 and 1954.

Indicated reserves on the Nugget property are 30,089 tonnes grading 16.1 grams per tonne gold; indicated reserves on the Calhoun zone are 15,184 tonnes grading 15.4 grams per tonne gold; indicated reserves on the Fawn zone are 3,882 tonnes grading 28.4 grams per tonne gold (George Cross News Letter No. 217 (November 12), 1987).

Refer to the Motherlode (082FSW041) for a summary of the Sheep Creek mining camp.

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GCNL Dec.11, 1986; *#217,#227, 1987; #147, 1988; #68(Apr.10), 1989
N MINER Jan.26, Mar.9, 1987; Aug.15, 1988; Jan.9, Apr.17, 1989
V STOCKWATCH Nov.10, 1987

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FIELD CHECK: N

CAPSULE GEOLOGY

economic gold mineralization. The veins contain a quartz gangue containing pyrite with lesser amounts of pyrrhotite, chalcopyrite, galena, and sphalerite. Visible gold is rare. Precious metal grades are exceedingly variable and zones of high grade appear to be distributed randomly. Such zones or ore shoots are rarely greater than a few tens of metres in size.

Throughout the camp economic mineralization is found within a vertical range of less than 500 metres in any given vein and from north to south in the camp this vertical range occurs at progressively lower elevations. At the north end of the camp near Reno Mountain the economic zone lies at about 1675 to 2150 metres elevation and at the south end near Mount Waldie the zone is entirely below 915 metres above sea level. Above the economic zone the veins may occur but are generally too narrow and below the zone the veins usually persist but are commonly wider and of lower grade. Higher grades of greater than 150 grams per tonne are generally restricted to the top of the zone.

The Motherlode occurrence is south of the Nugget (082FSW040) and occurs within coarse, white to grey quartzite with interbeds of argillite and schist of the Lower Cambrian Quartzite Range Formation. The most westerly workings are close to the contact with the lower part of the Lower Cambrian Reno Formation (correlative with rocks of the Hamill Group). Two gold bearing ore shoots, the Motherlode and Independence, were discovered on surface within the Motherlode vein which strikes 70 to 75 degrees and dips near vertically. The ore shoots rarely exceed 1 metre.

They are about 100 metres along strike and the Independence ore shoot has been tested to a depth of about 190 metres. The Motherlode ore shoot was tested to a depth of about 147 metres. The two shoots are 168 metres apart and there is one very small ore shoot between them.

Mineralization consists of a gangue of vein quartz with some crushed country rock which has been oxidized leaving brown iron oxides and free gold. Oxidation is documented at the lowest mining levels.

Production figures have been intertwined historically between the Motherlode and Nugget (082FSW040) and later the Reno (082FSW036) occurrence. These production values have been separated out among the three as best as possible but some error may still exist.

Production from these shoots between 1906 and 1985 amounted to about 67,444 tonnes which contained 1,257 kilograms of gold and 588 kilograms of silver, 3010 kilograms of copper, 11,000 kilograms of lead and 4260 kilograms of zinc. Of the total mined, about 64,760 tonnes was mined between 1906 and 1922. Indicated reserves are reported to total 3,152 tonnes grading 12.0 grams per tonne gold (George Cross News Letter No.217 (November 12), 1987).

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V STOCKWATCH Nov. 10, 1987

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CAPSULE GEOLOGY

vein is host to oxidized sulphides (limonite) and some free gold. The Golden Belle is about 260 metres south of the Motherlode (Bulletin 31, Figure 1).

Refer to the Motherlode (082FSW041) for a summary of the Sheep Creek mining camp.

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GCNL #217, 1987

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CAPSULE GEOLOGY

Fr., Sunbeam Fr., and Double Joint claims.

A theory put forth in 1934 that the favorable host rock lay on the crest of an anticline and should occur at depth led to North American Mines, Inc. acquiring an option on a share interest in Gold Belt Mining. At the instigation of North American, several holes were drilled down from the 600 level (altitude 1538 metres) in the late spring of 1935 to confirm the presence of the quartzites, and in the latter part of that year a long low-level crosscut (1,850 level) was driven at the 1158 metres elevation to explore these favourable beds. By July of the following year this crosscut had been driven 960 metres from the portal and several veins had been intersected. Drifts totalling 288 metres on the 2360 vein, 130 metres on the 2590 vein, and 122 metres on the 3040 vein revealed no orebodies; with few exceptions the assays indicated subcommercial grade. After almost 1524 metres of workings on the 1850 level had yielded no ore, the management was reluctant to expend more money on exploration, but one other vein zone exposed in the crosscut was tested. This vein zone had been intersected 457 metres from the adit portal in argillaceous schists, and it would be necessary to drift westward for several hundred metres before favourable wallrocks would be encountered. The sole encouragement for this work was the fact that a small amount of ore had been recovered from surface workings (the Columbia adits) in what appeared to be this vein zone. The distance from the crosscut to the quartzites proved even greater than had been anticipated amounting to slightly more than 259 metres, but a few metres beyond the eastern edge of the quartzites, on what is now known as the 8000 vein, the drift entered a low-grade oreshoot, and a few hundred metres farther west higher-grade ore averaging almost 1 metre in width was encountered. The results of development on this vein and on a parallel vein 61 metres to the north were so encouraging that another crosscut, the 2100, was driven from the 1098 metre elevation and 610 metres southwest of the 1850 level to explore these veins 76 metres lower. This crosscut intersected another vein, the 6600, which had been prospected in the early part of the century, and which had yielded a few tons of ore from the Nevada adit. The 8000 vein at the 2100 level contained three orebodies, but the work on the 8200 vein disclosed only subcommercial grades. A 150 ton per day cyanide mill was put into operation in October 1938. The development work from 1935 and mill construction were financed by North American under the option agreement, giving them a controlling interest in Gold Belt Mining. In 1941 work began to drive a raise from the 1400 level to connect with the old 600 level but was not completed before the suspension of development work in July 1942. The mine closed in July 1943 due to wartime conditions. Development work during the period 1939-42 totalled about 6096 metres of drifts, crosscuts and raises.

In the fall of 1945 about 305 metres of drifting and crosscutting was carried out on the 600 level. A raise from 1400 level was advanced 152 metres to the 600 level. Development work in 1946 included 500 metres of drifting, 459 metres of crosscutting, and 143 metres of raise. This work exposed an ore shoot 52 metres on 1100 level on 3500 vein between 1400 and 1100 levels. In 1947 about 3352 metres of drifting and crosscutting was done in exploring the 3040 and 3500 veins westward on the 1100, 1400, and 1600 levels. The mine closed at the end of March 1947. The mill equipment was sold in 1948 and the mill building demolished by a snowslide in 1949. Gold Belt Mining Company, Limited was dissolved in 1950 and all its assets transferred to the parent company North American Mines, Inc. Lessees shipped small amounts of ore in 1950. A. Burgess & Associates of Salmo mined a small amount of ore from 3500 vein east on No. 14 level in 1951. Lessee A. Endersby mined small remnants of ore during the period 1958-1967.

Goldbelt Mines Inc. was incorporated in July 1976 to acquire the property. By 1979 the company had paid the entire purchase price under the option agreement with North American Mines, Inc. Work to 1980 included rehabilitation of the workings, the installation of equipment, and raising on one of the veins. Probable and possible reserves in the 1067 metres vein were estimated in 1978 at 15,658 tonnes at 15.05 grams per tonne gold (Northern Miner, April 10, 1980). About 900 tonnes of ore were shipped to Trail in 1979 and by April 1990 about 3600 tonnes were stockpiled. In 1981, 3 new levels were being driven on the 3500 vein and a start was made in shipping 6350 tonnes grading 8.57 grams per tonne gold to the nearby HB mill of David Minerals Ltd. Exploration outlined 36,290 tonnes of proven ore grading better than 17.1 grams per tonne gold (Northern Miner, December 17, 1981). In April 1982, operations were suspended after 9070 tonnes were stockpiled.

The Sheep Creek mining camp consists of auriferous sulphide mineralization within a regional system of quartz veins controlled by

CAPSULE GEOLOGY

faults. The camp hosts four distinct fault/fracture systems. All productive veins are associated with faults trending northeast and dipping southeast. The veins are particularly productive where they cross the axis of the two regional, northerly trending anticlines which dominate the geology of the camp. In addition there are a few northwest trending strike-slip faults, north trending normal faults and flat faults, on which the hanging wall has been thrust westwards.

Ore occurs in shoots and is almost without exception confined to parts of fault zones in which one or both walls are quartzite. Other parts of the veins are either too narrow or low grade to be economic. The ore shoots are found at the intersection of northeast faults with quartzite stratigraphy, particularly the Upper Nugget and Upper Nevada Members of the Quartzite Range Formation and to a lesser extent the Reno Formation. Both of these formations are of Hadrynian-Lower Cambrian age and are part of the Hamill Group. The underlying Motherlode quartzite is, without obvious reason, almost completely barren of economic gold mineralization. The veins contain a quartz gangue containing pyrite with lesser amounts of pyrrhotite, chalcopyrite, galena, sphalerite and rare visible gold. Precious metal grades are exceedingly variable and zones of high grade appear to be distributed randomly. Such zones or ore shoots are rarely greater than a few tens of metres in size.

Throughout the camp, economic mineralization is found within a vertical range of less than 500 metres in any given vein and from north to south this vertical range occurs at progressively lower elevations. At the north end of the camp near Reno Mountain, the economic zone lies at about 1675 to 2150 metres elevation and at the south end near Mount Waldie, the zone is entirely below 915 metres above sea level. The veins may occur above the economic zone but are generally too narrow, and below the zone the veins usually persist but are commonly wider and of lower grade. Higher grades of greater than 150 grams per tonne are generally restricted to the top of the zone.

The Gold Belt occurrence consists of two main veins and several lesser parallel fractures. The major production was from the 8200 vein (Columbia) and the 8000 vein (Gold Belt) which lie within the western overturned anticline. The veins crosscut Lower and Upper Nevada Member quartzites of the Quartzite Range Formation and extend east and west into the Reno Formation and Lower Cambrian Laib Formation. Ore zones were almost entirely within Lower Nevada Member quartzites and to a lesser extent in the Upper Nevada Member. As the veins pass into the Reno Formation they become narrow and uneconomic. Mineralization consists of quartz and crushed country rock with disseminated pyrite, galena and sphalerite. Visible free gold was present in much of the ore. Oxidation was shallow or absent in these veins.

A total of 236,502 tonnes of ore were mined between 1934 and 1979, from which was recovered 2,512,906 grams of gold, 1,061,298 grams of silver, 681 kilograms of copper, 10,457 kilograms of lead and 6,605 kilograms of zinc. Some of the ore mined may have come from other nearby sources such as the Bluestone occurrence (082FSW037).

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MINFILE NUMBER: **082FSW045**

NATIONAL MINERAL INVENTORY: 082F3 Au4

NAME(S): **NAVADA (L.8869)**, NEVADA, DIXIE,
6600 VEIN, GOLD BELT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 09 02 N
LONGITUDE: 117 08 04 W
ELEVATION: 1280 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Part of the Gold Belt Property (082FSW044) in the Sheep Creek area near Salmo.

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5444201
EASTING: 490196

COMMODITIES: Gold Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Reno	

LITHOLOGY: Quartzite
Argillite

HOSTROCK COMMENTS: The Reno Formation is correlative with rocks of the Hamill Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHOWING
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Silver 13.7100 Grams per tonne
Gold 7.2000 Grams per tonne
COMMENTS: From a 25 centimetre chip sample.
REFERENCE: Geological Survey of Canada Memoir 172, page 33.

CAPSULE GEOLOGY

The Gold Belt property covers ground located west of the Motherlode (082FSW041) and Golden Belle (082FSW043) mines, between Sheep Creek on the south and the south slope of Reno Mountain on the north, some 11.2 kilometres southeast of Salmo. The principal claims include the Joint (Lot 8344) (082FSW259), Double Joint (Lot 8345), Navada (Lot 8869), and Columbia (Lot 8870) (082FSW044).

The Navada was staked in 1905 at about 1371 metres and Crown-granted in 1911 to H. Amas and A. Pool. A 51-metre adit was driven on the Navada claim.

The Navada vein is part of the old Gold Belt property (082FSW044). The vein is a northeast trending fissure typical of the Sheep Creek camp (refer to the Gold Belt property for details of the camp geology and exploration and development). It is near vertical and hosted by Lower Cambrian Reno Formation quartzites (correlative with the Hamill Group) along the western anticline.

The vein is very narrow and carries a quartz gangue with disseminated pyrite, arsenopyrite and some galena and sphalerite. One sample across 25 centimetres assayed 7.2 grams per tonne gold and 13.71 grams per tonne silver (Geological Survey of Canada Memoir 172, page 34). Access at lower levels was via the Dixie adit. The vein has

CAPSULE GEOLOGY

been designated the Nevada, Dixie or 6600 vein in various references.
Tonnage mined to the end of 1950 was 33,500 tonnes from which
11,725 ounces of gold was recovered (Bulletin 31, p. 52).

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CAPSULE GEOLOGY

mineralization within a regional system of quartz veins controlled by faults. The camp hosts four distinct fault/fracture systems. All productive veins are associated with faults trending northeast and dipping southeast. The veins are particularly productive where they cross the axis of the two regional, northerly trending anticlines which dominate the geology of the camp. In addition there are a few northwest trending strike slip faults, north trending normal faults and flat faults, on which the hanging wall has been thrust westwards.

Ore occurs in shoots and is almost without exception confined to parts of fault zones in which one or both walls are quartzite. Other parts of the veins are either too narrow or low grade to be economic. The ore shoots are found at the intersection of northeast faults with quartzite stratigraphy, particularly the Upper Nugget and Upper Nevada Members of the Lower Cambrian Quartzite Range Formation (correlative with rocks of the Hamill Group). The underlying Motherlode quartzite is, without obvious reason, almost completely barren of economic gold mineralization. The veins contain a quartz gangue containing pyrite with lesser amounts of pyrrhotite, chalcopyrite, galena, sphalerite and rare visible gold. Precious metal grades are exceedingly variable and zones of high grade appear to be distributed randomly. Such zones or ore shoots are rarely greater than a few tens of metres in size.

Throughout the camp, economic mineralization is found within a vertical range of less than 500 metres in any given vein and from north to south in the camp this vertical range occurs at progressively lower elevations. At the north end of the camp near Reno Mountain the economic zone lies at about 1675 to 2150 metres elevation and at the south end near Mount Waldie the zone is entirely below 915 metres above sea level. Above the economic zone the veins may occur but are generally too narrow and below the zone the veins usually persist but are commonly wider and of lower grade. Higher grades of greater than 150 grams per tonne are restricted generally to the top of the zone.

The Kootenay Belle deposit lies south of Sheep Creek within quartzites, argillites and argillaceous quartzites of the Nevada and Nugget Members of the Quartzite Range Formation. The sediments strike 0 to 15 degrees with a dip of 50 to 75 degrees east and they lie on the west limb of the eastern anticline. Production from the deposit was from the #1 and #2 fissure which contained two ore shoots each. The fissures each dipped 64 to 76 degrees south and intersected along strike. The ore shoots were in the order of 20 to 40 metres long and about 30 centimetres wide. The veins contained quartz and crushed country rock mineralized with pyrite and some galena and sphalerite. A quartz-porphphy sill intrudes along the contact of the Lower Cambrian Reno and Laib formations and is exposed at surface between the 2 and 3 level adits. Wolframite and scheelite are reported locally in the vein quartz. The quartz-porphphy intrusive extends the length of the Sheep Creek gold camp from Reno Mountain to Mount Waldie. Its influence on the gold mineralization is undetermined.

Between 1904 and 1967, the Kootenay Belle mine produced a total of 305,610 tonnes of ore. From this ore 3,507,079 grams of gold, 1,306,232 grams of silver, 52,517 kilograms of lead and 59,335 kilograms of zinc were recovered.

Locke Goldsmith drilled 8 holes (1115 metres) in 1988 and conducted a geochemical survey in 1992.

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EMPR AR 1900-987; 1904-144; 1905-169; 1906-148,248; 1907-103,213; 1908-110,246; 1909-119,120,123,124; 1910-110; 1911-160,284; 1912-155; 1913-131; 1915-156,159; 1916-517; 1917-448,452; 1918-197; 1922-205; 1923-218; 1927-312; 1928-346; 1932-159,193; 1933-200,231; 1934-A27,29,E19,E22; 1935-A27,E29,G50; 1936-E47; 1937-A39,41,E47; 1938-A36,E3,39; 1939-39,83; 1940-26,68; 1941-26,66; 1942-27,63; 1943-71; 1944-40,62; 1945-101,104; 1946-35,145; 1947-163; 1948-134; 1949-168; 1950-1240; 1958-A45; 1959-A48; 1960-A54; 1961-A49,68; 1962-A49,74; 1963-A49,70; 1964-A55,116; 1965-A55
EMPR ASS RPT 14, 82, 83, 6421, 6975, 11444, 11589, 11662, 14027, 17667, 22789
EMPR BC METAL MM01026
EMPR BULL 10(1941), p. 93; 10 (Rev.), p. 155; *31, pp. 54,57,59,62; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31; 1999, p. 214
EMPR INDEX 3-202
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-17, 1999-3
EMR MP CORPFILE (Kootenay Belle Gold Mines Limited; Amore Resources

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 1111
REPORT: RGEN0100

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DATE CODED: 1985/07/24
DATE REVISED: 1991/02/11

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW048**

NATIONAL MINERAL INVENTORY: 082F3 Au3

NAME(S): **QUEEN (L.1076)**, QUEEN, SHEEP CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 25 N
LONGITUDE: 117 08 13 W
ELEVATION: 1031 Metres

NORTHING: 5443059
EASTING: 490012

LOCATION ACCURACY: Within 500M

COMMENTS: Queen shaft just west of Waldie Creek (Bulletin 31, Figure 1).

COMMODITIES: Gold Silver Lead Zinc Silica

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: I01 Au-quartz veins
COMMENTS: East trending veins.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Quartzite Range	
Lower Cambrian	Undefined Group	Reno	

LITHOLOGY: Quartzite
Argillite
Limestone

HOSTROCK COMMENTS: The Quartzite Range Formation is correlative with rocks of the Hamill Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

This property is located on Waldie creek near its junction with Sheep Creek. The Kootenay Belle (082FSW046) property adjoins on the northeast. Other associated properties are Yellowstone, Vancouver, Midnight and Alexander (082FSW052, 049, 050 and 051).

Leasers began development work on the Queen property in about 1900; the Holmes Syndicate carried on development work during part of 1902; the Queen claim (Lot 1076) was Crown-granted to Messrs. Turner and Scully that same year.

In 1903 W. Waldie, one of the owners, began development of the property and also obtained a lease on the Yellowstone mill. Waldie completed purchase of the property in 1905, acquired the Yellowstone group in 1907, and sold the combined property to Queen Mines Incorporated in 1908. The company operated the mine until 1916. Except for a brief period of operation by leasers in 1918 the property was idle until acquired by the Yellowstone Mining Company Limited in 1922, however, the company carried on operations for only about a year. Messrs. Lavigne, Stayner & associates acquired the property in 1928 and in 1930 formed Queen Mines Limited, however, operations ceased later in the year.

In 1933 Sheep Creek Gold Mines Limited was formed by a consolidation of the Queen Mining & Milling Company and the Midnight Gold Mining Syndicate, owners of the Midnight and Vancouver claims. A new 50 ton mill was put into operation in May 1935 and operated more or less continuously until the mine was closed in 1951. The company name was changed in 1956 to Sheep Creek Mines Limited.

Beginning in 1961 leasers made intermittent shipments of silica ore from the dumps, the ore being in demand as a silica flux.

The company name was changed in September 1965 to Aetna Investment Corporation Ltd.

The Sheep Creek mining camp consists of auriferous sulphide mineralization within a regional system of quartz veins controlled by

CAPSULE GEOLOGY

faults. The camp hosts four distinct fault/fracture systems. All productive veins are associated with faults trending northeast and dipping southeast. The veins are particularly productive where they cross the axis of the two regional, northerly trending anticlines which dominate the geology of the camp. In addition there are a few northwest trending strike slip faults, north trending normal faults and flat faults, on which the hanging wall has been thrust westwards.

Ore occurs in shoots and is almost without exception confined to parts of fault zones in which one or both walls are quartzite. Other parts of the veins are either too narrow or low grade to be economic. The ore shoots are found at the intersection of northeast faults with quartzite stratigraphy, particularly the Upper Nugget and Upper Nevada members of the Quartzite Range Formation (correlative with rocks of the Hamill Group). The underlying Motherlode Member quartzite is, without obvious reason, almost completely barren of economic gold mineralization. The veins contain a quartz gangue containing pyrite with lesser amounts of pyrrhotite, chalcopyrite, galena, sphalerite and rare visible gold. Precious metal grades are exceedingly variable and zones of high grade appear to be distributed randomly. Such zones or ore shoots are rarely greater than a few of tens metres in size.

Throughout the camp, economic mineralization is found within a vertical range of less than 500 metres in any given vein and from north to south in the camp this vertical range occurs at progressively lower elevations. At the north end of the camp near Reno Mountain the economic zone lies at about 1675 to 2150 metres elevation and at the south end near Mount Waldie the zone is entirely below 915 metres above sea level. The veins may occur above the economic zone but are generally too narrow and below the zone the veins usually persist but are commonly wider and of lower grade. Higher grades of greater than 150 grams per tonne are generally restricted to the top of the zone.

The Queen property includes four east trending veins which are north to south the Yellowstone (082FSW052), Queen, Midnight (082FSW050) and Alexandra (082FSW51) veins. The Queen vein crosscuts the western anticline and the mine shaft is within the Nugget and Nevada Members of the Quartzite Range Formation. To the west, the quartzites are in contact with Lower Cambrian Laib Formation limestones and the vein dies out in the softer sediments. To the east, the vein crosscuts argillites and quartzites of the Lower Cambrian Reno Formation (correlative with rocks of the Hamill Group). The ore shoots are within quartz gangue carrying free gold, pyrite and some sphalerite and galena. Wall rocks are predominantly quartzite. The vein is crosscut by two lamprophyre dykes intruded along fault zones.

Several ore shoots were developed on the Queen property which produced 653,165 tonnes of ore intermittently from 1902 to 1970. It has been reported that from 1900 to 1938 production was from the Queen vein; thereafter it includes production from other veins mined by Sheep Creek Gold Mines. From the total tonnage mined 9,453,383 grams of gold, 3,121,527 grams of silver, 7,769 kilograms of lead and 3,063 kilograms of zinc were recovered.

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EMPR ASS RPT 14, 82, 83, 64321, 6975, 11444, 11662, 14027
EMPR BC METAL MM01053
EMPR BULL 10, p. 93; *31, pp. 37,41,43,51,56,69; 109
EMPR EXPL 1977-E63
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR GEM 1970-442; 1971-400; 1972-42; 1974-82
EMPR INDEX 3-212
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
EMPR PF (Starr, C.C. (1929): Preliminary Examination of the Queen Mine, 12 p.; Longitudinal Section of the Queen Workings; Map of Individual Levels, Queen Mine)
EMR MP CORPFILE (Queens Mines Inc.; Aetna Investment Corporation Ltd.)
GSC MAP 50-19A; 299A; 1068; 1090A; 1091A; *1145A
GSC MEM *172, pp. 42,45; 308, p. 175

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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CANMET IR #748(1934), pp. 53-61
N MINER May, 1941, p. 26
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/12

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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REPORT: RGEN0100

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419; 1916-205; 1926-279; 1932-25,160; 1933-200,230; 1934-E17,19
EMPR ASS RPT 8694, 9703, *11589
EMPR BC METAL MM01083
EMPR BULL 1, p. 107; *31, pp. 66,68; 41; 109
EMPR INDEX 3-217
GSC MAP 50-19A; *299A; 1090A; 1091A; *1145A
GSC MEM *172, p. 41; 308, p. 175
GSC OF 1195
GSC SUM RPT 1929, Part A, p. 253

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

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FIELD CHECK: N

RUN DATE: 25-Jun-2003
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CAPSULE GEOLOGY

Vancouver vein (082FSW049). Minor magnetite as well as limonite and manganese oxide is associated with the mineralized quartz.

Refer to the Kootenay Belle (082FSW046) for a summary of the Sheep Creek mining camp.

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EMPR AR 1927-484; 1933-230-231; 1939-84
EMPR ASS RPT 8694, 9703, *11589
EMPR BULL 31, pp. 28,68; 41; 109
EMPR EXPL 1980-53
GSC MAP 50-19A; *299A; 1090A; *1145A
GSC MEM *172, pp. 41-45; 308
GSC OF 1195
GSC P 50-19
GSC SUM RPT 1929, Part A, p. 253
PR REL Consolidated Gold Win Ventures Inc., Oct.16, 2002

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/12

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW051**

NATIONAL MINERAL INVENTORY: 082F3 Au3

NAME(S): **ALEXANDER**, ALEXANDRA (L.9078), ALEXANDRIA,
QUEEN

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 08 15 N
LONGITUDE: 117 07 34 W
ELEVATION: 1097 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5442749
EASTING: 490801

LOCATION ACCURACY: Within 500M

COMMENTS: Three adits on the east side of Waldie Creek at 1097 metres, 1167 metres, and 1204 metres elevation. Production is probably included with the Queen mine (082FSW048), (Geological Survey of Canada Memoir 172, pages 42-45).

COMMODITIES: Lead

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Faulted
COMMENTS: Northeast trending vein.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Quartzite Range	
Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
Quartz Vein
Quartz Porphyry

HOSTROCK COMMENTS: The Quartzite Range Formation is correlative with rocks of the Hamill Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

This property is located on Waldie creek near its junction with Sheep Creek. The Kootenay Belle (082FSW046) property adjoins on the northeast. Other associated properties are the Yellowstone, Queen, Vancouver and Midnight (082FSW052, 048, 049 and 050).

The Alexander vein occurs in quartzite of the Lower Cambrian Quartzite Range Formation (correlative with rocks of the Hamill Group). The vein, typical of the Sheep Creek camp, is a northeast trending quartz vein along a fault zone which has about 3 metres dextral movement. The vein is for the most part narrow and little more than a fissure but locally is up to 30 to 50 centimetres wide. Two small ore shoots in the order of 13 and 4 metres long respectively, were intersected and a small amount of ore was produced which contained pyrite and galena in a quartz gangue. Oxidation of the vein extends to all the old working levels. Two quartz porphyry sills, which are a combined 5 metres thick, intruded the sedimentary succession and are exposed in the underground workings. See the Queen occurrence (082FSW048) for a summary of the general geology of the Sheep Creek camp.

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RUN DATE: 25-Jun-2003
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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1121
REPORT: RGEN0100

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the Queen Mine, 12 p. (in 082FSW048); Plan of Alexandria
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GSC SUM RPT 1929, Part A, p. 257

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/12

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW052**

NATIONAL MINERAL INVENTORY: 082F3 Au3

NAME(S): **YELLOWSTONE (L.3631), QUEEN**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 35 N
LONGITUDE: 117 08 04 W
ELEVATION: 1035 Metres

NORTHING: 5443367
EASTING: 490195

LOCATION ACCURACY: Within 500M

COMMENTS: Included as part of Queen (082FSW048) property in some references.

COMMODITIES: Gold Silver Lead Zinc Silica

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Disseminated Epigenetic Shear Industrial Min.
TYPE: I01 Au-quartz veins
DIMENSION: 40 Metres STRIKE/DIP: 050/75S TREND/PLUNGE:
COMMENTS: Producing ore shoot.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Reno	Unnamed/Unknown Informal
Unknown			

LITHOLOGY: Quartzite
Argillite
Quartz Porphyry
Lamprophyre Dike
Quartz Vein

HOSTROCK COMMENTS: The Reno Formation is correlative with rocks of the Hamill Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

This property is located on Waldie creek near its junction with Sheep Creek. The Kootenay Belle (082FSW046) property adjoins on the northeast. Other associated properties are Queen, Vancouver, Midnight and Alexander (082FSW048-051, respectively).

The Yellowstone claim was staked in 1896 by T. Bennett. Development of the property commenced late in the summer of that year by Yellowstone Mines Limited and in the three succeeding years all its own ore had been developed.

Leasers began development work on the Queen property (082FSW048) in about 1900; the Holmes Syndicate carried on development work during part of 1902; the Queen claim (Lot 1076) was Crown-granted to Messrs. Turner and Scully that same year.

In 1903 W. Waldie, one of the owners, began development of the property and also obtained a lease on the Yellowstone mill. Waldie completed purchase of the property in 1905, acquired the Yellowstone group in 1907, and sold the combined property to Queen Mines Incorporated in 1908. The company operated the mine until 1916. Except for a brief period of operation by leasers in 1918 the property was idle until acquired by the Yellowstone Mining Company Limited in 1922, however, the company carried on operations for only about a year. Messrs. Lavigne, Stayner & associates acquired the property in 1928 and in 1930 formed Queen Mines Limited, however, operations ceased later in the year.

In 1933 Sheep Creek Gold Mines Limited was formed by a consolidation of the Queen Mining & Milling Company and the Midnight Gold Mining Syndicate, owners of the Midnight and Vancouver claims. A new 50 ton mill was put into operation in May 1935 and operated more or less continuously until the mine was closed in 1951. The company name was changed in 1956 to Sheep Creek Mines Limited.

CAPSULE GEOLOGY

Beginning in 1961 leasers made intermittent shipments of silica ore from the dumps, the ore being in demand as a silica flux. The company name was changed in September 1965 to Aetna Investment Corporation Ltd.

The Yellowstone is one of four east-west trending quartz-sheer veins identified in some references as part of the Queen property. The Yellowstone lies on the east limb of the western anticline of the Sheep Creek Camp. It is within quartzites and argillites of the Lower Cambrian Reno Formation (correlative with rocks of the Hamill Group) which are in contact to the east with quartzites of the Lower Cambrian Quartzite Range Formation argillites of the Lower Cambrian Laib formations argillites. Along the Laib-Reno formation contact is an intrusive sill (?) of quartz-porphyry which extends along a north-south trend through most of the Sheep Creek camp.

Mineralization consists of brown iron oxides (limonite?) with pyrite, free gold and some sphalerite and galena in a quartz gangue. The vein is less than a metre wide and is normally very narrow. It commonly splits into several fissures. Almost all recorded production was achieved in 1900 and 1901 when an ore shoot about 40 metres long produced about 15,400 tonnes of ore containing 169 kilograms gold and 86 kilograms silver. The north wall of the shoot was quartzite and the south wall was argillite. The eastern extension of the shoot was marked by a change from quartzite to argillite in the north wall.

Refer to the Queen mine (082FSW048) for a summary of the Sheep Creek mining camp.

Arakis Mining Corporation drilled 10 holes (257 metres) in 1988. Nugget Mines Ltd. conducted geophysical and geochemical surveys in 1998 and 1999.

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EMPR ASS RPT 14, 82, 83, 6421, 6975, 11444, 11662, 14027, 16861, 18029, 25469, 26023
EMPR BC METAL MM01094
EMPR BULL 10, p. 93; *31, pp. 42,45,51,54; BULL 109
EMPR EXPL 1977-E63; 1980-53
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR GEM 1970-442; 1971-400; 1972-42; 1974-82
EMPR INDEX 3-219
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
EMPR PF (Starr, C.C. (1929): Report of Preliminary Examination of the Queen Mine, 12 p. (in 082FSW048); Longitudinal Section and Plan of Yellowstone Mine)
EMR MP CORPFILE (Queen Mines Inc.; Aetna Investment Corporation Ltd.)
GSC MAP 50-19A; 299A; 1068; 1090A; 1091A; *1145A
GSC MEM *172, p. 42; 308, p. 175
GSC OF 1195
CANMET IR #748(1934), pp. 53-61
N MINER May, 1941, pp. 26,29

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/12

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

acquired the property from Kootenay Ore Hill Gold Mines and G. Birtsch in 1939. A 488-metre crosscut was driven from the Queen No. 5 level to Ore Hill ground. From this crosscut 85 metres of drifting, 404 metres of crosscutting, and 349 metres of diamond drilling was completed in 1940. A geological survey was reported by the company on Ore Hill ground in 1947.

The vein occurrence at the Ore Hill deposit crosscuts limestone and schist of the Lower Cambrian Laib Formation as well as quartzites and argillite of the Lower Cambrian Reno Formation (correlative with rocks of the Hamill Group). Several adits with over 1000 metres of underground development occur on the property. Between 1906 and 1940, a total of 2,241 tonnes of ore were mined and 88,612 grams of gold, 168,424 grams of silver, 80,257 kilograms of lead and 75,651 kilograms of zinc were recovered.

South of the adits a trench exposes limestone in fault contact with schists. The fault strikes 050 degrees and dips 75 degrees southeast. A one metre wide lamprophyre dyke is injected along the fault and there is about 30 centimetres of fine-grained galena, sphalerite, pyrrhotite and pyrite on the footwall side, within highly altered limestones. North of this exposure, in the adits, the vein is about 45 centimetres wide within quartzite but narrows along strike as it crosscuts argillites. No mineralization is reported in the quartzite section.

In the Sheep Creek camp, limestone hosted mineralization is similar but not identical to quartzite hosted mineralization. Limestone hosted vein deposits occur along the same northeast trend as the productive quartzite veins and the gold-silver mineralization occurs in a similar ore shoot environment. However, lead and zinc are more common in the limestone deposits and mineralization commonly occurs in the wallrocks as replacement sulphides accompanied by quartz. Higher grade zones within limestone are rarely greater than a few tens of centimetres wide while in quartzites the ore shoots may be several metres wide. All production from veins in limestone has been made from levels fully 600 metres in elevation above similarly productive quartzite hosted deposits. Exploration within limestone at elevations comparable to quartzite hosted occurrences has been disappointing.

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EMPR ASS RPT 00010, 11444
EMPR BC METAL MM01047
EMPR BULL 1; 31, pp. 10,15,23,46,63,71; 41; 109
EMPR INDEX 3-208
EMPR PF (Starr, C.C. (1930): Report of Preliminary Examination of the Ore Hill and Summit Group, 7 p.)
EMR MP CORPFILE (Kootenay Ore Hill Gold Mines, Limited; Sheep Creek Gold Mines Limited)
GSC MAP 50-19A; 299A; 1090A; 1091A; *1145A
GSC MEM *172, p. 80; 308, p. 175
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/13

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW054**

NATIONAL MINERAL INVENTORY: 082F3 Au8

NAME(S): **SUMMIT (L.10010)**, SUMMIT, SUMMIT GOLD,
GOLD CROWN (L.10014), GOLD CROWN FR. (L.10047), INDEPENDENCE (L.10012),
INDEPENDENCE FR. (L.10048)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 07 19 N
LONGITUDE: 117 08 50 W
ELEVATION: 1647 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located south of Sheep Creek, about 12 kilometres southeast of Salmo.

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5441022
EASTING: 489258

COMMODITIES: Gold Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	
Jurassic			Nelson Intrusions

LITHOLOGY: Limestone
Schist
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The property is located at 1676 metres elevation at the head of Billings Creek, a northerly flowing tributary of Sheep Creek, some 12 kilometres southeast of Salmo.

The showings were staked in 1901. A cross-cut adit was driven by F.E. Collins and J. Miller during the period 1906-08 and some ore was shipped. Vancouver Financial Corporation acquired the property and incorporated Sheep Creek Summit Gold Mines, Limited in May 1910. Some high-grade ore was shipped during 1910-11. The company charter (Sheep Creek) was surrendered in 1914.

Five claims, the Summit (Lot 10010), Gold Crown (Lot 10014), Gold Crown Fr. (Lot 10047), Independence (Lot 10012), and Independence Fr. (Lot 10048) were Crown-granted to J.B. O'Brian in 1914. Lessors W.B. De Witt & associates held the property in 1914 and some ore was put through a small mill on the adjoining Ore Hill property (082FSW053). W.B. Poole & associates held the Summit and Ore Hill properties during 1919-20 but no work was reported on the Summit at that time.

McCuaig Red Lake Gold Mines Limited purchased the Summit property in 1934 but there is no report of work done. In 1937 the property was purchased from McCuaig by Kootenay Ore Hill Gold Mines, Limited, owner of the adjoining Ore Hill property. Some mining was done on the Summit group in the spring of 1938 while under lease to H.D. Forman; the ore was treated at the Ore Hill mill.

The working to 1934 comprised a glory-hole at about 1706 metres elevation, 2 adits between 1646 and 1676 metres elevation totalling about 194 metres of crosscuts and drifts, and several caved adits at about 1585 metres elevation.

The Summit occurrence is a quartz-siderite vein deposit which contains erratically distributed pyrite, galena and sphalerite within a narrow fault zone striking 55 degrees and dipping southeast. The fault crosscuts Lower Cambrian, Laib Formation limestones and schists close to a granitic intrusion of the Middle to Late Jurassic Nelson

CAPSULE GEOLOGY

Intrusions. Most of the mine production was from a 20 metre long "Glory Hole". Production from 1906 to 1938 totalled about 1094 tonnes which contained 27,059 grams of gold, 37,883 grams of silver, 13,728 kilograms of lead and 12,988 kilograms of zinc.

In the Sheep Creek Camp, limestone hosted mineralization is similar but not identical to quartzite hosted mineralization. Limestone hosted vein deposits occur along the same northeast trend as the productive quartzite veins and the gold-silver mineralization occurs in a similar ore shoot environment. However, lead and zinc are more common in the limestone deposits and mineralization commonly occurs in the wallrocks as replacement sulphides accompanied by quartz. Higher grade zones within limestone are rarely greater than a few tens of centimetres wide while in quartzites the ore shoots may be several metres wide. All production from veins in limestone has been made from levels fully 600 metres in elevation above similarly productive quartzite hosted deposits. Exploration within limestone at elevations comparable to quartzite hosted occurrences has been disappointing.

Sultan Minerals Inc. prospected the area in 1996.

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EMPR ASS RPT 11444, 19113
EMPR BC METAL MM01078
EMPR BULL 1, p. 105; *31, pp. 51,52,63; 109
EMPR INDEX 3-215
EMPR PF (Starr, C.C. (1930): Report of Preliminary Examination of the Ore Hill and Summit Groups, 7 p.)
EMR MP CORPFILE (McCraig Red Lake Gold Mines Limited; Kootenay Ore Hill Gold Mines, Limited)
GSC MAP 50-19A; *299A; 1090A; 1091A; *1145A
GSC MEM *172, p. 79; 308, p. 175
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/13

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW055**

NATIONAL MINERAL INVENTORY:

NAME(S): **BONANZA (L.10161)**, DIP

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 44 N
LONGITUDE: 117 07 46 W
ELEVATION: 1450 Metres

NORTHING: 5441792
EASTING: 490557

LOCATION ACCURACY: Within 500M

COMMENTS: Several adits just north of McArthur Creek off Waldie Creek, approximately 10 kilometres southeast of Salmo.

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Gold Limonite
ASSOCIATED: Quartz
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Lower Cambrian
Lower Cambrian

GROUP

Undefined Group
Undefined Group

FORMATION

Quartzite Range
Reno

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Quartzite
Quartz Vein

HOSTROCK COMMENTS: The Quartzite Range Formation is correlative with rocks of the Hamill Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: BONANZA

REPORT ON: Y

CATEGORY: Indicated
QUANTITY: 14254 Tonnes
YEAR: 1987

COMMODITY: Gold
GRADE: 10.2800 Grams per tonne

COMMENTS: Present reserves; not including low-grade material or possible reserves in areas of difficult access. Average gold grade.

REFERENCE: George Cross News Letter No.217 (November 12), 1987.

CAPSULE GEOLOGY

Detailed information on the Bonanza vein system is limited. A mineralized vein strikes about 80 degrees and crosscuts quartzites of the Lower Cambrian Quartzite Range Formation near the westerly contact with the Lower Cambrian Reno Formation (both formations are correlative with rocks of the Hamill Group). The quartzite is hard, white and the vein bifurcates with some brecciation between the branches but mostly on the northerly branch. Visible gold is reported in the quartz vein which may be over a metre wide locally but has very scarce disseminated sulphides. Minor limonite is reported. Refer to the Queen mine (082FSW048) for a description of the Sheep Creek mining camp.

The Bonanza North and South veins are developed by four adits on the Dip claim. About 17 tonnes were shipped in 1910 but the value of the shipment was not reported (Minister of Mines Annual Report 1910, page 110). In 1963, a total of 14 tonnes were mined, from which 124 grams of gold, 2,861 grams of silver and 118 kilograms of lead were recovered.

Results of 1982 sampling indicate that there is an ore shoot above and below the second level on the North vein. Potential is indicated at depth where the productive horizon is projected to below

CAPSULE GEOLOGY

an elevation of 914 metres. In 1983, 2720 tonnes of proven and possible ore at a grade of 18.86 grams per tonne gold was outlined on the North Bonanza vein (Assessment Report 11249). A later estimate of the ore on the property was reported to be 14,254 tonnes grading 10.28 grams per tonne gold (George Cross News Letter No.217 (November 12), 1987).

BIBLIOGRAPHY

EMPR AR 1899-280; 1901-1223; 1910-110; 1919-159; 1929-513; 1932-194;
*1933-231; 1936-E47; 1963-A49
EMPR ASS RPT 10, 11249, *15028, *16035
EMPR BC METAL MM00968
EMPR BULL *31, pp. 66,77; 41; 109
EMPR EXPL *1986-C43
GSC MAP 50-19A; 299A; 1090A; 1091A; 1145A
GSC MEM *172, p. 45; 308
GSC OF 1195
CIM Vol. 65, 1942, pp. 169-190
GCNL #217, 1987

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/13

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

of Sheep Creek mining camp.

Gold values occur in a fissure that strikes approximately 075 degrees, with steep south dip, across the lower part of the Reno Formation close to the contact with the Quartzite range Formation to the east. The showing in the upper adit has been described as a quartz vein, 0.6 metre wide, carrying free gold. Oxidation has removed any sulphide mineralization originally present in the fissure.

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EMPR BULL *31, p. 65; 41; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
EMR MP CORPFILE (Gold Belt Mining Company Ltd.)
GSC MAP 50-19A; 299A; 1090A; 1091A; *1145A
GSC MEM *172, pp. 33,36; 308
GSC OF 1195
GCNL #70, 1979; #18,#233, 1982; #36,#66,#98, 1983
N MINER Feb.22, 1979; Apr.9, 1981; Dec.17, 1982
W MINER Apr., 1979

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW057**

NATIONAL MINERAL INVENTORY: 082F6 Zn2

NAME(S): **ELM**, RAINY DAY

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 15 47 N
LONGITUDE: 117 07 44 W
ELEVATION: 1070 Metres

NORTHING: 5456707
EASTING: 490622

LOCATION ACCURACY: Within 500M
COMMENTS: Workings (Bulletin 41, Fig. 3).

COMMODITIES: Zinc Tungsten Fluorite

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Sphalerite Fluorite Scheelite
ASSOCIATED: Calcite Fluorite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Podiform
CLASSIFICATION: Skarn Replacement Industrial Min.
TYPE: K02 Pb-Zn skarn K05 W skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Ordovician	Undefined Group	Active	
Jurassic			Nelson Intrusions

LITHOLOGY: Limestone
Argillite
Slate
Quartzite
Granodiorite
Skarn

HOSTROCK COMMENTS: The Active Formation is Lower and Middle(?) Ordovician in age.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca Plutonic Rocks PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Kootenay

CAPSULE GEOLOGY

The property is located on the south side of Porcupine creek some 7 kilometres southeast of Ymir.

The showings were discovered in the late fall of 1927 by J. Thexton, who staked the Rainy Day, Lucky Sunday and Success claims. Work by the owner in 1928 included trenching and driving three short adits.

New Jersey Zinc Exploration Company (Canada) Ltd, which acquired the nearby Jackpot property in 1948, subsequently restaked the showings as the Elm group of 9 claims. Work by the company in the 1950's included geological mapping, bulldozer trenching and a small amount of diamond drilling.

The Elm showing is located on Porcupine Creek, just east of the Oxide showing (082FSW022). Workings comprise two adits and a few trenches.

The area is underlain by argillite, slate, quartzite and limestone of the Lower and Middle(?) Ordovician Active Formation which have been intruded by granitic rocks of the Middle to Late Jurassic Nelson Intrusions.

Mineralization consists of small lenses of pyrite, pyrrhotite and sphalerite hosted in steeply dipping limestone. The limestone is around 100 metres thick and bounded to the east and west by black argillites. Some skarnification of the limestones is reported near intrusive contacts. Mineralization is locally associated with fluorite, and scheelite has also been locally noted.

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EMPR AR 1954-125
EMPR BULL *41, p. 94; 109
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1133
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16; 1991-17; 1992-16
EMPR PF (Geological Surface Plan, 1951)
GSC MAP 51-41A; 175A; 1090A; *1144A
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/03

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW058**

NATIONAL MINERAL INVENTORY: 082F3 Zn6

NAME(S): **UDIVILLE (L.15851)**, VICTORY TUNGSTEN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 08 26 N
LONGITUDE: 117 10 19 W
ELEVATION: 1030 Metres
LOCATION ACCURACY: Within 500M

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5443095
EASTING: 487459

COMMENTS: Located south of Sheep Creek and east of Annie Rooney Creek.
Currently part of the Victory Tungsten property (082FSW059).

COMMODITIES: Lead Zinc Silver Tungsten Molybdenum

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Scheelite Molybdenite
ALTERATION: Dolomite Garnet Diopside
ALTERATION TYPE: Carbonate Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn
TYPE: K02 Pb-Zn skarn K05 W skarn
SHAPE: Irregular
MODIFIER: Folded Fractured
DIMENSION: 2 Metres
COMMENTS: The mineralized zone is up to 1.8 metres wide.
STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	
Jurassic			Nelson Intrusions

LITHOLOGY: Limestone
Dolomitic Limestone
Garnet Diopside Skarn
Granite

HOSTROCK COMMENTS: Mineralization is within dolomitized limestone of the Reeves Member.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca Plutonic Rocks PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Kootenay

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 4.0000 Grams per tonne
Lead 15.2000 Per cent
Zinc 3.8900 Per cent
COMMENTS: Sample from a trench.
REFERENCE: Assessment Report 11662.

CAPSULE GEOLOGY

The Udiville property is located at approximately 1067 metres elevation on the east side of Bennett Creek, a north-flowing tributary of Sheep Creek, 10 kilometres southeast of Salmo. The property, including the Udiville, Udiville No. 2 and Udiville No. 1 claims (Lots 15851-15853 respectively), was owned by J. Sapples of Salmo. Exploration and development work to 1928 included open cuts, a shallow prospect shaft inclined at 55 degrees, and an adit driven 3 metres easterly at shallow depth; no mineralization was found in the adit. Mentor Exploration and Development Co., Limited acquired the property in 1977. Magnetic and geochemical soil surveys were carried out; the magnetic survey outlined a moderately sharp anomaly on the northwest corner of the Udiville claim. A synclinal structure of Lower to Middle Ordovician Active Formation argillites and Lower Cambrian Laib Formation carbonates is

CAPSULE GEOLOGY

intruded by granite of the Middle to Late Jurassic Nelson Intrusions. Within the Reeves Member limestone of the Lower Cambrian Laib Formation is an area of disseminated sphalerite, galena and pyrite mineralization within dolomitized limestone away from the granitic intrusive. The irregularly mineralized zone has widths of up to 1.8 metres. A sample across 1.4 metres assayed 0.34 grams gold, 13.7 grams silver, 0.4 per cent lead and 10.8 per cent zinc. Another sample collected from a trench in 1983 assayed 15.2 per cent lead, 3.89 per cent zinc and 4.0 grams per tonne silver (Assessment Report 11662).

Upslope from the lead-zinc mineralization is an outcrop of garnet-diopside skarn in limestone next to the granite contact where there is minor disseminated scheelite and molybdenite.

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EMPR ASS RPT 14, 63, 82, 83, 6421, 6975, *11662
EMPR BULL *10 (Rev.); 41; 109
EMPR EXPL *1977-E41; 1978-E49; 1980-52,53
EMPR OF 1991-17
EMPR PF
EMR MP CORPFILE (Mentor Exploration and Development Company Ltd.)
GSC MAP 299A; 1090A; 1145A
GSC MEM *172, p. 68; 308
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/19

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW059**

NATIONAL MINERAL INVENTORY: 082F3 W3

NAME(S): **VICTORY TUNGSTEN**, LAST CHANCE (L.15844), VICTORY (L.15842),
SAPPLES MOLYBDENITE, LITTLE KEEN, LUCKY JIM (L.15846)

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 08 24 N
LONGITUDE: 117 10 41 W
ELEVATION: 1065 Metres

UTM ZONE: 11 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5443034
EASTING: 487013

COMMENTS: Located south of Sheep Creek and west of Bennett Creek on Crown grants Last Chance (Lot 15844) and Victory (Lot 15842) (Assessment Report 11662).

COMMODITIES: Tungsten Molybdenum

MINERALS

SIGNIFICANT:	Scheelite	Molybdenite	Pyrrhotite	Pyrite	
ASSOCIATED:	Calcite				
ALTERATION:	Garnet	Tremolite	Pyroxene	Amphibole	Titanite
ALTERATION TYPE:	Skarn				
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn
TYPE: K05 W skarn L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Ordovician
Jurassic

GROUP

Undefined Group

FORMATION

Active

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Skarn
Garnet Tremolite Skarn
Argillite
Limestone
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VICTORY TUNGSTEN

REPORT ON: Y

CATEGORY: Indicated YEAR: 1953

QUANTITY: 74382 Tonnes

<u>COMMODITY</u>	<u>GRADE</u>
Tungsten	0.4200 Per cent

COMMENTS: Actual grade is 0.54 per cent WO3. Conversion used for WO3 to W is 1.2611.

REFERENCE: Mentor Exploration and Development Company Ltd. 1977 Annual Report.

CAPSULE GEOLOGY

The property is located at approximately 975 metres elevation on the west side of Bennett Creek, a north flowing tributary of Sheep Creek, 9.6 kilometres southeast of Salmo.

The Little Keen, Last Chance and Lucky Jim claims were staked in 1932 by Jack Sapples of Salmo as a molybdenum prospect. Exploration work was done in open cuts and strippings. H.L. Batten and associates of Vancouver optioned the property in 1939 and carried out open cutting and stripping. The option was given up that same year. The property, together with additional claims staked by Joe Gallo, was optioned in 1942 by Bralorne Mines, Limited. Exploration work was directed towards the tungsten showings and included a winze sunk to 5 metres. The option was given up in January 1943. The Consolidated Mining and Smelting Company of Canada Limited optioned the property in 1943. Considerable trenching was carried out before the option was dropped in September of that same year.

Canadian Exploration, Limited carried out trenching on the property in 1946. Ground lying between this group and the Emerald

CAPSULE GEOLOGY

mine to the southwest was staked by the company. In 1951 the property was under option to Boleen Mines Limited, however, no work was reported. The property included the Victory, Victory Fr., Last Chance (Lots 15842- 15844 respectively), and Lucky Jim (Lot 15846) claims. Victory Tungsten Ltd. optioned the property from J. Sapples in 1952. A diamond drilling program, carried out mainly on the Last Chance and Victory Fr. claims, was concentrated in a zone 137 metres long between elevations of about 914 and 1005 metres. Diamond drilling to the end of July 1953 totalled over 4572 metres in 64 holes; drilling continued until the end of October. This work indicated 82,000 tons grading 0.54 per cent WO₃ (Mentor Exploration and Development Co., Limited, 1947 Annual Report, p. 11). Canadian Exploration, Limited, the owner of adjacent ground, carried out geological work on the property in 1958.

Mentor Exploration and Development Co., Limited acquired an option on the property in 1977; included was adjacent ground as well as the nearby Udiville (082FSW058) and Amco properties. Work on the larger property in 1977-82 included geochemical soil surveys (2,832 samples), a magnetometer survey over 22 line kilometres, a scintillometer survey over 14 line kilometres and 842 metres of diamond drilling in 3 holes. Geological mapping and a geochemical rock survey were carried out in 1983. The company abandoned the option on December 1, 1984.

Black argillites containing beds of grey, finely crystalline limestone of the Lower to Middle Active Formation, are host to skarn zones where they are intruded by tongues of granite of the Middle to Late Jurassic Nelson Intrusions. Sediments near the granite contact are highly altered to skarns containing pyroxene, amphibole, calcite and titanite with disseminations of scheelite and molybdenite. The alteration rapidly diminishes away from the contact.

Locally, a limestone band is highly altered to garnet and tremolite and, within a width of about 6 metres, contains scheelite, molybdenite, pyrite and pyrrhotite. The main showing is estimated to contain about 74,382 tonnes of 0.42 per cent tungsten (Actual grade is 0.54 per cent WO₃. Conversion used for WO₃ to W is 1.2611.) (Mentor Exploration and Development Company Limited 1977 Annual Report in EMR MIN BULL MR 223 B.C. 23). Patchy molybdenite mineralization was also identified in skarn north of the tungsten showing and as disseminations in the Nelson granite.

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EMPR ASS RPT 14, 63, 82, 83, 6421, 6975, *11662, 24910
EMPR BULL 9, p. 51; 10, (Rev.) p. 149; 41; 109
EMPR EXPL 1977-E41; 1978-E49; 1980-52,53; 1982-48; 1983-54
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-17
EMPR PF (MacLeod, J.W. (1978): Geochemical Report on Victory Tungsten property)
EMR MIN BULL MR 198, p. 209; 223 B.C. 23
EMR MP CORPFILE (Victory Tungsten Ltd.; Mentor Exploration and Development Company Ltd.)
GSC EC GEOL 17, p. 112; 20, p. 294
GSC MAP 1090A; 1145A
GSC MEM 172, p. 86; 308
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/19

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW060**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAVIAR**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 06 N
LONGITUDE: 117 22 18 W
ELEVATION: 820 Metres

NORTHING: 5427708
EASTING: 472816

LOCATION ACCURACY: Within 500M

COMMENTS: Location of the eastern part of the showing.

COMMODITIES: Zinc

MINERALS

SIGNIFICANT: Sphalerite
ASSOCIATED: Calcite
ALTERATION: Limonite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated
CLASSIFICATION: Sedimentary Exhalative
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Middle Cambrian

GROUP

Undefined Group

FORMATION

Nelway

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Limestone
Dolomite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Middle Cambrian Nelway Formation in the area of Russian Creek, south of the Pend d'Oreille River, is host to disseminated sphalerite.

There are two mineralized exposures. The first is immediately west of Russian Creek and about 215 metres from the United States border. Honey colored sphalerite occurs as finely disseminated grains in a grey and white banded limestone of the upper Nelway Formation. The sphalerite tends to occur in bands and surface oxidation is present from a few centimetres up to about a metre in thickness. The grade of this occurrence is low and the extent is unknown.

The second showing is to the east and near the top of a small knoll about 185 metres from the United States border. A nearly white, crystalline limestone near the top of the Middle Nelway Formation contains a few pockets of limonitic gossan. Mineralization is spotty but one sample is reported to have assayed more than 20 per cent zinc (Bulletin 41, page 94).

BIBLIOGRAPHY

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EMPR ASS RPT *51, 75, 10580
EMPR BULL *41, p. 94; 109
EMPR OF 2000-22
GSC MAP 299A; 1090A; *1145A
GSC MEM 308
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/07

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW061**

NATIONAL MINERAL INVENTORY:

NAME(S): **UNITED VERDE**, SOUTHERN BELL, WILSON CREEK

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 41 N
LONGITUDE: 117 12 26 W
ELEVATION: 1110 Metres

NORTHING: 5434301
EASTING: 484862

LOCATION ACCURACY: Within 500M

COMMENTS: On the southeast side of Wilson Creek which joins South Salmo River about 2 kilometres up from Lost Creek (Geological Survey of Canada Memoir 172, page 84).

COMMODITIES: Silver Lead Zinc Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Massive Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au J01 Polymetallic manto Ag-Pb-Zn
SHAPE: Irregular
MODIFIER: Faulted Sheared

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Ordovician Undefined Group Active

LITHOLOGY: Argillite
Phyllite
Graphitic Argillite
Quartzite
Limestone
Quartz Vein

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: LENS

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1921

COMMODITY	GRADE	
Silver	442.3000	Grams per tonne
Gold	2.7400	Grams per tonne
Lead	21.6000	Per cent
Zinc	1.3000	Per cent

COMMENTS: The sample width is 4.57 metres.

REFERENCE: Geological Survey of Canada, Memoir 172.

CAPSULE GEOLOGY

Disseminated, stringers and massive sulphide mineralization is associated with quartz gangue within lensoidal masses or shoots along the shear zone known as the Black Bluff fault. The fault is interpreted as a thrust zone with Lower to Middle Ordovician black and graphitic argillites of the Active Formation to the west and upper Laib Formation phyllites, argillites, quartzites and minor limestones to the east.

Sulphides include pyrite, sphalerite and galena within quartz zones of highly variable width and extent although the mineralization appears related to disconnected shoots rather than to well defined planar structures. A 4.5-metre thick lens containing 1.8 metres of latite dyke on the hanging wall assayed 2.74 grams per tonne gold, 442.3 grams per tonne silver, 21.6 per cent lead and 1.3 per cent zinc (Geological Survey of Canada, Memoir 172, page 82).

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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CAPSULE GEOLOGY

Minor production was carried out in the 1920's of hand sorted ores.
Sultan Minerals Inc. located a large zinc, silver and copper
soil anomaly on the north area of Wilson Creek in 1997.

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1922-209
EMPR ASS RPT 7300
EMPR BULL 109
EMPR EXPL 1979-55
GSC MAP 299A; 1090A; *1145A
GSC MEM *172, p. 82
GSC OF 1195
GCNL #250 (Dec.31), 1997

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/26

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW062**

NATIONAL MINERAL INVENTORY:

NAME(S): **LUCKY STRIKE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 02 57 N
LONGITUDE: 117 14 14 W
ELEVATION: 915 Metres

NORTHING: 5432949
EASTING: 482666

LOCATION ACCURACY: Within 500M

COMMENTS: Located between South Salmo River and its tributary Lost Creek, just east of Rosebud Lake.

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT:	Galena	Sphalerite	Tetrahedrite	Pyrite	Chalcopyrite
ASSOCIATED:	Quartz				
ALTERATION:	Cerussite	Chalcocite	Covellite	Malachite	Azurite
ALTERATION TYPE:	Oxidation				
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Regular
MODIFIER: Sheared
DIMENSION:
COMMENTS: Vein

STRIKE/DIP: 290/90

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Cambrian	Undefined Group	Nelway	
Lower Cambrian	Undefined Group	Laib	
Jurassic			Nelson Intrusions

LITHOLOGY: Limestone
Dolomite
Phyllite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

A fissure vein striking 290 degrees with a steep to near vertical dip is associated with the Black Bluff Fault and is host to quartz gangue containing galena, tetrahedrite, pyrite, sphalerite and chalcopyrite. The width of the vein averages 5 centimetres but locally may be as wide as 50 centimetres. The vein crosscuts dolomites and limestones of the Middle Cambrian Nelway Formation as well as phyllites and quartzites of the Lower Cambrian Laib Formation. The country rock also includes several diorite dykes which are pre-veining in age. Near surface and to a depth of about 5 metres the vein is highly weathered and contains cerussite, chalcocite, covellite, malachite and azurite. There is some cross fracturing and quartz veining on a north trend with steep west dips. The vein carries silver and gold values but mineralization is highly erratic ranging from trace up to in the order of 65 grams per tonne gold or better and as high as 13 kilograms silver per tonne from selected grab samples (Minister of Mines Annual Report 1938).

From six years between and 1938 and 1963 (inclusive), there was a total of 55 tonnes mined from which was recovered 2,456 grams of gold, 65,191 grams of silver 2,318 kilograms of lead and 1,115 kilograms of zinc. Most of the production was from 1938 when 34 tonnes were mined.

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EMPR ASS RPT 9165, 10692, 10842, 11452, 18364
EMPR BC METAL MM01036

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 41; 109
EMPR EXPL 1980-51
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
GSC MAP 299A; 1090A; 1091A; *1145A
GSC MEM 172; 308, pp. 158,175
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/27

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW063**

NATIONAL MINERAL INVENTORY: 082F6 Ag2

NAME(S): **PORCUPINE (L.4634)**, FRANKLIN (L.4635), MAPLE LEAF,
CHAMPAGNE (L.5131)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 15 15 N
LONGITUDE: 117 10 59 W
ELEVATION: 975 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5455727
EASTING: 486679

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Lot 4634. The showing consists of a number of adits and open cuts from creek level to 975 metres including what are known as the Porcupine, Franklin, and Maple Leaf workings (Assessment Report 17510).

COMMODITIES: Gold Silver Lead Zinc Tin
Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Pyrrhotite
COMMENTS: Tin mineral is unidentified, chalcopyrite is rare and the copper production recorded is suspect.

ASSOCIATED: Quartz

ALTERATION: Silica Pyrite

ALTERATION TYPE: Silicific'n Pyrite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
MODIFIER: Sheared
COMMENTS: Dimension and attitude for the veins is variable.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Unnamed/Unknown Group	Unnamed/Unknown Formation	
Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Granodiorite
Quartzite
Granite
Lamprophyre Dike

HOSTROCK COMMENTS: Veins occur near the metasedimentary/Nelson batholith contact.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Contact

Plutonic Rocks
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Grab

COMMODITY	GRADE	
Silver	33.4000	Grams per tonne
Gold	0.9000	Grams per tonne

COMMENTS: Sample PORC 3 of quartz containing pyrite and sphalerite taken from the vicinity of the workings at 845 metres elevation.

REFERENCE: Property File - Obolus Resources Inc., Prospectus, Nov. 1988.

CAPSULE GEOLOGY

The property is located at 914 metres elevation on the south side of Porcupine Creek, about 2 kilometres east of the Salmo River and 3.2 kilometres east-southeast of Ymir. The Nevada property (082FSW064) adjoins to the southwest. The very similar Blue Nellie showing (082FSW065) is just to the north. The property includes the Maple Leaf workings comprising ten short adits and several open cuts.

CAPSULE GEOLOGY

The Porcupine (Lot 4634), the first claim staked in the Ymir area, was located by Messrs. Lloyd and Thompson in 1895. Considerable work was done in an adit driven in 1897. The Porcupine and Franklin (Lot 4635) were Crown-granted to J.S. Clute in 1901. Claims adjacent to the northwest were Crown-granted that same year to The Rio Grande Gold and Silver Mining Company, Limited Liability; in later years these claims were divided between the Porcupine and adjacent Nevada properties.

In 1925 the Porcupine group, owned by E. Haukedahl, E. Gille, and Nels Peterson, of Ymir, comprised 7 claims including in addition to the above, the Sunrise claim, and the Champagne (Lot 5131) which had been Crown-granted to the Rio Grande company. Exploration work was reported in open cuts and old adits. The Porcupine was reported re-Crown-granted in 1925 to N.H. Peterson. The Franklin, Champagne, and Sunrise (Lot 4385) were re-Crown-granted to Haukedahl and Peterson in 1926.

The property was bonded in 1926 by R.K. Waite for Cleveland Ohio interests. Cleveland Mines, Limited was incorporated in September of that year but no activity was reported other than the shipment of a few tons of ore. Intermittent prospecting and development by Haukedahl and Peterson continued until about 1930; work to date included numerous open cuts and about 129.8 metres of underground work in 5 adits.

Late in 1937 the property was optioned by C. Wolf and E.H. Carlson, of Spokane, who carried out 84 metres of drifting the following year. A Spokane syndicate, Maple Leaf Gold Mining Co. Inc. was organized to continue the development work. In 1939 underground work totalled 49 metres of drifting and 18 metres of crosscutting; an additional 38 metres of drifting was reported in 1944. The company in 1948 held the Ambassador, Easter, and Sun Fr. claims in this vicinity. An adit was driven during the year and a small amount of ore shipped.

Duval International Corporation held the Porcupine and adjacent claims in 1968; geological mapping and sampling was reported.

The Porcupine, Franklin, and Champagne claims were owned in 1976 by I. Urquhart, c/o Cochran Consultants Ltd. Geological mapping, and sampling of trenches, dumps, and adits was reported in 1976 and 1978.

The area is underlain by Lower Cambrian metasediments near the contact with the southern tongue of the Nelson batholith of the Middle to Late Jurassic Nelson Intrusions. The metasediments comprise quartzite, schist, argillite and slate. These have been intruded by granodiorite and late stage lamprophyre dykes.

Irregular quartz veins occupy steeply dipping shear zones in argillite adjacent to their contacts with granodiorite and are associated with silicified zones. The shear zones are up to 3 metres wide with the best mineralization restricted to less than a metre. At least five veins have been poorly documented on the property. Mineralization consists of pyrite, galena, sphalerite and trace pyrrhotite hosted by quartz gangue. These sulphides occur as disseminations, stringers and small pods. Sulphides, particularly pyrite, also occur as disseminations within the wallrocks of the veins and shears. Width, strike and dip are variable although all of the showings have proven to be limited in size. Traces of chalcopryrite and tin are recorded.

Production for the showings is uncertain; 16 tonnes yielding 31 grams gold, 5381 grams silver and 1052 kilograms copper (which makes origin suspect) is recorded for the Porcupine for 1926; 24 tonnes yielding 72 grams gold, 7216 grams silver, 648 kilograms lead and 1738 kilograms zinc is recorded for the Maple Leaf in 1948; and 69 tonnes of crude ore yielding 31 grams of gold, 5910 grams of silver, 482 kilograms lead and 895 kilograms zinc is reported shipped in 1971 from the Maple Leaf.

A grab sample of quartz containing pyrite and sphalerite (PORC 3) taken in 1988, from the vicinity of the workings at 845 metres elevation, assayed 0.9 grams per tonne gold and 33.4 grams per tonne silver.

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1937-E50; 1938-E42; 1939-81; 1944-61; 1948-133; 1968-241
EMPR ASS RPT *6140, 6993, 7581, 7882, 8212, 9125, 9945, *17510
EMPR BC METAL MM01051
EMPR BULL 41; 109
EMPR EXPL 1976-E36; 1978-E56; 1979-62; 1980-67
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR GEM 1971-27
EMPR INDEX 3-209

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 1145
REPORT: RGEN0100

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Group, 8 p; Plan of workings, 1930; Obolus Resources Inc.,
Prospectus, Nov. 1988)
GSC MAP *51-4A; 175A; 1090A; 1091A; 1144A
GSC MEM 94, pp. 3,123; *191, p. 16; 308, p. 134
GSC OF 1195
GSC P *51-4, p. 40
Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/11

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW064**

NATIONAL MINERAL INVENTORY: 082F6 Ag3

NAME(S): **NEVADA (L.3504)**, IMPERIAL (L.3025), RIO GRANDE,
PORCUPINE

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:
LATITUDE: 49 15 08 N
LONGITUDE: 117 11 44 W
ELEVATION: 1100 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 3504 (NTS Map 082F/06).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5455513
EASTING: 485769

COMMODITIES: Gold Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
MODIFIER: Faulted Sheared
DIMENSION: STRIKE/DIP: 065/70S TREND/PLUNGE:
COMMENTS: Quartz veins trend 050 to 080 degrees and dip between 60 to 75 degrees south.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Ymir	Undefined Formation	Nelson Intrusions
Jurassic			

LITHOLOGY: Argillite
Schist
Granite
Granodiorite
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE:

CAPSULE GEOLOGY

The property is located at 1097 metres elevation on the south side of Porcupine Creek, about 1.6 kilometres east of the Salmo River and 3.2 kilometres south-southeast of Ymir. The Porcupine property (82 F/6, Ag 2) adjoins to the northeast.

The Nevada claim (Lot 3504) was located in July 1898 by J.B. Stover and Crown-granted in 1899 to R.C. Pollett. The Imperial claim (Lot 3025), adjoining to the southeast, was Crown-granted to G.F. Whiteman in 1898. The Victor, Emerald, and Porcupine claims (Lots 2906-2908 respectively), extending south from the Imperial, were Crown-granted to P. Thompson, A. Johnson & associates in 1902. The Sandaulphon, Gorgina, Champagne, and Rio Grande Fr. (Lots 4639, 5130-5132 respectively), located adjoining to the north of the Nevada claim, were Crown-granted to The Rio Grande Gold and Silver Mining Company, Limited Liability in 1901; the Champagne claim in later years became part of the Porcupine property.

In about 1907 the Rio Grande Fr., Gorgina, and Sandaulphon claims were purchased at a tax sale by O. and C. Anderson, of Ymir. The Nevada and Imperial claims were acquired in 1911 by Messrs. Grobe and MacLeod, of Ymir. Development work to 1915 totalled about 98 metres of drifts and crosscuts in 4 adits. Work on the Rio Grande Fr. included about 122 metres of drift and crosscuts in one adit; a lower adit was being extended in 1915. Further development work was reported in 1917. The Imperial claim was re-Crown-granted in 1918 to D.E. Grobe. Sampling was reportedly carried out on the property in the 1930's by Wesko Exploration and Development Company, Limited.

MINFILE NUMBER: **082FSW064**

CAPSULE GEOLOGY

In 1937 some development work was carried out by David Grobe of Spokane; a small shipment of ore was reported under the name of J.A. Armes, of Vancouver, as owner.

The property was bonded in 1926 by R.K. Waite for Cleveland Ohio interests. Cleveland Mines, Limited was incorporated in September of that year but no activity was reported other than the shipment of a few tons of ore. Intermittent prospecting and development by Haukedahl and Peterson continued until about 1930; work to date included numerous open cuts and about 130 metres of underground work in 5 adits.

Late in 1937 the property was optioned by C. Wolf and E.H. Carlson, of Spokane, who carried out 84 metres of drifting the following year. A Spokane syndicate, Maple Leaf Gold Mining Co. Inc. was organized to continue the development work. In 1939 underground work totalled 49 metres of drifting and 18 metres of crosscutting; an additional 38 metres of drifting was reported in 1944. The company in 1948 held the Ambassador, Easter, and Sun Fr. claims in this vicinity. An adit was driven during the year and a small amount of ore shipped. Duval International Corporation held the Porcupine and adjacent claims in 1968; geological mapping and sampling was reported. The Porcupine, Franklin, and Champagne claims were owned in 1976 by I. Urquhart, c/o Cochran Consultants Ltd. Geological mapping, and sampling of trenches, dumps, and adits was reported in 1976 and 1978.

The Nevada showings are located on the south side of Porcupine Creek, about 3.2 kilometres southeast of Ymir. The Porcupine showings (082FSW063) adjoin to the northeast.

The area is underlain by metasediments of the Jurassic Ymir Group intruded by Middle to Late Jurassic granite and granodiorite of the Nelson Intrusions.

Two types of mineralization occur on the property: 1) veins and 2) shear zones.

A number of irregular quartz veins strike 050 to 080 degrees and dip 60 to 75 degrees south. The veins occur at and near the margins of the intrusives, hosted mainly in schist and argillaceous quartzite. The veins are 15 to 75 centimetres wide and contain quartz with sheared or schistose wallrocks. Mineralization consists of scattered patches and disseminations of fine-grained pyrite, galena, sphalerite and common limonite.

Shear zones are developed along a north trend of about 40 degrees, with dips in the order of 80 degrees southeast. The shears are up to 3 metres wide and contain stringers of quartz in sheared wallrock. Mineralization is sparse and includes galena, sphalerite and pyrite. Silicification is locally developed at and near granite contacts. Gold and silver values are low and sporadic.

A shipment of 9 tonnes in 1937 contained 62 grams of gold, 1773 grams of silver, 546 kilograms of lead and 381 kilograms of zinc.

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1915-154; 1917-195; 1918-473; 1926-449; 1934-A27; 1937-A39,E50;
1938-E42
EMPR ASS RPT 6140, 6993, 7581, 7882, 8212, 9125, 9945, 17510
EMPR BC METAL MM01044
EMPR BULL 41; 109
EMPR EXPL 1978-E56; 1979-62; 1980-67
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; 175A; 1090A; 1091A; 1144A
GSC MEM *94, p. 120; *191, p. 13; 308, pp. 120,132
GSC OF 1195
GSC P 51-4

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/15

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 1149
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EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; *175A; 1090A; 1144A
GSC MEM 94, p. 118
GSC OF 1195
GSC P *51-4

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/11

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW066**

NATIONAL MINERAL INVENTORY: 082F6 Au4

NAME(S): **CENTER STAR (L.3766)**, WESKO, TWILIGHT (L. 3767),
REDMAN GOLD ISLAND, CROWFOOT,
BLIND CANYON

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:
LATITUDE: 49 16 32 N
LONGITUDE: 117 11 25 W
ELEVATION: 1060 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Workings near the southwest corner of Lot 3766 (NTS Map 082F/06).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5458106
EASTING: 486160

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Pyrrhotite
ASSOCIATED: Quartz
ALTERATION: Limonite Manganite Cerussite Pyromorphite Silica
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown
Silicific'n

DEPOSIT

CHARACTER: Vein Breccia Shear
CLASSIFICATION: Hydrothermal Epigenetic Igneous-contact
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Fractured Faulted
DIMENSION: 152 Metres STRIKE/DIP: 070/80N TREND/PLUNGE:
COMMENTS: Vein, 152 metres long, strikes 060 to 080 degrees east and dips steeply northwest.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ymir	Undefined Formation	
Jurassic			Nelson Intrusions

LITHOLOGY: Quartzite
Argillite
Granite
Granodiorite
Breccia

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact Regional
Plutonic Rocks
RELATIONSHIP:
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE: Greenschist

CAPSULE GEOLOGY

This property is located at 1067 metres elevation on the west slope of Jubilee Mountain about 1.6 kilometres southeast of Ymir. The Centre Star claim was located in 1900 and Crown-granted to J.S.C. Fraser & associates in 1905. No further activity was reported from the property until 1934. At this time Wesko Exploration and Development Company, Limited, acquired the Centre Star group consisting of the Centre Star, Redman, Twilight, Cold Island, Crowfoot, and Blind Canyon Crown-granted claims, and ten adjoining claims held by location. Exploration and development work was carried on through 1935 and in 1936 a 100 ton per day concentrator was put into operation. During 1936 the company name was changed to Wesko Mines, Limited. The concentrator operated until August 1938 at which time the ore reserves were exhausted. A very limited diamond drilling program failed to locate additional ore and the mine closed late in the year. Lessees carried on small scale intermittent salvage operations from 1940 until 1950. The mine has been developed by over 2012 metres of drifts, crosscuts and raises on 5 main levels and several subsidiary levels. The Centre Star mine is located on the west slope of Jubilee Mountain, about 1.6 kilometres northeast of Ymir. The mine has been developed by over 2000 metres of drifts, crosscuts, and raises on 5 main levels and several secondary levels. Mining operations started

CAPSULE GEOLOGY

in 1936 and by 1938 reserves were exhausted; intermittent salvage operations were carried on from 1940 to 1950.

The area is underlain by Jurassic Ymir Group sediments. The sheared and altered argillites and quartzites are intruded by the Nelson batholith comprising granite and granodiorite of the Middle to Late Jurassic Nelson Intrusions. Prominent shear zones, 5 to 10 metres wide, trending 30 to 55 degrees east with vertical or steep southeast dips, crosscut the host rocks. On the property, two such parallel shear zones occur about 122 metres apart.

Mineralization occurs in a broad contact zone consisting of sheared and altered argillites and quartzite intruded by granite. Ore shoots occur in veins, up to 8 metres wide, along fault fissures striking 280 to 300 degrees and dipping steeply northwest.

The deposit comprises a 152 metre long mineralized vein, dipping steeply northwest, occurs within a 1 to 2-metre wide fracture. The vein strikes 60 to 80 degrees east, diagonally between the two major northeast trending shear zones, and is terminated by shears. Ore shoots with an easterly pitch are developed at the intersection of the vein with northwest trending fractures. The fractures also host sulphides but they contain negligible to zero gold. Tongues of intrusive granite are close to the ore shoots.

Gangue consists of quartz and brecciated, siliceous country rock fragments, with pyrite, galena, sphalerite and pyrrhotite. Pyrrhotite is less common in the upper levels. Near surface, the vein is oxidized with limonite, manganite and pyromorphite stained by cerussite.

The average grades from 51,458 tonnes of production were 7.5 grams per tonne gold, 57.3 grams per tonne silver, 1.88 per cent lead and 0.93 per cent zinc (Assessment Report 11753).

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1938-A36,E3; 1940-25,67; 1941-26,66; 1942-27,63; 1944-40,61;
1946-35,144; 1947-16; 1948-133; 1949-165; 1950-121
EMPR ASS RPT 11753, 19587
EMPR BC METAL MM01089
EMPR BULL 41; 109
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
EMR MP CORPFILE (Wesko Mines Ltd.)
GSC MAP 51-4A; 175A; 1090A; 1144A
GSC MEM *191, pp. 3,5,17-20; 308, p. 155
GSC OF 1195
GSC P *51-4
CANMET RPT 771, INVEST 642, Jul.-Dec., 1935, pp. 42-55

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/15

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

fire in April 1899.

Vancouver interests were negotiating for the property in 1903. Dundee Cold Mine, Limited was incorporated in Vancouver in July 1904 to acquire the property. Some rehabilitation work was done in 1903 and lessees worked for a short period in 1905.

The Dundee, Dundee Fraction, and M.S. claims (Lots 7241- were Crown-granted to Dundee Cold Mining and Milling Company, of Everett, Washington, which was registered in British Columbia in 1905. The location of these claims relative to the Dundee property is not known.

Work resumed in June 1910 when an adit "Dundee adit" was begun on the Old Bill claim some 274 metres below the collar of the shaft. By 1915 when work ceased the adit had been driven as a crosscut for 568 metres, and for 333 metres of drifting on the vein.

The Mining Corporation of Canada, Limited optioned the property late in 1919 and some exploration work was carried out in 1920. The option was dropped in 1921.

Ymir Dundee Gold Mining Company, Limited, incorporated June 1934, acquired the property under agreement from Dundee Gold Mine, Limited and development work was begun in driving a raise. Operations continued until mid 1935.

Ymir Yankee Girl Gold Mined, Limited, owner of the adjacent Yankee Girl mine, acquired a lease and bond on the property early in 1940. A crosscut was begun from the Yankee Girl main (376 metres) level to connect with the raise from the Dundee adit. Some 660 metres of raising on the Dundee supplied most of the ore milled during 1941 and to the end of 1942 when the mine closed. Lessees owned pillar and stope remnants in 1950. The workings to date comprised 8 levels over a vertical range of 305 metres.

Yankee Dundee Mines Limited was incorporated in November 1952 by Ralph Sostad and associates to develop the Yankee Girl and Dundee mines, however no work was reported on the Dundee. The company name was changed in 1963 to Dundee Mines Limited.

Burlington Mines Ltd., (of which Ralph Sostad was a director) acquired 36 claims comprising the Dundee and Yankee Girl properties from Dundee Mines Limited by an agreement dated July 1966. No work was reported on the Dundee.

The Dundee mine is located on the north side of Oscar Creek, 3 kilometres east-northeast of Ymir. This property was one of the first to be developed in the Ymir area; gold was initially discovered on the Dundee in 1896. The Dundee and Yankee Girl (082FSW068) mines were amalgamated in 1940. A crosscut was developed from the Yankee Girl 1235 level to connect with the raise from the Dundee adit. The Dundee mine closed in 1942 and no further work has been reported. The Yankee Girl vein occurs 300 metres to the north.

The area is underlain by Jurassic Ymir Group slate, argillite and argillaceous quartzites intruded by granodiorite of the Middle to Late Jurassic Nelson Intrusions. The contact with a southern tongue of the Nelson batholith occurs about 400 metres to the east. The area is strongly faulted with the faults forming a conjugate set. One set, striking 290 degrees and dipping 60 to 70 degrees north, hosts mineralized veins.

The Dundee vein, a strong fault-fissure striking 060 to 070 degrees east and dipping 60 to 70 degrees northwest, cuts both the sediments and intrusive. The zone has well-defined walls and varies from 2 to 6 metres in width. On the hanging wall, 30 to 60 centimetres of fault gouge is present and the footwall is granite. The vein hosts sheared country rock fragments in a quartz gangue containing pyrite, galena, and sphalerite, in order of abundance. The vein, parallel to the Yankee Girl vein, has been traced on surface for many hundreds of metres. At surface, the vein is 4 metres wide and increases with depth. The vein is offset and intersected by lamprophyre dykes.

Production at the Dundee was principally from a 33-metre long ore shoot in the vein where it crosscuts a tongue of granodiorite. The ore bearing sections of the vein are up to 4 metres wide. Sulphide mineralization is less abundant where the vein crosscuts sediments. The Dundee vein is paralleled by the Blue vein which generally hosts less gold and dips less steeply.

Production from the Dundee has been included with the Yankee Girl, however, this property had only a limited production of 2717 tonnes with grades in the order of 10 grams per tonne gold and 170 grams per tonne silver. Inferred reserves are 872,000 tonnes at approximately the same grade as the material mined (George Cross News Letter No. 215, 1983). There are 360,000 tonnes of reported material left on the dumps (George Cross News Letter No. 212, 1983).

Kingsvale Resources Ltd. optioned the property in 1988 and conducted trenching and sampling; they dropped the option in 1989.

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EMPR ASS RPT 7196, *9021, *14719
EMPR BC METAL MM00986
EMPR BULL 1, p. 104; 41; 109
EMPR EXPL 1975-34; 1980-68; 1986-C53
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16; 1998-10
EMPR PF (See Yankee Girl 082FSW068)
EMR MP CORPFILE (Ymir Dundee Gold Mining Company, Limited; Ymir Yankee Girl Gold Mines Limited; Yankee Dundee Mines Limited; The Mining Corporation of Canada, Limited; Burlington Gold Mines Ltd.; Dundee Mines Limited)
GSC ANN RPT 1897, p. 32A
GSC MAP 51-4A; 175A; 1091A; 1144A
GSC MEM *94, pp. 109,111; 191, p. 25; 308, pp. 184,192
GSC OF 1195
GSC P 51-4
GCNL #212,#215, 1983
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/17

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

was initially discovered on the Yankee Girl in 1899. The Yankee Girl and Dundee (082FSW067) mines were amalgamated in 1940. A crosscut was developed from the Yankee Girl 1235 level to connect with the Dundee adit. The Dundee vein occurs 300 metres to the south.

The area is underlain by Jurassic Ymir Group slate, argillite and argillaceous quartzites intruded by granodiorite of the Middle to Late Jurassic Nelson Intrusions. The contact with a southern tongue of the Nelson batholith crosscuts the area. The area is strongly faulted with the faults forming a conjugate set. One set hosts mineralized veins.

The Yankee Girl vein, averaging 1.5 metres in width, has a maximum width of 9 metres with productive sections never wider than 4 metres. The vein fissure, striking 060 to 070 degrees and dipping 55 to 70 degrees south, hosts quartz gangue with fragments of brecciated and altered granodiorite and schist. Mineralization consists of pyrite, galena and sphalerite with values in gold, silver and cadmium. The values are erratically distributed. Ore occurs in well-defined shoots which generally rake to the east. The Spur vein, equally rich, branches off the Yankee Girl vein on the footwall and is parallel to it for 250 metres.

The Lakeview cataclastic zone/vein is the largest mineralized fault on the property. Average gold values from drifting on the vein at the Yankee Girl junction were 3.4 grams per tonne gold (Assessment Report 14719). The Lakeview zone, more than 15 metres wide, exhibits intense deformation, banding, flow characteristics and brecciation. Fractures are filled with quartz and mineralized with disseminated and irregular masses of pyrite and minor disseminated sphalerite. The zone is hosted in granitic rocks varying in composition from granite to diorite. Argillic alteration is common. Drilling on the Lakeview zone in 1985 was disappointing.

Two other mineralized veins, the Bonus (120 metres north of the Yankee Girl) and Cannon veins, were identified in the Wildhorse crosscut in 1954. The Bonus vein is parallel to the Yankee Girl. A sample taken from a section of the Bonus vein, where it is 2 metres wide, assayed 15.43 grams per tonne gold, 9.94 grams per tonne silver, 2.65 per cent zinc and 1.2 per cent lead (Assessment Report 14719). A sample across 1 metre in the Cannon vein averaged 13.0 grams per tonne gold (George Cross News Letter No.145, 1988).

Production from the Yankee Girl and parallel veins totalled 370,616 tonnes with a grade of approximately 8.6 grams gold and 44.5 grams silver per tonne. Lead constitutes an average of 1.5 per cent and zinc assays about 2.8 per cent.

Kingsvale Resources Ltd. optioned the property in 1988 and conducted trenching and sampling; they dropped the option in 1989.

The property is located at approximately 1097.2 metres elevation on the north side of Oscar Creek, 1.6 kilometres east of Ymir.

The Yankee Girl, Canadian Girl, and Atlin claims were staked in October 1899 by Messrs. Graham, Grobe, McLeod, Masterton, and Lovell. Development work was done in a series of open cuts, a shaft, and an adit ("Overland Tunnel") which gained a depth of 15 metres on the vein. In 1904 the Atlin and adjacent Nome and Yukon claims were held by Pat Daly, A. Parr, Wm. Coffey and associates. The Atlin-Nome workings included a shaft to 18 metres with a 15-metre crosscut to the north, and a 96-metre crosscut adit and drifts on the vein. On the Yukon claim an adit had been driven 75 metres. The Yankee Girl (Lot 7712) and Canadian Girl (Lot 7072) were Crown-granted in 1907 to David Grobe, Donald McLeod, James Cronin, and Eber Moore. The Yukon Fr. (Lot 5303) was Crown-granted to Messrs. Daly, Coffey, Hughes and Ryan. In 1910 the Atlin (Lot 4800) and Atlin Fr. No. 2 (Lot 9336) were Crown-granted to William Coffey.

The property was bonded in 1907 by a syndicate of American interests. About 305 metres of development work was carried out and a tram line was built from the Yukon claim to the wagon road. The bond was given up in August of that same year. Early in 1908 the property was bonded by H.L. Rodgers, representing New York interests, and development work began in driving the 1235 (No. 4) level adit from the Old Bill claim of the adjacent Dundee property (82 F/6, Au 10). Operations were transferred to Yankee Girl Gold Mines, Limited which was incorporated in South Dakota and registered in British Columbia in 1909.

The Yankee Girl, Canadian Girl and Yukon Fraction were optioned in 1911 by Hobson Silver-Lead Company, Limited of Spokane, which was controlled by Fort Worth Texas interests. An aerial tram 1829 metres long was built from the 1235 level to the railroad at Ymir. Development work continued in the 1235 level and ore was shipped to smelters at Greenwood, Grand Forks, and Trail, the high silica content of the ore making it desirable for fluxing purposes. The company ceased operations in 1919. Ownership of the property was transferred to Texas Yankee Girl Mines, Limited, which was registered

CAPSULE GEOLOGY

in British Columbia in 1920.

The Mining Corporation of Canada, Limited optioned the property in the spring of 1920 and carried out 628 metres of drifting and crosscutting and 204.2 metres of raising in known areas of the mine. The option was given up later in the year. No further activity was reported until 1926 when O.C. Thompson and associates optioned the property and incorporated Yankee Girl, Limited. The mine was reopened and some ore shipped during the year. In May 1927 The Porcupine Goldfields Development and Finance Company, Limited optioned the property. Further development work was carried out and diamond drilling was done to test for ore below the 1235 level. Enterprise Consolidated Mining Company, Limited optioned the property in March 1928 from Texas Yankee Girl Mines, Limited. The company name Enterprise) was changed to Yankee Girl Consolidated Mines, Limited. Further development work was done in the upper levels of the mine. The workings at that time included 2 shafts, 5 adits and 10 levels totalling some 5486 metres of openings. In the fall of 1928 a new crosscut adit was begun on the Ymir (Wildhorse) Creek side of the mountain 233 metres below the 1235 level. When work was suspended late in 1929 the Wildhorse adit had been driven 869 metres.

Early in 1933 E.P. Crawford, F.R. Weekes and associates took over the property under an agreement with Texas Yankee Girl Mines, Limited and incorporated Ymir Yankee Girl Gold Mines, Limited in May 1934. The property included 5 Crown-granted claims, the Yankee Girl, Canadian Girl, Lakeview, Black Diamond, Yukon Fr., and Klondyke No. 1 Fr. The company installed a 100 t.p.d. mill which began production in January 1935. A winze was sunk to 91 metres below the 1235 level, extending the workings to a depth of 495 metres and comprising eleven levels. The company continued operations during 1938 while lessees carried out the mining of ore remnants in pillars and stopes in the less accessible parts of the mine. In 1939 the company carried out a salvage mining operation in pillars and stope remnants. A crosscut adit was driven from the 1235 adit level to the Dundee ore zone in 1940. The mill operated on Dundee ore, and on mill tailings from former operations, until June 1942 when the company ceased work. Lessees operated the mill until near the end of the year, treating backfill from old stopes. Lessees continued intermittent mining and clean up operations into 1950.

Yankee Dundee Mines Limited was incorporated in November 1952 to develop the Yankee Girl and Dundee properties. Rehabilitation and extension of the Wildhorse adit began and in 1954 the adit reached a length of 1417 metres. At 1247 metres from the portal the Bonus vein was intersected and drifted on for 20 metres. At 1417 metres the Yankee Girl vein was encountered and drifted on for 14 metres. In December 1954 a raise was started on the vein but only driven 11 metres when work stopped.

Newmont Mining Corporation of Canada Limited optioned the property in August 1960. Diamond drilling was done in 2 holes to test the Bonus vein. The option was given up in December.

Cayzar Athabaska Mines Limited in August 1961 optioned the property from Yankee Dundee and drove a raise on the Yankee Girl vein for 143.5 metres to intersect the old workings at the 1625 level. Drifting totalling 126 metres and some 678 metres of diamond drilling in 5 holes was done on the Yankee Girl vein from the Wildhorse adit. The option was given up in 1965. The company name (Yankee Dundee) was changed in 1963 to Dundee Mines Limited.

Burlington Mines Ltd. by an agreement dated July 1966 acquired from Dundee Mines 24 Crown-granted claims. Rehabilitation and maintenance work was done in the Wildhorse adit. The company name was changed to Burlington Mines & Enterprises Ltd. in 1970 and to Burlington Gold Mines Ltd. in 1974.

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EMPR ASS RPT 7196, 9021, *14719, 17505
EMPR BC METAL MM01093
EMPR BULL 1, p. 104; 41; 109
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GSC P 51-4
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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/17

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW069**

NATIONAL MINERAL INVENTORY:

NAME(S): **TWO STAR**, EVENING STAR (L.3778), MORNING STAR (L.3779),
MILL (L.14582), YANKEE - DUNDEE

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 17 44 N
LONGITUDE: 117 10 13 W
ELEVATION: 1700 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5460326
EASTING: 487619

LOCATION ACCURACY: Within 500M

COMMENTS: The property was amalgamated with the Dundee (082FSW067) and Yankee Girl (082FSW068) in 1976. The location is for the centre of Lots 3778 and 3779, but the underground portal access is located on the Mill Fr., Lot 14582 (Minister of Mines Annual Report 1933 p. 224).

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

DIMENSION:

STRIKE/DIP: 055/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Jurassic
Jurassic

GROUP

Ymir

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Argillite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

118.2700

Grams per tonne

Gold

10.1100

Grams per tonne

COMMENTS: Average assay over 2.4 metres from the Evening Star shaft. Assays to the west were higher.

REFERENCE: George Cross News Letter No.216, 1988.

CAPSULE GEOLOGY

The Two Star showing is located 32 kilometres south of Nelson, just east of Ymir. Development began on this property in 1933.

The area is underlain by granodiorite of the Middle to Late Jurassic Nelson Intrusions, a small pendant of Jurassic Ymir Group argillite occurs near the showing.

The occurrence is on the strike extension of the Yankee Girl (082FSW068) and Dundee (082FSW067) vein systems. The occurrence comprises a vein in a strong quartz filled shear which strikes 055 degrees within argillite. The vein is wide and hosts pyrite and fine-grained galena and sphalerite.

Kingsvale Resources Ltd. optioned the property in 1988 and conducted trenching and sampling; they dropped the option in 1989. The sampling program in 1988 from the Evening Star shaft resulted in an average assay of 10.11 grams per tonne gold and 118.27 grams per tonne silver over 2.4 metres (George Cross News Letter No.216, 1988). Assays to the west of the shaft were higher.

There has been no recorded production from this occurrence although there has been a great deal of surface and underground development.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1160
REPORT: RGEN0100

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GSC MEM *94; 191; 308
GSC OF 1195
GSC P 51-4
GCNL #208, 1976; *#216, 1988
PR REL Kingsvale Resources Ltd., Nov. 2, 1988

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/17

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW070**

NATIONAL MINERAL INVENTORY: 082F6 Ag4

NAME(S): **MAY BLOSSOM (L.5666)**, MAY DAY (L.13468), STEWART 3,
STEWART, MAY FLOWER, BIG DIAMOND,
ELECTRIC

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:
LATITUDE: 49 15 55 N
LONGITUDE: 117 14 39 W
ELEVATION: 1265 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Showing within Lot 13468 (Geological Survey of Canada Memoir 94).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5456975
EASTING: 482236

COMMODITIES: Silver Lead Zinc Gold Molybdenum
 Tungsten

MINERALS

SIGNIFICANT: Galena Pyrite Chalcopyrite Molybdenite Scheelite
COMMENTS: Low gold values. Trace amounts of molybdenum and scheelite.
ASSOCIATED: Quartz
ALTERATION: Silica
COMMENTS: No description of skarn minerals available.
ALTERATION TYPE: Silicific'n Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive
CLASSIFICATION: Hydrothermal Skarn Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au K05 W skarn
SHAPE: Regular
MODIFIER: Sheared
DIMENSION:
COMMENTS: Striations recorded on vein walls. STRIKE/DIP: 322/82E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Elise	
Lower Jurassic	Rossland	Hall	
Eocene			Coryell Intrusions
Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Augite Porphyry
Quartz Monzonite Porphyry
Quartz Monzonite
Rhyolite Dike
Volcanic Flow
Tuff
Argillite
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The May Blossom showing is located on the west side of the Salmo River, 3.5 kilometres southwest of Ymir. The showing is east of the Free Silver showing (082FSW277). The claim was staked in 1897 and development includes a shaft and an adit.

The property is located at 1372 metres elevation on the west side of the Salmo River, 3.5 kilometres southwest of Ymir.

The Free Silver claim (Lot 2902) was staked in June 1896 by J.M. McLaren and Crown-granted in 1902 to P.W. Thompson and associates. Adjacent ground was subsequently staked as the Ruby, Silver Fr., Victor, Royal, and Galena claims (Lots 2904 - 2906', 5322, 4553 respectively). Further activity was reported in 1908 and 1915 when the property was owned by T. Bennett, J.H. Schofield and associates; the only work reported is trenching.

The May Blossom claim (Lot 5666), which adjoins and lies east of the Free Silver claim, was staked in May 1897 by W. Birmingham. Subsequent staking included the May Day (Lot 13468), May Flower, Big Diamond, and Electric claims. Early development work was by American interests under the name May Blossom Mining & Milling Company. By

CAPSULE GEOLOGY

1915, the claims were held by J.F. Harbottle and associates. Development work to date included a 12-metre vertical shaft and a 69-metre adit on the May Blossom claim.

Washington interests, under the name Gibraltar Mining Company, optioned the May Blossom and Free Silver groups in 1921 but no work was reported. Harbottle and associates held the May Blossom group until 1930 or later.

The Free Silver claim was owned in 1977 by R. Spain, of Trail; prospecting of old trenches was reported.

The area is underlain by sedimentary and volcanic rocks of the Lower Jurassic Elise and Hall formations of the Rossland Group. These have been intruded by Tertiary rhyolite dykes and monzonite of the Middle Eocene Coryell Intrusions.

A quartz vein carrying some galena, pyrite, and chalcopyrite occurs at the contact between a quartz monzonite porphyry and an augite porphyry sill of the Elise Formation. The vein is reported to be narrow (about 1 to 4 centimetres) but is silicified and "altered" (?) for about 0.5 metre on each side of the vein. The vein strikes 322 degrees and dips 82 degrees northeast. Galena occurs as narrow stringers and reportedly assays up to 1371.2 grams per tonne silver and has low gold values.

Later reports identify some scheelite in skarn mineralization and some molybdenite in the quartz veining. The records indicate that the mineralization is not extensive and the best accumulation of sulphides was the galena rich material near the portal.

"A few hundred pounds of manganese ore was reported shipped", but the source is not identified.

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DATE CODED: 1985/07/24
DATE REVISED: 1991/05/13

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW071**

NATIONAL MINERAL INVENTORY:

NAME(S): **RONOKE (L.3402)**, LEXINGTON (L.3718), ROANOAKE

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 19 00 N
LONGITUDE: 117 08 52 W
ELEVATION: 950 Metres

NORTHING: 5462670
EASTING: 489260

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Lot 3402 and approximate location of upper workings (Assessment Report 6141).

COMMODITIES: Gold Lead Copper

MINERALS

SIGNIFICANT: Pyrite Galena Chalcopyrite

ASSOCIATED: Quartz Graphite

ALTERATION: Silica

COMMENTS: "Rusty" indicates that oxidation is present.

ALTERATION TYPE: Silicific'n Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Ordovician	Undefined Group	Active	
Jurassic			Nelson Intrusions

LITHOLOGY: Hornblende Biotite Schist
Schist
Quartzite
Biotite Granodiorite

HOSTROCK COMMENTS: Lower to Middle Ordovician Active Formation rocks are referred to as the Pend d'Orielle schists.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Kootenay

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1976

SAMPLE TYPE: Grab

COMMODITY

GRADE

Gold

39.0000

Grams per tonne

COMMENTS: Assay based on \$35.00 per ounce gold.

REFERENCE: Assessment Report 6141.

CAPSULE GEOLOGY

The Ronoke showings are located 7 kilometres northeast of Ymir on Ymir Creek. The claims were crown granted in 1901 and several open cuts and 3 adits have been developed.

The area is underlain by biotite granodiorite of the Middle to Late Jurassic Nelson Intrusions. Metamorphosed sediments of the Lower and Middle Ordovician Active Formation (Pend d'Oreille schists) occur in a roof pendant within the Nelson batholith.

The occurrence comprises two showings, the upper (on Lot 3402) and the lower (Lot 3718).

The lower showing, on the south side of the creek, comprises the dumps for 2 caved adits and a few open cuts. Mineralization consists of quartz veinlets with disseminated pyrite and traces of galena and chalcopyrite in silicified, rusty altered hornblende-biotite schist and quartzite. Intrusives host minor disseminated pyrite. An average of 6.9 grams per tonne gold (based on a price of \$35.00 per ounce) was calculated from 5 assays across 12 metres (Assessment Report 6141).

The upper showing, 300 metres upstream from the lower showing on

CAPSULE GEOLOGY

the north side of the creek, consists of a small outcrop and a caved adit. Mineralization is similar to the lower showing and is reported to "replace" or follow certain beds within the schists. Graphite is locally abundant. An assay of 39 grams per tonne gold came from this zone (also based on \$35.00 per ounce) (Assessment Report 6141).

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; 1090A; 1091A; 1144A
GSC MEM *94, p. 73; 191; 308
GSC OF 1195
PR REL Skeena Resources Ltd., Mar.5, 10, 2003

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/14

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW072**

NATIONAL MINERAL INVENTORY: 082F6 Au11

NAME(S): **TAMARAC (L.3802)**, TAMARACK, POWELL,
GRANBY, PHAROAH FR. (L.15180), RACATAM (L.3803),
KING SOLOMON FR. (L.12269), RAINBOW (L.12267), EVANGELINE (L.12271),
QUEEN OF SHEBA FR. (L.15181), DINNER BUCKET (L.3806), PILOT FR. (L.3452)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E 082F06W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 18 55 N
LONGITUDE: 117 12 34 W
ELEVATION: 1418 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5462526
EASTING: 484778

LOCATION ACCURACY: Within 500M

COMMENTS: Adit and tailings dump containing mineralized boulders (Assessment Report 9113).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite Gold Arsenopyrite

ASSOCIATED: Quartz

ALTERATION: Limonite

COMMENTS: Possible limonite as indicated by "brown alteration".

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

SHAPE: Irregular

MODIFIER: Fractured Sheared

DIMENSION: STRIKE/DIP: 005/30W

TREND/PLUNGE:

COMMENTS: The Tamarac vein strikes 005 degrees, dips 30 degrees north and is hosted in northeast trending secondary faults of a 40 metre wide northwest trending dextral shear zone.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Nelson Intrusions
Jurassic			

LITHOLOGY: Schistose Albite Porphyritic Granite
Feldspar Porphyritic Granite
Schistose Granite
Lamprophyre Dike
Gouge
Augite Basalt Flow
Flow Breccia

HOSTROCK COMMENTS: Unit Je4 and Je1 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Greenschist

INVENTORY

ORE ZONE: TAMARAC

REPORT ON: Y

CATEGORY: Inferred
QUANTITY: 440640 Tonnes

YEAR: 1989

COMMODITY: Gold
GRADE: 4.5000 Grams per tonne

COMMENTS: Possible.

REFERENCE: Property File - Yukon Spirit Mines Ltd., Prospectus, Sept. 1989.

INVENTORY

ORE ZONE: TAMARAC REPORT ON: Y
CATEGORY: Indicated YEAR: 1989
QUANTITY: 63180 Tonnes
COMMODITY: Gold GRADE: 2.2500 Grams per tonne
COMMENTS: Probable.
REFERENCE: Property File - Yukon Spirit Mines Ltd., Prospectus, Sept. 1989.

ORE ZONE: TAMARAC REPORT ON: Y
CATEGORY: Measured YEAR: 1989
QUANTITY: 55890 Tonnes
COMMODITY: Gold GRADE: 5.1000 Grams per tonne
COMMENTS: A central high-grade portion of the vein is estimated to contain 30,000 tonnes grading 10.4 grams per tonne gold.
REFERENCE: Property File - Yukon Spirit Mines Ltd., Prospectus, Sept. 1989.

CAPSULE GEOLOGY

The Tamarac deposit is located 5 kilometres northeast of Ymir on the southern slopes of Mt. Elise. The claims were staked in 1896. Production of approximately 232 tonnes has been reported for 1901, 1905, 1933 and 1959.

The mineralization is hosted in a major northwest trending, dextral shear zone within schistose-albite-porphyrific granite of the Middle to Late Jurassic Nelson Intrusions. Augite basalt flows and breccia flows of the Lower Jurassic Elise Formation, Rosslund Group also occur in the area. Lamprophyre dykes cut both the schistose granitic rocks and the mineralized quartz veins.

The Tamarac fissure-vein forms a typical "S" shaped secondary shear or tension gash which strikes about 005 degrees and dips 30 degrees west. The vein parallels the Ymir-Goodenough veins (082FSW074) and is confined within the northwest trending shear (which is about 40 metres wide). The vein consists of quartz gangue with disseminated pyrite, arsenopyrite, and minor free gold. Ore shoots, with a northwest rake, have been identified at the bends in the vein where dilation has been greatest. Disseminated pyrite and arsenopyrite also occur within the wallrocks but gold values decrease with distance from the vein. Fault gouge is present on the hanging and footwall side of the vein.

Numerous quartz veins cut the pluton at surface. A vein striking 082 degrees is visible in the ceiling of a collapsed adit. At least three other gold bearing quartz veins occur in the mine area. These strike between 320 and 090 degrees and dip 40 to 60 degrees north.

Reserves for the Tamarac vein have been calculated as 440,640 tonnes possible grading 4.5 grams per tonne gold, 63,180 tonnes probable grading 2.25 grams per tonne gold and 55,890 tonnes proven grading 5.1 grams per tonne gold (Property File - Yukon Spirit Mines Ltd. Prospectus, Sept. 1989). A central higher grade portion of the Tamarac vein is estimated as containing 30,000 tonnes grading 10.4 grams per tonne (Property File - Yukon Spirit Mines Ltd. Prospectus, Sept. 1989).

A sample of a north striking vein, near the 1 Level raise, assayed 4.2 grams per tonne gold over 1 metre (Property File - Yukon Spirit Mines Ltd., Prospectus, Sept. 1989). A sample from an east striking vein at the Powell shaft assayed 4.182 grams per tonne gold over 0.15 metre (Property File - Yukon Spirit Mines Ltd. Prospectus, Sept. 1989).

Tamarac claim (lot 3802) is located at the 1372 metres elevation, 1.6 kilometres east of the Salmo River and 3.2 kilometres north of Ymir. The main claims are the Tamarac and Racatam.

Adjacent ground to the north has been variously held as the Plymott claim (Lot 2399); later Crown-granted as the Pharoah Fr. (Lot 15180), and the Lone Pine claim which was reportedly restaked in 1932 as the Pathfinder and later Crown-granted as the Rainbow Fr. (Lot 12267). The showings were staked in September 1896 by J. W. Handen. The Kenneth Mining and Development Company, Limited Liability began work on the property in 1897 and 5 claims, the Tamarac, Racatam, October, October Fr. and Dinner Bucket (Lots 3802- 3806 respectively) were Crown-granted to the company in 1899. Adjacent ground to the south and east was subsequently Crown-granted as the King Solomon Fr. (Lot 12269) and Queen of Sheba Fr. (Lot 15181). About 168 metres of development work was done in a crosscut and drift from which two mineralized vein segments were partially explored by raises and winzes. Tamarac Mines, Limited was incorporated in July 1900 to

CAPSULE GEOLOGY

acquire the property and about 76 metres of underground work was carried out that year. A 1524-metre tramline to the railway was completed in 1901 and several small ore shipments to the Hall Smelter at Nelson were made before the tramline was destroyed by a forest fire in 1902. Underground development to that date totalled about 488 metres. Lessees shipped a small tonnage to the Boundary Falls Smelter in 1905 but the operation proved unprofitable.

By 1928 the property had been acquired by E.W. Widdowson of Nelson, and limited rehabilitation carried out. Late in 1932 A.T. Powell, of Nelson, optioned the property and began work in an old shaft on a separate vein about 37 metres north of the adit portal. The Pathfinder claim adjoining the Tamarac claim on the north, was staked in August 1932 by D.T. Graney, of Ymir, who drove a 34-metre crosscut adit. The claim was subsequently acquired by Powell, who carried out development work on the combined property from November 1932 until March 1933 when work ceased; several shipments of ore were made to the Tacoma Smelter in February and March. In 1935 Widdowson optioned the property to W.G. Wilkins and associates but little work was reported. Balsam Gold Mines, Limited optioned the property in the latter half of 1936 and intermittent work to early 1938 included rehabilitation of the workings, driving a new adit at a lower elevation, and 61 metres of diamond drilling. In 1958 rehabilitation work was begun by owners George Powell and Lewis Lunde, who incorporated Tamarac Mines Ltd. March 1959. In October of that year an option was given to Pacific Western Metals Ltd. Bulldozer stripping was reported and about 200 tons of ore carrying \$30.00 per ton in gold were crushed and beneficiated. Greenwood Explorations Ltd. optioned 9 Crown-granted from Tamarac Mines Ltd. in August 1979. Trenching, geological mapping, and a geochemical soil survey were carried out. Work during 1980 included diamond drilling in 1-8 holes. Proven, probable and possible reserves were estimated at 630,000 short tons grading 3.5 grams per tonne gold (Northern Miner, December 25, 1980).

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1958-37; *1959-A48,61
EMPR ASS RPT *9113
EMPR BC METAL MM01080
EMPR BULL 109
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EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR OF 1988-1; *1989-11; 1991-16
EMPR PF (Wirlwind Resources Ltd., Prospectus, August 1988; *Yukon
Spirit Mines Ltd., Prospectus, Sept. 1989)
EMPR MAP 7685G; RGS 1977; 8480G
EMR MIN BULL MR 223 B.C. 31
EMR MP CORPFILE (Balsam Gold Mines Ltd; Greenwood Explorations Ltd.)
GSC MAP 51-4A; 175A; 1090A; 1144A
GSC MEM *94, pp. 50,98; 191, p. 43; 308, p. 156
GSC OF 1195
CANMET IR Ore Dressing and Metallurgy #483, (1933) Rpt. 743, p. 1
GCNL #166,#181,#199,#237, 1979; #11,#91,#123,#137,#167,#203,*#241,
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Burton, A. (1980): Report on Tamarac Mineral Property (in
Greenwood Explorations Ltd., Statement of Material Facts,
May 1, 1980)

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/22

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW073**

NATIONAL MINERAL INVENTORY: 082F6 Au2

NAME(S): **PROTECTION**, GOODENOUGH (L.13025), PROTECTION-GOODENOUGH,
PROTECTION 1-3 (L.2129-2131)

STATUS: Past Producer Open Pit
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:
LATITUDE: 49 19 11 N
LONGITUDE: 117 11 12 W
ELEVATION: 1220 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Tailings dump, ore shoot and adit bearing 045 degrees (Assessment Report 15524).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5463016
EASTING: 486434

COMMODITIES: Gold Silver Lead Zinc Cadmium
Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Gold Chalcopyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Tourmaline
ALTERATION TYPE: Tourmalin'z'n Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive
CLASSIFICATION: Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
SHAPE: Tabular
MODIFIER: Sheared
DIMENSION:
COMMENTS: Two veins; one strikes 015 to 026 degrees northeast and the second strikes 028 degrees northeast with dips steeply to the northwest.
STRIKE/DIP: 025/85W
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Ymir	Undefined Formation	
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Schist
Quartzite
Siltstone
Lamprophyre Dike
Felsite Dike
Granitic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Protection (Goodenough) deposit is located 5 kilometres northeast of Ymir, just to the southwest of the Ymir deposit (082FSW074). Exploration dates back to 1895 and the deposit has a long production history from the turn of the century to the 1970's. The Protection occurrence may be the western extension of the Ymir vein but the latter is much wider although other characteristics are similar. These veins have a similar trend as the Ymir veins but are higher grade. The Tamarac (082FSW072), Protection, Ymir (082FSW074) and Good Hope (082FSW075) all appear to be located along the same shear related vein system although the same vein or shear may not be continuous through all properties. The deposit is hosted by Lower Jurassic Ymir Group schist, argillite and quartzite. Augite basalt flows and flow breccias of the Lower Jurassic Elise Formation (Unit Jel), Rossland Group occur just to the west and the contact with the Middle to Late Jurassic Nelson batholith is to the east. Pyrite is disseminated in quartz veins and throughout the sedimentary rock. Mineralization is confined to a shear zone. The shear crosscuts the sedimentary stratigraphy which strikes 035 degrees with a 70 degree northwest dip.

Mineralization occurs in a system of two quartz filled

CAPSULE GEOLOGY

fissure-veins striking 015 to 026 degrees and 028 degrees respectively within argillites and quartzites. The veins converge to the southwest and are about 30 metres apart in the showing area. The veins are highly variable in width but average 1 to 2 metres and they may be a single well defined vein or several veinlets within a distinctive, crushed shear zone. Mineralization occurs as distinct ore shoots apparently related to the intersection of Jurassic granitic dykes with the veins. The gangue is predominantly quartz with some calcite stringers, brecciated wallrocks and a few grains of brown tourmaline. Auriferous pyrite is the main economic sulphide and is associated with galena and sphalerite and minor free gold. Cadmium is reported to occur with the sulphides in minor amounts. With depth the vein appears to carry more chalcopyrite and less gold. The veins are associated with parallel and crosscutting faults in addition to lamprophyre, felsite, and granitic dykes all related to the Nelson Intrusions.

Production between 1898 to 1970 totalled 14,788 tonnes grading 22 grams per tonne gold, 170 grams per tonne silver, 4.5 per cent lead and 4.6 per cent zinc. It is suggested that 85,500 tonnes of ore remain in the old stopes (Assessment Report 15524).

The property is located at 1219 metres elevation on the north side of Ymir Creek, 4.8 kilometres northeast of Ymir.

The Goodenough Fractional claim was staked in June 1898 by Alex Gayette. Development work in shaft sinking to a depth of about 20 metres was carried out in 1899 under the name Ymir Gold Mining Company. There is no record of this company as a Canadian incorporation.

By 1917 the Goodenough Fr. (Lot 13025) and Surprise claims were owned by O.A. Lovell and O. Poulin. In about 1921 owners Lovell, McDonald, and associates began development work on the property, which then consisted of the Goodenough, Demaricott, and Little Nell claims. An adit was driven about 41 metres. Early in 1924 P.J. O'Brien, of Kettle Falls, Washington, optioned the property and development work continued.

The Porcupine Goldfields Development & Finance Company, Limited, optioned the property in 1925 and began development work in a new adit. The option was given up near the end of 1926. Mr. O.D. Firth who was manager for the above company optioned the property and in July 1927 incorporated Goodenough Mines, Limited. A third adit was begun during the year.

Enterprise Consolidated Mining Company, Limited, optioned the Goodenough and adjacent Ymir (82 F/6, Au 9) properties early in 1928. Several hundred metres of development work was done in the lower adit before the option was given up. The owners, Jackson, McDonald, and associates, then resumed development work in the upper levels. Small amounts of ore were shipped to Trail, the ore commanding a very favourable smelting rate due to the high silica content. A new surface discovery in 1930 was explored by a new (No. 4) adit. During the 1928-1932 period the owners shipped about 9,000 tons of ore.

J.F. Coats, of Vancouver, acquired the property near the end of 1932 and incorporated a private company Ymir Gold Mines, Limited. The adjoining Ymir, property was optioned. Some development work was reported in 1933-34. Ymir Consolidated Gold Mines, Limited, was incorporated in September 1934 to acquire and operate the Ymir and Goodenough properties. A 125 ton-per-day mill was installed at the Ymir property in 1925 and operated from July to November, milling ore from both properties; the Goodenough ore was trucked to the mill. Intermittent milling operations continued until August 1939 and development work continued until April 1940. The workings at that time totalled about 1829 metres of drifts crosscuts and raises on 6 levels over a vertical distance of 213 metres. Lessees worked the property to 1943, mining small ore remnants. By 1944 the Goodenough was owned by L.S. Davidson, of Vancouver. Lessees worked the property during the year. Production of some 2,900 tons during the period 1944-1953 is listed under the name Protection.

Americonda Mines Limited, incorporated October 1956, acquired options on the Goodenough and Ymir properties and small amount of development work was carried out during the period 1957-1959.

Hyrock Goodenough Mines Ltd., incorporated August 1960, carried out limited exploration work and shipped 11 tons of ore; work was suspended in October 1960.

In 1964 the Goodenough Fr. Crown-grant and 4 recorded claims were owned by A.L. Weber, of Flushing, N.Y. Some rehabilitation work was reported.

Silver Dawn Mines Ltd. in 1970 prospected the workings for scheelite and shipped a small amount of ore. Lessees mined and shipped a small amount of ore in 1973.

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1926-275; *1927-301; 1928-330; 1929-349; 1930-230,269; 1932-25,
159,187; 1933-227; 1934-A27,29,E13; 1935-E28,G50,A28,30; 1936-
E46; 1937-A41,E45; 1938-E37; 1939-82; 1940-25,67; 1941-26,65;
1942-27,62; 1943-64; 1944-A60; 1947-161; 1948-133; 1949-164;
1950-120; 1951-136; 1952-43,144; 1953-114; 1954-50,124; 1955-A48;
1957-43; 1958-37; 1959-61; 1960-A54,67; 1964-115; 1965-115;
1970-440
EMPR ASS RPT *12562, *15524
EMPR BC METAL MM01006
EMPR BULL *1, p. 102; 41; 109
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR GEM 1970-440; 1973-64
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
EMPR PF (Goodenough Mine Map - Vertical Projection, Scale 1"=40',
Ymir Consolidated Gold Mines Ltd., Jan. 1938; Goodenough Mine
Map of Underground Geology, Scale 1"=30' (to accompany report by
C.C. Starr, August, 1926; Goodenough Mine, Geological Map of
Mine Vicinity, Scale 1"=200' (to accompany report by C.C. Starr,
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July, 1939; Assay Plan of Goodenough Mine, August 1926; Starr,
C.C. (1926): Report of Geological Examination of Goodenough Mine;
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Company Ltd.; Goodenough Mines Ltd.; Enterprise Consolidated Mining
Company Ltd.; Ymir Gold Mines Ltd.; Ymir Consolidated Gold Mines
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GSC MAP 51-4A; 1090A; 1091A; 1144A
GSC MEM *94, p. 95; 191, pp. 3,32,34; 308, pp. 155-157,167
GSC OF 1195
GSC P 47-51; *51-4
GCNL #87,#120,#134,#154, 1984

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/14

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW074**

NATIONAL MINERAL INVENTORY: 082F6 Au9

NAME(S): **YMIR (L.1708)**, YMIR CONSOLIDATED, BONANAZA,
YMIR-GOODENOUGH, ROCKLAND (L.1709), MUGWAMP (L.1710),
PROTECTION, GOLDEN HORN (L.1711), YMIR FR.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:
LATITUDE: 49 19 19 N
LONGITUDE: 117 10 17 W
ELEVATION: 1064 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Old mill site and No. 10 portal (Assessment Report 15524).

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5463260
EASTING: 487545

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Gold
ASSOCIATED: Quartz Calcite Cerussite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Cylindrical
MODIFIER: Faulted Sheared
DIMENSION: 146 x 4 Metres STRIKE/DIP: 065/70N TREND/PLUNGE:
COMMENTS: Mineralization confined to a shear zone which strikes northeast and dips between 60 and 70 degrees northwest. Dimensions of the Bonanza ore shoot.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Ymir	Undefined Formation	
Lower Jurassic	Rosslund	Elise	
Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Schist
Quartzite
Siltstone
Lamprophyre Dike
Felsic Dike
Augite Basalt Flow
Flow Breccia

HOSTROCK COMMENTS: Unit Je1 of the Elise Formation (Open File 1989-11). The contact with the Nelson batholith is about 1.25 kilometres to the east.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

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

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	38.0500	Grams per tonne
Gold	6.5000	Grams per tonne
Lead	1.3300	Per cent
Zinc	0.7000	Per cent

COMMENTS: Intersection of 1.53 metres, east of the main shaft and below the No. 7 level workings.

REFERENCE: Assessment Report 15524.

CAPSULE GEOLOGY

The property is located at the 1372 metres elevation on the west side of Huckleberry (north fork of Wild Horse) Creek, 5.6 kilometres northeast of Ymir.

The Ymir, Rockland, and Mugwump claims, staked in July and August 1895 by Joseph and Jerome Petrie and Oliver Blair, were in May

CAPSULE GEOLOGY

1897. The Golden Horn and Robertson and Nora Fractions were staked in 1896 by Petrie, Wood, and Robertson and Crown-granted (Lots 1711, 1712, 2301, respectively) in 1897 and 1898. The Poutney and Lawrence Fractions were staked by the operating company in 1897 and Crown-granted (Lots 2302 and 2303) in 1898.

The property was acquired in November 1896 by The London and British Columbia Goldfields Limited. A program of extensive underground development was begun. A mill was built at the 1036-metre elevation, with a 732-metre tramway to No. 3 adit. A subsidiary company, The Ymir Gold Mines, Limited, was incorporated in London, England, in August 1898 to be the operating company. An 80-stamp mill was put into operation in 1900 and a cyanide plant for treating the tailings was installed in 1901. The No. 10 level crosscut was collared just above the mill and by 1902 had been driven 657 metres to intersect the vein 305 metres below the outcrop. Development work in the upper levels was done in Nos. 2 and 3 adits, and on Nos. 4 and 5 levels from a winze from No. 3 adit. No. 10 level was connected by a raise to the winze from No. 3 adit. Little ore was found below the 7th level. By 1904 the milling operation was reduced to 40 stamps. Production gradually decreased until the mine closed in 1908. During 1907-08 considerable surface exploration was carried out in search for the source of mineralized float occurring further up the mountain. On No. 2 level a crosscut was driven 244 metres into the hill in search for a parallel vein. On No. 10 level the vein was drifted on for 335 metres to the east.

Ymir Gold Mines, Limited, a private company incorporated in February 1933 by J.F. Coats and associates of Vancouver to acquire the adjacent Goodenough property (082FSW073), acquired an option on the Ymir mine but no work was reported under this agreement.

Ymir Consolidated Gold Mines, Limited, was incorporated in September 1934 to acquire and operate the Ymir, and Goodenough properties. Some high-grade ore was known to occur in the Goodenough, and sampling in the Ymir reportedly indicated large blocks of low-grade ore. On the basis of this the company installed a 125 ton-per-day mill at the Ymir property in 1935. The Goodenough ore had to be trucked to the mill. The mill operated from July 18th to November 30, 1935, mainly on Goodenough ore. Exploration in the east end of the upper Ymir workings located a small ore shoot and the mill resumed operating in June 1937 at 30 tons-per-day; milling operations continued into May 1938 when the company ceased operations. Lessees worked the property intermittently from 1937 to 1944, mining from pillars, stops remnants, and dumps.

Americonda Mines Limited, incorporated October 1956s held options on the Ymir and Goodenough properties. Only limited work on the Goodenough was reported during 1956.

Silver Dawn Mines Ltd. apparently held the Ymir and Goodenough properties in 1970. Some adits were rehabilitated and the workings prospected for scheelite.

The Ymir property was owned in 1973 by Murray Zulps and associates, of Vancouver. Some rehabilitation work was reported and a small amount of ore shipped. Issa Fahel optioned the 7 Crown-granted claims of the Ymir group from Zulps and associates in July 1975. This agreement to purchase was assigned to Junex Resources Ltd. in September 1975.

The deposit is hosted by Lower Jurassic Ymir Group schist, argillite and quartzite. Felsic dykes (up to 1 metre wide) strike 030 degrees and dip 74 degrees northwest crosscutting the host rocks. Augite basalt flows and flow breccias of the Lower Jurassic Elise Formation (Unit J1), Rosslund Group occur just to the west and the contact with the Middle to Late Jurassic Nelson batholith is about 1 kilometre to the east.

Pyrite is disseminated in quartz veins and throughout the sedimentary rock. Mineralization is confined to a shear zone trending northeast at 065 degrees with a 60 to 70 degree dip to the northwest. The shear crosscuts the sedimentary stratigraphy which strikes 035 degrees with a 70 degree strike-slip dip. Economic mineralization occurs as lenses with an easterly pitch and frequently contains narrow bands or inclusions of argillite.

The main ore zone, the Bonanza shoot, was about 146 metres long by 3 to 12 metres wide, averaging 4 metres in width. This zone was mined to a vertical depth of about 153 metres. Ore minerals consisted of pyrite, galena, and sphalerite and, near the surface where the vein is oxidized, cerussite and free gold are common. Below 150 metres depth quartz became more prominent and at about 300 metres ore mineralization is confined to streaks within the quartz. Ore material gradually decreased along strike to the east but to the west the vein was terminated by a fault.

The Protection (082FSW073) occurrence may be the western extension of the Ymir vein but the latter is much wider although

CAPSULE GEOLOGY

other characteristics are similar.

The host rocks are crosscut by lamprophyre dykes, numerous faults and are complexly folded. However, there is no evidence of granitic intrusives associated with the ore zone as is common at some nearby deposits. The Tamarac (082FSW072), Protection (082FSW073), Ymir, and Good Hope (082FSW075) all appear to be located along the same shear related vein system although the same vein or shear may not be continuous through all properties.

The best assay from drilling in 1986 (DDH Y86-1) was from a 2-metre intersection (68 to 69 metres) from a drill hole east of the main shaft and below the No. 7 level workings. This assay was 6.5 grams per tonne gold, 38.05 grams per tonne silver, 1.33 per cent lead and 0.70 per cent zinc (Assessment Report 15524). It is suggested that 85,500 tonnes of ore remains in the old stopes.

Total production from 1895 to 1970 is 327,646 tonnes with a grade of about 10 grams per tonne gold and 34 grams per tonne silver. Combined lead and zinc content was about 1.7 per cent.

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EMPR ASS RPT *12562, 12993, *15524
EMPR BC METAL MM01095
EMPR BULL *1, pp. 102-104; 20, Part II, p. 10; 41; 109
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR GEM 1970-A40; 1973-64
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16; 1998-10
EMPR PF (Plan of the Ymir Group, 1900; Ymir Mine - Plan and Projection, 1926; Ymir Consolidated Gold Mines Ltd., Vertical Projection through Ymir Mine, 1935; Ymir Consolidated Gold Mines Ltd., Report of the Managing Director, 1939)
GSC ANN RPT 1897, pp. 10,31A-32A
GSC MAP 51-4A; 1090A; 1091A; 1144A
GSC MEM *94, pp. 100-107; 191, pp. 32-37; 308, pp. 111,155,157,173
GSC OF 1195
GSC P 49-22; 50-19; *51-4; 52-13
GSC SUM RPT 1908, pp. 13-15; 1911, pp. 139-157
AIME TRANS 397, 1938
CIM TRANS 1900, pp. 3-10 (Fowler, S.S.: Notes on the Ymir Mine & its Mill Practice); #30, 1902; 1937, pp. 59-74 (McClelland, W.P.: Laboratory tests and Milling Practice on British Columbia Ores)
CMJ 1933, Jul., pp. 259-264
GCNL #87; #120; #134; #154, 1984
N MINER Feb. 7, Jun. 4, 18, Aug. 29, Sept. 19, Oct. 3, Nov. 2, 21, 28, Dec. 19, 1935; Jan. 9, 16, Mar. 26, May 21, Dec. 31, 1936; Feb. 18, Mar. 11, Apr. 8, Aug. 24, Sept. 2, 30, Dec. 16, 30, 1937; Apr. 7, 1938; Feb. 2, Oct. 26, 1939; Jan. 25, 1940; Jun. 18, Dec. 24, 31, 1942; Dec. 2, 1943; Jan. 10, 1985

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/20

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW075**

NATIONAL MINERAL INVENTORY:

NAME(S): **YMIR-GOOD HOPE**, GOOD HOPE, PAT (L.2198),
X-RAY, WILD HORSE, CARTHAGE (L.2197)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 19 58 N
LONGITUDE: 117 09 49 W
ELEVATION: 1280 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5464463
EASTING: 488113

LOCATION ACCURACY: Within 500M

COMMENTS: Southwest corner of Lot 2197. The property includes workings and showings on several Crown Grants (Assessment Report 11722).

COMMODITIES: Gold Silver Zinc Lead Copper
 Cadmium

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Sphalerite Galena Chalcopyrite
ASSOCIATED: Quartz Siderite
COMMENTS: Blue quartz.
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
MODIFIER: Faulted Sheared
COMMENTS: Veins parallel north-south bedding in sediments and are usually 0.15 to 0.30 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Jurassic	Ymir	Undefined Formation	Nelson Intrusions

LITHOLOGY: Schist
Argillite
Mica Schist
Graphitic Schist
Andalusite Mica Schist
Biotite Schist
Quartzite
Porphyritic Granite
Lamprophyre Dike
Aplite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Good Hope occurrence is located on Huckleberry Creek 5 kilometres northeast of Ymir. The claims were Crown granted between 1900 and 1905. Exploration was primarily done by the Ymir-Good Hope Mining Co. on the X-ray, Wild Horse and Annie Maud Crown Grants.

The area is underlain by slate, shale, argillite, limestone, quartzites, and their contact metamorphosed equivalents, of the Lower Jurassic Ymir Group. The metamorphic rocks consist of mica schists, graphitic schists, andalusite-mica schists, biotite schists, talc schists and paragneissic rocks. These have been intruded by porphyritic granite and dykes and sills ranging in composition from aplite to lamprophyre of the Middle to Late Jurassic Nelson Intrusions. Silicification of the sediments in contact with the granite intrusions is common.

The showing consists of a number of parallel shear-related quartz veins hosted by argillite and schist which strike north with moderate to steep west dips. The quartz veins parallel the foliation and bedding of the sediments. Granite is observed to form the footwall of the main vein. Individual veins are up to about 0.60 metre wide but are usually 0.15 to 0.30 metre wide. The veins are

CAPSULE GEOLOGY

discontinuous and locally occur as a sort of quartz stockwork or reticulating quartz veinlets within zones of brecciated sediments or granite. Fault gouge is common.

Mineralization is sporadic but consists mainly of pyrite, minor pyrrhotite, sphalerite, galena and minor chalcopyrite within a blue to white quartz gangue. Quartz gangue is most common but siderite is locally associated with sphalerite.

Metal values are low and sporadic although selected grab samples have contained as high as 90 to 100 grams per tonne gold (Geological Survey of Canada Paper 51-4). Minor cadmium, silver and zinc values are also present. Minor production totalling 41 tonnes yielding 902 grams of gold and 3,950 grams of silver is reported for this occurrence.

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EMPR BC METAL MM00956
EMPR BULL 41; 109
EMPR EXPL 1979-63
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP *51-4A; 175A; 1090A; 1144A
GSC MEM 94, p. 72; 172; 191, pp. 37-38; 308
GSC OF 1195
GSC P *51-4

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/15

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW076**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLACKCOCK (L.2922)**, WHYNOT, O'HARA (L.4297),
GLITTER 1-2 (L.4481-4482), WHYNOT FR. (L.14690)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:
LATITUDE: 49 19 28 N
LONGITUDE: 117 08 19 W
ELEVATION: 1120 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Blackcock mine near the centre of Lot 2922 (Assessment Report 15844).

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5463533
EASTING: 489928

COMMODITIES: Gold Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
MODIFIER: Faulted
DIMENSION: 204 x 1 Metres STRIKE/DIP: 100/70N TREND/PLUNGE:
COMMENTS: Strike of Blackcock vein varies from 090 to 110 degrees; dip varies from 60 to 75 degrees north.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Ymir Undefined Formation Nelson Intrusions
Jurassic

LITHOLOGY: Argillite
Granodiorite
Siliceous Granodiorite

HOSTROCK COMMENTS: Ymir Group sediments occur in a roof pendant within the Nelson Batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 7.9000 Grams per tonne
Gold 0.9200 Grams per tonne
COMMENTS: Porphyritic and vuggy granodiorite intersection across 1 metre in drill hole 86-1.
REFERENCE: Assessment Report 15844.

CAPSULE GEOLOGY

The Blackcock mine is located 9.7 kilometres northeast of Ymir on Wild Horse Creek. The deposit was discovered in 1896.

The area is underlain by granodiorite of the Middle to Late Jurassic Nelson Intrusions, argillite of the Lower Jurassic Ymir Group occurs as a roof pendant within the Nelson batholith.

The deposit is comprised of an east trending vein system hosted primarily in argillite but also in granodiorite. The vein is irregular in width but tends to be wider to the west and narrower to the east where it becomes a system of thin streaks and fissures within a zone about 1.5 metres wide. The vein, striking 090 to 110 degrees and dipping 60 to 75 degrees north, has been traced on surface for 204 metres. The vein contains quartz gangue with thin,

CAPSULE GEOLOGY

discontinuous streaks of pyrite, galena, sphalerite and pyrrhotite. The mineralization is not confined to the sheared vein, but it is present in the silicified granodiorite hanging and footwall rocks as irregular masses and disseminations of pyrite, galena, and sphalerite. Abundant sericite has formed along foliation (?) or shear planes within the vein.

A weighted average assay indicates that the vein hosts about 16 grams per tonne gold over a width of 4.73 metres including both vein and wallrock (Ministry of Mines Annual Report 1928, page 332).

Approximately 2600 tonnes of ore mined from the Blackcock vein produced 31,850 grams of gold, 97,260 grams of silver, 43,163 kilograms of lead and 36,821 kilograms of zinc between 1899 and 1942, inclusive. Recent rehabilitation of the old mine workings and construction of a 243 metre crosscut has intersected a mineralized zone about 12 metres wide, with undetermined length and depth, hosting low gold values.

The best assay from drilling in 1986 on the Glitter claims was from DDH 86-001; the intersection from 8.2 to 9.1 metres in porphyritic and vuggy granodiorite assayed 0.92 grams per tonne gold and 7.9 grams per tonne silver (Assessment Report 15844).

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1932-25,159,187; 1933-226; *1934-E13; 1935-G50; 1936-E45; 1937-
A38,E46; 1938-A35; 1940-25,66; 1941-26,65; 1942-27,62
EMPR ASS RPT *15844
EMPR BC METAL MM00965
EMPR BULL 1, p. 105; 41; 109
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
EMPR PF (Supplement to the Northern Miner, O'Hara Resources Ltd.,
Oct. 3, 1988)
GSC MAP 51-4A; 175A; 1090A; 1091A; 1144A
GSC MEM 94, p. 67(?); *191, pp. 39,42; 308, pp. 155,174
GSC OF 1195
GSC P 51-4
GCNL #119, 1988

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/15

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW077**

NATIONAL MINERAL INVENTORY:

NAME(S): **WILCOX**, WILLCOCK (L.2390), WARWICK (L.4676),
LITTLE WILLCOCK, FOURTH OF JULY (L.2917), BYWATER (L.2391),
ARIZ #1

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:
LATITUDE: 49 19 57 N
LONGITUDE: 117 07 39 W
ELEVATION: 1463 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Workings in the northwest corner of Lot 2390 (Assessment Report 12726).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5464427
EASTING: 490737

COMMODITIES: Gold Silver Lead Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Regular
MODIFIER: Faulted Fractured
DIMENSION: 20 x 2 Metres STRIKE/DIP: 260/65N TREND/PLUNGE:
COMMENTS: Ore shoots in the Wilcox mine were up to 2 metres wide and 10 to 20 metres long.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic Jurassic	Ymir	Undefined Formation	Nelson Intrusions

LITHOLOGY: Granodiorite
Schist
Granite
Gouge

HOSTROCK COMMENTS: Roof pendants of metamorphosed Ymir Group sediments occur in the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Wilcox mine is located on the north side of Ymir Creek, 30 kilometres southeast of Nelson. Production is recorded for 1901-1905, 1910-1911 and 1931-1943. There are three main tunnel levels comprising 1829 metres of development.

The area is underlain by granodiorite of the Late to Middle Jurassic Nelson Intrusions (Nelson batholith). Northeast trending roof pendants of Lower Jurassic Ymir Group metasediments occur within the batholith.

The Wilcox occurrence consists of a number of parallel quartz veins, emplaced along minor shears, striking 075 to 080 degrees and dipping 70 to 90 degrees north. The veins are hosted by greenish grey, fine to coarse-grained granitic rocks. The three major veins are the Fourth of July, Little Willcock, and Willcock veins, all of which crosscut the granitic foliation. To the west, the veins terminate against a roof pendant of schists. Disseminated mineralization continues into the granite for up to 4.9 metres and spreads into "T" or "L" shaped zones. The massive white bull quartz veins contain up to 30 per cent sulphides consisting of irregular masses and disseminations of pyrite, pyrrhotite, minor sphalerite, galena and arsenopyrite. Free gold is common. High grade material occurs in the hanging wall side above the #1 tunnel and the ore generally occurs in tabular shoots with an east pitch. Although the

CAPSULE GEOLOGY

vein is on average 45 centimetres wide, ore shoots may be up to 2 metres in width and 10 to 20 metres long. Wall rocks are locally silicified and may contain ore grade disseminated sulphides. In many places a fault gouge of decomposed feldspar accompanies the ore.

The two Fourth of July veins, extending onto the Willcock claim, strike 95 to 115 degrees and dip 50 to 55 degrees north. These veins are 0.10 to 0.20 metres wide and are separated by 20 metres of foliated granodiorite. Mineralization consists of minor disseminations and stringers of pyrite and occasional clusters of galena. A chip sample (#J-07) assayed 27.8 grams per tonne gold, 561.4 grams per tonne silver, 1.95 per cent lead and 0.124 per cent zinc (Assessment Report 14555).

Production totalled 14,555 tonnes yielding 241,982 grams of gold, 526,635 grams of silver, 98,224 kilograms of lead and 30,649 kilograms of zinc.

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EMPR ASS RPT 9619, *12726, 14555
EMPR BC METAL MM01091
EMPR BULL 109
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
EMPR PF (Frith, O.D. (1926): Report of Preliminary Inspection of the Wilcox Mine)
GSC MAP *51-4A; 175A; 1090A; 1091A; 1144A
GSC MEM *94, pp. 75-89; 191, p. 42; 308, pp. 120,132
GSC OF 1195
GSC P 49-22; 51-4; 52-13

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/05

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW078**

NATIONAL MINERAL INVENTORY:

NAME(S): **FOG HORN (L.5204)**, FOGHORN (L.3710), PENDANT #1,
YMIR CREEK

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 20 58 N
LONGITUDE: 117 05 56 W
ELEVATION: 1859 Metres

NORTHING: 5466308
EASTING: 492818

LOCATION ACCURACY: Within 500M

COMMENTS: Workings near the centre of Lot 5204 (Assesment Report 16464).

COMMODITIES: Gold Lead

MINERALS

SIGNIFICANT: Pyrite Galena
ASSOCIATED: Quartz
ALTERATION: Kaolinite Manganite Limonite
ALTERATION TYPE: Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Breccia Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Regular
MODIFIER: Faulted Sheared
DIMENSION: 1 Metres STRIKE/DIP: 033/53N TREND/PLUNGE:
COMMENTS: Vein No. 3.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Ymir	Unnamed/Unknown Formation	Nelson Intrusions
Jurassic			

LITHOLOGY: Porphyritic Granodiorite
Gneissic Granodiorite
Quartz Biotite Schist
Biotite Schist
Lamprophyre Dike
Breccia

HOSTROCK COMMENTS: Roof pendants of Ymir Group sediments occur in the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHAFT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY Gold GRADE 74.7000 Grams per tonne
COMMENTS: Highest assay of samples collected from the shaft and dump material
(Sample FHTDD-3) of the No.3 vein.
REFERENCE: Assessment Report 16464.

CAPSULE GEOLOGY

The Foghorn occurrence is located 10 kilometres northeast of Ymir. Workings comprise several open cuts, short adits and inclined shafts on 3 veins, the No. 1, No. 2 and No. 3.

The area is underlain by porphyritic and gneissic granodiorite (Nelson batholith) of the Middle to Late Jurassic Nelson Intrusions which host north-northeast trending pendants. The pendants comprise Lower Jurassic Ymir Group sediments striking 010 to 082 degrees. The sediments have been metamorphosed to quartz-biotite schist and biotite schist. The veins and country rocks are crosscut by lamprophyre dykes.

The granodiorite is host to several northeast trending, faulted quartz veins of variable dip and strike. The veins are in the order of 20 to 30 centimetres wide on average. The veins contain quartz

CAPSULE GEOLOGY

with pyrite and are sheared. Breccia and fault gouge 5 to 10 centimetres wide is common. Quartz near surface is vuggy and small crystals of quartz are noted. Manganite is common in the veins with some limonite. The granitic host rock is kaolinized locally.

The No. 1 vein, the most northerly and highest vein, strikes 008 degrees and dips 52 degrees west. The footwall is aplitic granodiorite grading into gneiss and the hanging wall is normal granodiorite. The granodiorite contains small angular veins of honey-combed and, locally, iron stained quartz. These vary from 0.15 to 0.60 metre in width.

The No. 2 vein, the most southerly and lowest vein, is exposed in an open cut 76 metres lower than the No.1 vein. The No. 2 vein strikes 040 degrees and dips 45 to 50 degrees north. The vein in the face shows 0.03 metre of quartz hosting pyrite and limonite with several centimetres of oxidized and kaolinized granitic vein rock.

The No. 3 vein, traversing the area in between No.1 and No.2, is exposed by 3 surface cuts, a shaft and an adit. The vein exposed is 0.5 to 1 metre wide and both walls are in granodiorite. The vein strikes 033 degrees and dips 053 degrees north and is truncated by a lamprophyre dyke. This vein reportedly carries the best gold values. Samples collected from the collar of the shaft and from dump material near the portal assayed up 74.7 grams per tonne gold (Sample FHTDD-3), (Assessment Report 16464).

Records indicate a zone 2.75 metres wide of high grade galena and a 14 metre zone of low grade galena (about 7.5 per cent) within what is referred to as the "long tunnel". It is unclear which vein each of these zones may be associated with.

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EMPR AR 1900-846; 1901-1224; 1902-160; *1903-148; *1904-125,135,141;
1911-159; 1916-204
EMPR ASS RPT *16464
EMPR BULL 41; 109
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP *51-4A; *175A; 1090A; 1144A
GSC MEM *94, p. 69; 191; 308
GSC OF 1195
GSC P 51-4

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/17

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW079**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD CUP**, GOLD CUP 3, GOLD CUP 4,
OHIO, GOLD HUB, ALANA 1-3

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 20 31 N
LONGITUDE: 117 12 34 W
ELEVATION: 1458 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5465490
EASTING: 484786

LOCATION ACCURACY: Within 500M

COMMENTS: Caved-in adit, railway tracks, dump (Geological Survey of Canada Memoir 94).

COMMODITIES: Gold

Silver

Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Covellite Bornite Gold
Tetrahedrite

ASSOCIATED: Quartz

ALTERATION: Malachite Limonite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

DIMENSION:

STRIKE/DIP: 090/90

TREND/PLUNGE:

COMMENTS: Veins, 0.45 to 0.75 metres wide, strike 090 degrees with dips varying from steeply north to steeply south.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Porphyritic Andesite
Andesitic Agglomerate
Andesite
Augite Porphyry
Agglomerate
Granite

HOSTROCK COMMENTS: Augite porphyry in contact with Nelson Intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

Plutonic Rocks

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1917

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

145.0000

Grams per tonne

Gold

20.0000

Grams per tonne

COMMENTS: Analysis for other metals is not indicated.

REFERENCE: Geological Survey of Canada Memoir 94, pages 94,95.

CAPSULE GEOLOGY

The Gold Cup occurrence is located on the west side of Mt. Elise, 6 kilometres north of Ymir. Some underground development was done in the early 1900's.

The area is underlain by metamorphosed, Lower Jurassic Elise Formation (Rossland Group) porphyritic andesite (augite porphyry) and andesitic agglomerates which have been intruded by Middle to Late Jurassic granite of the Nelson Intrusions.

Quartz veins, usually 45 to 75 centimetres wide, crosscut the volcanics and at lower levels the granitic intrusive. The veins generally strike 090 degrees with dips variable from steeply north to steeply south. The quartz gangue contains pyrite, chalcopyrite,

CAPSULE GEOLOGY

bornite, covellite and rare native gold. Weathered zones also contain malachite, limonite and tetrahedrite. A grab sample indicated values in the order of 20 grams per tonne gold and 145 grams per tonne silver (Geological Survey of Canada Memoir 94). No analysis for copper is reported.

For 1925, 24 tonnes producing 1,244 grams of gold is reported.

BIBLIOGRAPHY

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EMPR ASS RPT 10439, *12520
EMPR BC METAL MM01001
EMPR BULL 41; 109
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR PF (Yellowjack Resources, Filing Statement, 1988)
GSC MEM *94, p. 94; 191; 308
GSC OF 1195
GSC P 49-22; 51-4; 52-13
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/21

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSW080**

NATIONAL MINERAL INVENTORY:

NAME(S): **DUMAS (L.5727)**, ALEXANDRE (L.5729), DUMAS 1-10,
CUNAS

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 21 03 N
LONGITUDE: 117 08 29 W
ELEVATION: 1770 Metres

NORTHING: 5466467
EASTING: 489731

LOCATION ACCURACY: Within 500M

COMMENTS: Dumas adit on Lot 5727 (Assessment Report 10825).

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Tetrahedrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Tabular

MODIFIER: Sheared

DIMENSION: 1 Metres

STRIKE/DIP: 360/58E

TREND/PLUNGE:

COMMENTS: Vein exposed in workings.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Ymir

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Argillite
Schist
Sericite Schist
Andalusite Schist
Argillaceous Quartzite
Granodiorite
Lamprophyre Dike

HOSTROCK COMMENTS: Mineralized veins occur near the contact with the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: TUNNEL

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	719.9000	Grams per tonne
Gold	133.3500	Grams per tonne
Lead	21.0000	Per cent
Zinc	14.0000	Per cent

COMMENTS: Highest values from samples taken from a tunnel near the centre of an anomaly.

REFERENCE: George Cross News Letter, No.99, 1988.

CAPSULE GEOLOGY

The Dumas occurrence is located on the south side of Clearwater Creek about 9.5 kilometres northeast of Ymir. Drifting on the vein began in 1898 and development work ceased in 1914 and the property was idle until 1980.

The area is underlain by argillite, schist, sericite schist, andalusite schist and argillaceous quartzite of the Lower Jurassic Ymir Group. These have been intruded by granodiorite of the Middle to Late Jurassic Nelson Intrusions (Nelson batholith) and lamprophyre dykes and sills. The contact with the Nelson batholith is about 300 metres to the east of the showing.

Mineralization occurs at the contact of the argillaceous

CAPSULE GEOLOGY

sediments and the Nelson batholith. Mineralization consists of a network of quartz veins hosted in argillites and containing galena, sphalerite and tetrahedrite.

Two drifts have been developed on a quartz vein 1 to 1.3 metres wide. The vein strikes north-south and dips 58 degrees east in black argillite and sericite schist. The vein exposed in the lower drift is highly pyritic but the material stockpiled at the portal gave low assay values. At the upper adit, several tonnes of material containing veinlets and disseminations of pyrite, galena, sphalerite and traces of tetrahedrite are stockpiled. Samples from this material has an average assay of 1.55 per cent lead, 1.29 per cent zinc, 62 grams per tonne silver and 16 grams per tonne gold (Assessment Report 16800). The highest values from samples taken from a tunnel near the centre of an anomaly were 133.35 grams per tonne gold, 719.9 grams per tonne silver, 21 per cent lead and 14 per cent zinc (George Cross News Letter, No.99, 1988). The anomaly is 914 metres long, 30 to 91 metres wide, has an indicated depth of more than 107 metres and is open at both ends.

A 1.8 metre thick quartz vein cuts highly shattered black argillite at the western edge of the property. The vein hosts disseminated pyrite which is oxidized. The vein strikes 060 degrees and dips 52 degrees north. A sample assayed 0.01 per cent lead, 0.01 zinc, 6.2 grams per tonne silver and 0.2 grams per tonne gold (Assessment Report 16800).

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EMPR AR 1899-597; 1900-846; 1905-251; 1928-334
EMPR ASS RPT 10825, 12593, 14406, *16800
EMPR BULL 41; 109
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
EMPR PF (Triune Resources Ltd. Prospectus, Jan. 11, 1988)
GSC MAP 51-4A; 175A; 1090A; 1144A
GSC MEM *94, p. 93; 308
GSC OF 1195
GCNL *#99, 1988

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/17

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW081**

NATIONAL MINERAL INVENTORY:

NAME(S): **OLD TIMER (L.4662)**, OLDTIMER, GOLDRIDGE 1-2,
LD 3-4, EAGLE 1-2

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 21 34 N
LONGITUDE: 117 08 00 W
ELEVATION: 1860 Metres

NORTHING: 5467423
EASTING: 490318

LOCATION ACCURACY: Within 500M
COMMENTS: Workings (Assessment Report 12593).

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Pyromorphite
ALTERATION TYPE: 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: 125 x 1 Metres STRIKE/DIP: 065/60W TREND/PLUNGE:
COMMENTS: Vein.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ymir	Undefined Formation	
Jurassic			Nelson Intrusions

LITHOLOGY: Schist
Argillite
Granite
Siltstone
Grit
Limestone
Chert
Wacke

HOSTROCK COMMENTS: Located near the Nelson batholith contact.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Bulk Sample
COMMODITY
Silver 85.8000 Grams per tonne
Gold 3.9700 Grams per tonne
COMMENTS: The sample weighed 22.6 tonnes.
REFERENCE: Assessment Report 12593.

CAPSULE GEOLOGY

The Old Timer showing is located 8 kilometres northeast of Ymir on the south side of Clearwater Creek. Exploration and development of the workings took place between 1900 and 1928.

The area is underlain by argillite, siltstone, grit, limestone, chert and wacke of the Jurassic Ymir Group. The Nelson batholith of the Middle to Late Jurassic Nelson Intrusions occurs just to the east of the workings.

Argillites and schists host a northeast trending quartz vein within a shear zone approximately parallel to the schist/granite contact. The vein is in the hanging wall of the 2 to 3 metre wide shear zone which contains irregular masses of mineralized quartz and

CAPSULE GEOLOGY

gouge material. The vein is hosted in sediments to the southwest but follows the contact to the northeast. The irregular Old Timer vein (now called the West zone) is, on average, 1.4 metres wide and has been traced for 125 metres along strike. Significant mineralization occurs over at least a 50 metre strike length and consists of pyrite, galena, sphalerite and chalcopyrite. A rare chlorophosphate of lead, pyromorphite (Pb,C1) Pb₄ (P04)₃, is found within the oxidized portion of the vein.

The Pathfinder vein (developed by a tunnel) also occurs in the vicinity.

In 1980, 22.6 tons of vein material was shipped and contained 3.97 grams per tonne gold and 85.8 grams per tonne silver (Assessment Report 12593). Channel sampling across 2 metre widths in 1987, assayed between 2.3 to 20.74 grams per tonne gold, 6.86 to 37.71 grams per tonne silver and combined lead/zinc of 0.4 to 1.1 per cent (Property File - Golden Glory Resources Ltd., Prospectus, July, 1988).

A northeast trending geochemical anomaly, the East zone, was outlined in 1987, 150 metres east of West zone.

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EMPR ASS RPT 10825, *12593, 14406, *17160
EMPR BC METAL MM01003
EMPR BULL 41; 109
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
EMPR PF (*Golden Glory Resources Ltd., Prospectus, July, 1988)
GSC MAP 51-4A; 175A; 1090A; 1091A; 1144A
GSC MEM *94, pp. 57,97; 191; 308
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/04

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

observed in the footwall and blocky fine-grained greenish quartzites are in the hanging wall.

Mineralization consists of disseminated grains and irregular clusters of chalcopyrite and pyrite with minor bornite. The sulphide zones are highly irregular with no distinct boundaries. Folds in the hanging wall to the east of the zone have axes that plunge 10 degrees northeast. Small faults and feldspar porphyry dykes crosscut the skarn and host sediments.

Production totals 45,352 tonnes, recovering 7,651 grams of gold, 950,010 grams of silver and 672,630 kilograms of copper. The ore also contained traces of nickel and cobalt.

Work in 1966 delineated a second skarn about 0.8 kilometre west of the original open pit.

The original discovery was made here in 1890 and mining was carried on intermittently between that time and 1918. The workings were mainly open glory holes and these are still accessible.

Following the closing of the mine in 1918, little work was done on the property until 1955. In that year some diamond drilling was done. In the latter part of 1956 the Finley Company of Reno, Nevada, obtained an option. A few thousand tons of material was broken for mill feed but no regular mining program evolved.

In 1956, Swift Copper Mines Limited acquired 18 mining claims covering the property and in addition acquired a complete mill rated at 200 to 300 tons, located about 11.2 kilometres from the mining property.

Development in 1960 consisted of mapping, stripping, sampling, and other surface work, including a limited amount of Packsack drilling.

During 1961 a zone about 152 metres long was stripped by bulldozer and two old adits uncovered. In 1962 the Great West Mining Corporation Ltd. of Vancouver put down twelve diamond-drill holes, six in the vicinity of the workings, and six in a group about 610 metres west-southwest of the workings. Four holes of the latter group intersected a body of skarn about 12 metres thick mineralized with chalcopyrite and pyrite.

BIBLIOGRAPHY

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- EMPR ASS RPT *927, 20586
- EMPR BC METAL MM01054
- EMPR BULL 109
- EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
- EMPR INDEX 3-209; 4-124
- EMPR MAP 7685G; RGS 1977; 8480G
- EMPR OF 1988-1; 1989-11; *1991-16
- EMPR PF (Nelson Daily News article, Feb. 14, 1961; Drill hole Plan, circa 1962*; Diagrammatic Plan of Claims of Great West Mining Corporation Ltd. showing Geophysical (SP) anomalies (1962), in vicinity of Queen Victoria and Iron King Mine (in Iron King - 082FNW247))
- EMR MP CORPFILE (Swift Copper Mines Ltd.; Great West Mining Corporation Ltd.; Queen Victoria Consolidated Mines)
- GSC ANN RPT 1889, p. 65b
- GSC MAP 1956-3; 52-13A; 62A; 1090A; 1091A
- GSC MEM 308, pp. 176,177
- GSC OF 1195
- GSC P 49-22; *52-13
- GSC SUM RPT *1911, p. 154
- Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
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DATE CODED: 1985/07/24
DATE REVISED: 1991/02/21

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW083**

NATIONAL MINERAL INVENTORY:

NAME(S): **STAR (L.3687)**, ALMA N (L.9174), GREAT WESTERN STAR
GOLD EAGLE, RON, JA,
PB, BEE (L.14630)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 26 55 N
LONGITUDE: 117 21 49 W
ELEVATION: 1493 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Star claim.

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5477391
EASTING: 473644

COMMODITIES: Gold Copper Silver Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena
ASSOCIATED: Quartz
ALTERATION: Malachite K-Feldspar Sericite
ALTERATION TYPE: Oxidation Potassic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Igneous-contact
TYPE: L03 Alkalic porphyry Cu-Au 101 Au-quartz veins
SHAPE: Irregular
MODIFIER: Fractured Sheared
DIMENSION: 800 x 200 Metres STRIKE/DIP: 010/90 TREND/PLUNGE:
COMMENTS: Attitude of shear zone hosting vein. Mineralization occurs over an
800 by 200 metre area.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Eagle Plutonic Complex
Jurassic			

LITHOLOGY: Augite Basalt Flow
Monzonite
Flow Breccia
Diorite
Pyroxenite

HOSTROCK COMMENTS: Unit Je1 in Lower Elise Formation, pseudodiorite and pyroxenite of unknown affinity (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHAFT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 0.7600 Grams per tonne
Copper 0.0623 Per cent
COMMENTS: Highly sheared sericitic volcanic rock with trace pyrite from shaft.
Also 0.0085 per cent zinc.
REFERENCE: Assessment Report 19503.

ORE ZONE: DUMP REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 0.6600 Grams per tonne
Copper 0.0944 Per cent
Lead 0.0200 Per cent
COMMENTS: Siliceous grey rock containing 2 to 3 per cent pyrite and 3 per cent malachite from the dump by the Alma N shaft.
REFERENCE: Assessment Report 19503.

CAPSULE GEOLOGY

The Star and Alma N occurrences are located 8 kilometres southwest of Nelson. The occurrences were discovered around 1897.

A mineralized shear zone occurs within Lower Jurassic Elise Formation (unit Jel) volcanics of the Rosslund Group at and near the contact with Jurassic pseudodiorite (monzonite ?) and pyroxenite of unknown affinity (Eagle Creek?). The Elise Formation comprises augite basalt flows, flow breccias and subvolcanic intrusions. The zone and showings occur at the northern extension of the Silver King shear zone (Silver King mine, 082FSW176).

The Star occurrence consists of an irregular quartz vein, a few centimetres to one metre wide, which follows the shear zone striking 010 degrees with a vertical dip. The quartz is mineralized with pyrite, chalcopyrite, some malachite, and traces of galena. Sulphides are also disseminated within the sheared country rock on either side of the quartz vein. The vein is hosted in sheared and potassically altered monzonite(?). Mineralization occurs over an 800 by 200 metre area. A grab sample of highly sheared sericitic volcanic rock containing trace pyrite from the shaft assayed 0.76 grams per tonne gold, 0.0623 per cent copper, 0.0085 per cent zinc and 0.0145 per cent lead (Assessment Report 19503).

The Alma N showing, about 800 metres southeast of the Star, is reported to consist of a mineralized zone about 12 metres wide hosted in potassically altered monzonite(?) at the contact. Two shafts were sunk on the showing and a small shipment of sorted ore is thought to have come from this showing. A grab sample of siliceous grey rock containing 2 to 3 per cent pyrite and 3 per cent malachite staining from the dump by the shaft assayed 0.66 grams per tonne gold, 0.0944 per cent copper, 0.02 per cent lead and 0.035 per cent zinc (Assessment Report 19503).

The Ron area (grid) hosts similar mineralization to the west of these workings.

This is possibly a "conformable gold" occurrence.

Pacific Sentinel Gold Corporation drilled the property in 1990.

BIBLIOGRAPHY

- EMPR AR 1899-847; 1904-139; 1911-289; 1926-275; *1930-268;
1934-A26
EMPR ASS RPT 8614, 11425, 12653, 14149, 15331, 15353, 17806, 19492,
*19503, 20063
EMPR BC METAL MM01075
EMPR BULL 1, p. 100; 41; 109
EMPR EXPL 1988-B15-B19
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 52-13A; 62A; 1090A; 1091A
GSC MEM *34; 191, p. 69; 308, pp. 155,172
GSC OF 1195
GSC P 49-22; 52-13
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious
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Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral
deposits of the Lower Jurassic Rosslund Group, southeastern
British Columbia; abstract in Twelfth District 6 Meeting, Canadian
Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/05

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW084**

NATIONAL MINERAL INVENTORY: 082F6 Cu3

NAME(S): **EUREKA (L.5552)**, CHAMPION, GREAT WESTERN STAR,
ALHAMBRA, KING, GPX,
NORTHWIND, PHIL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 27 18 N
LONGITUDE: 117 21 58 W
ELEVATION: 1465 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Alhambra shaft on Lot 4651 (Assessment Report 19503).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5478102
EASTING: 473467

COMMODITIES: Copper Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite Silver Galena
Sphalerite
ASSOCIATED: Quartz Calcite
ALTERATION: Malachite Azurite Chrysocolla Hematite Sericite
ALTERATION TYPE: Oxidation Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
L03 Alkalic porphyry Cu-Au
SHAPE: Tabular
MODIFIER: Sheared
DIMENSION: Metres STRIKE/DIP: 308/85N TREND/PLUNGE:
COMMENTS: Main vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Eagle Plutonic Complex
Jurassic			Nelson Intrusions

LITHOLOGY: Monzonite
Diorite
Granite
Limestone
Mafic Flow
Intermediate Flow
Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Eureka workings are located about 7 kilometres southwest of Nelson, south of Kootenay Lake. The area was explored at the turn of the century. Production from 1905 to 1954 totalled 8995 tonnes yielding 1,124,747 grams silver, 19,190 grams gold, 159,170 kilograms copper and 713 kilograms lead. Production in 1956 was included with Queen Victoria (082FSW082).

The area is underlain by Jurassic pseudodiorite, pyroxenite or monzonite (?) of unknown affinity (Eagle Creek?) and mafic to intermediate flows and tuffs of the Lower Jurassic Elise Formation, Rossland Group. The Silver King shear zone has been truncated to the south of the showing by the metamorphic (intrusive ?) rocks.

The mineralization was originally documented as occurring in rafts or remnants of limestone of the Lower Jurassic Rossland Group which are incorporated into the diorites and granites of the Middle to Late Jurassic Nelson Intrusions. Two veins, closely associated with the limestones, host chalcopyrite, azurite, malachite, chrysocolla with minor galena, bornite, and native silver in a quartz-carbonate gangue. The veins are both slightly larger than 1 metre wide and are oxidized to the lowest levels of the underground workings. Sulphide mineralization also occurs in the limestone as well as the quartz veins. The main vein has a strike of 308 degrees

CAPSULE GEOLOGY

with a dip of 85 degrees to the northeast. The veins produced a few thousand tonnes of copper ore which graded five to ten per cent copper with 5 to 7 grams of gold and 50 to 70 grams of silver. Better grades were observed in the limestone hosted portions of the system than in the siliceous sections.

More recent work describes a shear related quartz-carbonate vein system hosting 1 to 5 per cent pyrite, chalcopyrite and bornite and up to 5 per cent sphalerite, galena and hematite. The veins are hosted in occasionally sericitic monzonite and monzosyenite. Mapping in the area defines the host rock as pseudodiorite (Open File 1989-11). This is possibly a "conformable gold" occurrence.

A representative grab sample from the area of the Alhambra workings in 1989 assayed 1.75 grams per tonne gold, 173 grams per tonne silver, 0.82 per cent copper, 1.08 per cent lead and 1.50 per cent zinc (Assessment Report 19503).

Pacific Sentinel Gold Corporation drilled the property in 1990. GEO Resources drilled in the area in 1997. See also the Kenville (082FSW086).

The Eureka property is located at the head of Eagle Creek on Lot 5552, about 6 kilometres southwest of Nelson at an elevation of 823 metres. It covers over 50 acres and consists of 10 claims and fractions: Eureka, Toronto, Champion, Imperial, Cold Hill, Gold Leaf, Gold Leaf Fraction, Athambra Fraction, Viking Fraction, and Viking Junior Fraction.

By 1896, Eureka had been opened up and in 1902, J.P. Swedberg received a Crown grant for the property. In 1904, 2 ledges had been opened up by 2 shafts, 27 and 23 metres long, and an incline of 12 metres. More than 37 metres of drifting and sinking was done.

The following year, the property was bonded to J.A. Kirkpatrick and other Nelson men who extended the working shaft by 15 metres and did 610 metres of drifting.

The property was owned by the Eureka Copper Mines, Limited, in 1906. They worked it until 1912, carrying the shaft down another 15 metres, doing 463 metres of drifting and 213 metres of crosscutting, driving a tunnel for about 244 metres and constructing a raise.

In 1912, Eureka was under lease and bond to British Columbia Copper Company, Limited, who installed a small boiler, an ore concentrator and a hoist driven by a gasoline engine. They also sunk a winze 30 metres, and carried out 61 metres of drifting and 183 metres of raising.

In 1915, the property was secured under lease and bond to Keffer & Johns. Shortly after they turned the bond over to Pingree Mines, Limited, who drove a tunnel for about 61 metres.

A short aerial tramway 329 metres long and another 914 metres long were installed in 1917 to alleviate the expense of hauling the ore by wagon. The same year, 60.9 metres of cross-cutting and 61 metres of open cuts on the surface showing were made and a new compressor and hoist were brought to the mine, but not yet installed.

In 1918, the property was operated under lease by Inland Mining Company, Limited, of Walla Walla, Washington. The following year, Vincent Development Company, also of Walla Wan, held the property under lease and bond. The Granite - Poorman mill was leased and flotation equipment installed. Development work consisted of advancing the main drift and continuing a long crosscut for 37 metres. In 1920 they dropped their option.

Nothing was reported to have happened on this property until 1945 when Kenville Gold Mines Ltd., who owned the Granite - Poorman property, took over neighbouring properties on the northern slopes of Toad Mountain, including Eureka. This company cleaned out old adit portals, except those which were seriously caved, surveyed most of the accessible workings and did a considerable amount of surface drillings on its extensive holdings.

In 1950, Copper Leaf Mines Limited started a raise, reopened the 76.2 metres level for 182.8 metres, rehabilitated the old shaft and located the old winze. The following year they purchased the property from Kenville Gold Mines Ltd.

In 1953, the property was optioned to Eureka Copper Syndicated who installed a compressor at the portal of the 137 metres adit.

In 1956, Copper Leaf Limited rehabilitated the upper or 76 metres level and then concentrated their efforts on the south end of the workings where 3 stopes were carried up the pillar for a total distance of 34 metres. A stope was also carried up the pillar from the 46 metres. The Kenville Cold Mines Mill at Nelson was purchased to treat the ore. Reserves were estimated that year at 80,000 tons, grading 0-115 oz. Au/ton; 4-7 oz. Ag/ton; 1.26 per cent copper; 1.6 per cent lead, and 0.4% Mo.

Later in 1956, Finley Company of Reno, Nevada, provided funds

CAPSULE GEOLOGY

and all the operations of Copper Leaf Mines Limited were than carried on under that name.

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- EMPR ASS RPT 40, 17806, 19492, *19503, 20063
- EMPR BC METAL MM00991, MM01054 (1956 production included with Queen Victoria (082FSW082))
- EMPR BULL 1, p. 100; 41; 109
- EMPR EXPL 1988-B15-B19; 1997-49
- EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
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- EMPR INDEX 3-191,195; 4-121
- EMPR MAP 7685G; RGS 1977; 8480G
- EMPR OF 1988-1; *1989-11; 1991-16
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DATE CODED: 1985/07/24
DATE REVISED: 1991/07/03

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1196
REPORT: RGEN0100

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GSC MAP 52-13A; 1090A; 1091A
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GSC P 52-13

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/23

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Mines Ltd., Kootenay Gold Exploration Co. Ltd., Inland Mining Co., Granite-Poorman Mines Ltd., Granite-Poorman Gold Mines Ltd., Livingstone Mining Co. Incorporated, and Kenville Cold Mines Ltd.

In 1945 Kenville Gold Mines Ltd. acquired the Granite-Poorman and a number of other properties in the area. A total of over 6096 metres of diamond drilling was done on the Granite-Poorman property, partially from the surface in a search for bidden veins, and the remainder underground to search for extensions of known veins. A 125-ton mill was in operation from 1947 to August 1949.

The mine is developed from two main levels, the 2,570 or lower, and the 2,750 or upper adits. Underground workings are extensive. The five main veins have been stoped for a combined length of over 915 metres.

The mine is one of the oldest, and greatest producers in the district, producing intermittently from 1890 to 1954, with the bulk of production from 1899 to 1912. Production totalled 2029 kilograms of gold, 861 kilograms of silver, 23.5 tonnes of lead, 15 tonnes of zinc, 1.6 tonnes of copper and 37 kilograms of cadmium from 181,395 tonnes mined.

The area is underlain by Jurassic pseudodiorite and pyroxenite of unknown affinity, underlain by volcanic rocks of the Lower Jurassic Elise Formation, Rosslund Group. These have been intruded by granodiorite of the Middle to Late Jurassic Nelson Intrusions (Nelson batholith). A northwest trending system of quartz veins is hosted in pseudodiorite, locally gneissic, intruding greenstone on the east limb of a syncline. The veins, which are weak fault zones, strike 330 to 350 degrees and dip 45 degrees north. The veins are cut by faults, some of which are occupied by lamprophyre dykes. The veins have good continuity along strike and downdip. Significant amounts of ore have been produced from five veins which range from 0.02 to 2 metres in width, averaging about 0.6 metre but are commonly 0.02 to 0.10 metre wide. West to east, over a horizontal distance of 518 metres, they are; the Hardscrabble, Poorman, Greenhorn, Granite (or White), and Beelzebub veins. Lesser veins occur to the east and west. At the Hardscrabble vein, steeply dipping faults drop the eastern block down as much as 15 metres. The largest fault has produced offset of about 100 metres to the left in the Granite and Greenhorn veins. The gangue is milky to glassy quartz with pyrite, chalcopyrite and minor amounts of galena, scheelite, sphalerite and some visible gold. "Rich pockets" of visible gold are reported from earlier development. Where the veins are oxidized limonite is common with some "free gold". Scheelite is widely distributed as individual grains but rarely as significant concentrations in any given zone. Sulphides are commonly disseminated in hanging wall or footwall rocks. Ore shoots, which rake to the south, are formed at the intersection of the main veins with flatter lying offshoots and high gold values in these shoots appear coincident with galena. Host rocks exhibit replacement of plagioclase by soda-potassic feldspar as well as alteration of ferromagnesian minerals to biotite and epidote. Ore production has averaged better than 17 grams per tonne gold with associated silver. The Granite-Poorman produced mainly gold with silver but the mill has been used at various periods to process ores from other properties which may have been richer in base metals. In recent years some of the granitic rock has been used as a construction material (Granite 082FSW342). A 1985 report by P.J. Stantos, stated indicated and inferred resources above the 2570 (main mine adit) level were 294,800 tonnes grading 16.73 grams per tonne gold (www.anglo-swiss.com). In 1995 and 1996, Anglo Swiss Industries Inc. and Teck Corp., Teck as operator, conducted prospecting, diamond drilling (1140 metres in 1995; 1941 metres in 11 holes in 1996) along approximately 475 metres of strike length, and an induced polarization survey on the property.

GEO Resources Ltd. drilled about 1200 metres in 5 holes in 1997 on the White/M.R.S. property, adjacent to the Kenville mine. The objective was to evaluate the northern extension of the mineralized shear at the Eureka mine (082FSW084). West of the Kenville mine, McMahon Resources Ltd. drilled 1200 metres in 1997. Anglo Swiss Resources Inc. plan drilling in 1998.

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419; 1914-326; *1915-135,144,445; 1916-203,517; 1917-172,194;
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EMPR ASS RPT 40, 12649, 23859
EMPR BC METAL MM01008
EMPR BULL 1, p. 100; 10, p. 93; 10 (Rev) p. 155; 20, Part II, p. 11; 41; 109
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300; 1999, p. 214
EMPR GEM 1970-438
EMPR INDEX 3-198
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16; 1991-17, 1999-3
EMPR PF (Underground plans of veins, date and source unknown;
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EMR MP CORPFILE (Island Mining Co.; Livingstone Mining Co. Inc.;
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GSC MEM 34; *191, p. 66; 308, pp. 155,172
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GSC P 49-22; *52-13
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GCNL #36(Feb.20), 1996; #86(May 5) 1997; #37 (Feb.23), #100 (May 26), 1998
PR REL Anglo Swiss Resources Inc., Feb.18, 2003
WWW <http://www.anglo-swiss.com>;
http://www.infomine.com/index/properties/KENVILLE_MINE.html

DATE CODED: 1985/07/24
DATE REVISED: 1996/07/15

CODED BY: GSB
REVISED BY: TGS

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSW087**

NATIONAL MINERAL INVENTORY:

NAME(S): **VENANGO (L.4757)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 28 25 N
LONGITUDE: 117 23 40 W

NORTHING: 5480182
EASTING: 471424

ELEVATION: 823 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of workings near the centre of Lot 4757
(Geological Survey of Canada Paper 52-13).

COMMODITIES: Gold Silver Lead Zinc Tungsten

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite Scheelite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins I12 W veins
I02 Intrusion-related Au pyrrhotite veins

DIMENSION: Metres STRIKE/DIP: 340/40N TREND/PLUNGE:

COMMENTS: Veins, with good continuity, strike 330 to 350 degrees and dip 40 to 45 degrees north.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Unnamed/Unknown Informal
Jurassic			Nelson Intrusions

LITHOLOGY: Dioritic Rock
Pyroxenite
Greenstone
Lamprophyre Dike
Granodiorite

HOSTROCK COMMENTS: Pseudodiorite and pyroxenite of unknown affinity.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Venango occurrence is located on the western edge of the Granite-Poorman mine (082FSW086), about 11.5 kilometres west of Nelson. The veins of this occurrence are similar to the Granite-Poorman veins and are part of the same fracture system. Little work was done on the property until 1939.

The area is underlain by Jurassic pseudodiorite and pyroxenite of unknown affinity underlain by volcanic rocks of the Lower Jurassic Elise Formation, Rossland Group. These have been intruded by granodiorite of the Middle to Late Jurassic Nelson Intrusions (Nelson batholith).

A northwest trending system of quartz veins is hosted in pseudodiorite, locally gneissic, intruding greenstone on the east limb of a syncline. The veins, which are weak fault zones, strike 330 to 350 degrees and dip 40 to 45 degrees north. The veins are cut by faults, some of which are occupied by lamprophyre dykes. The veins have good continuity along strike and downdip.

The occurrence consists of two quartz veins along strike with and similar to the Granite-Poorman veins. The quartz gangue hosts pyrite with lesser amounts of chalcopyrite, galena, and sphalerite as irregular concentrations. Free gold was reported and scheelite was found in significant amounts but not recovered. The vein in the stope varies from 10 to 60 centimetres in width and is up to 46 metres in length. This vein is typically "sheeted" by fractures parallel to the walls. Locally, significant concentrations of scheelite were noted (0.3 to 3.39 per cent Wo3) but no tungsten was produced (Property File - Maconachie, 1942). A scheelite lense 15 by

CAPSULE GEOLOGY

3.66 by 0.25 metres was documented near the collar of the shaft. The veins are remarkably consistent along strike with some anastomosing of the vein into narrow, flat lying stringers. The ore shoots plunge to the south at about 30 degrees along the plane of the vein. No major faulting was observed in the underground workings but a large lamprophyre dyke crosscuts the vein in its northern extension.

Production figures are scarce but it is estimated that about 809 tonnes were mined with shipping grades in the order of 14.5 grams of gold and 17 grams of silver per tonne with some lead and zinc.

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EMPR BC METAL MM01084
EMPR BULL 10, p. 92; 10 (Rev), p. 155; 41; 109
EMPR EXPL 1980-66
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EMPR PF (*Maconachie, R.F. (1942): Report on the Venango Property)
GSC MAP 3-1956; 52-13A; 62A; 1090A; 1091A
GSC MEM 34; 308, pp. 156,163
GSC OF 1195
GSC P 49-12; *52-13

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/27

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW088**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROYAL CANADIAN (L.633)**, NEVADA (L.637)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 28 14 N
LONGITUDE: 117 24 46 W
ELEVATION: 855 Metres

NORTHING: 5479849
EASTING: 470094

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of the Royal Canadian Crown Grant, Lot 633 (NTS Map 082F06).

COMMODITIES: Gold Silver Zinc Lead Tungsten

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Scheelite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins 112 W veins
I02 Intrusion-related Au pyrrhotite veins

SHAPE: Tabular

MODIFIER: Faulted

DIMENSION: 1 Metres

STRIKE/DIP: 345/65E

TREND/PLUNGE:

COMMENTS: Orientation of the Royal Canadian vein which is offset a few metres at its southern segment. The Nevada vein, oriented at a right angle to the Royal Canadian, is up to 1.37 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Unnamed/Unknown Informal
Jurassic			Nelson Intrusions

LITHOLOGY: Dioritic Rock
Schistose Volcanic
Pyroxenite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Royal Canadian and Nevada veins are located 11.2 kilometres west of Nelson. Work on these date back to the late 1800's. Workings on the Royal Canadian consist of 4 adits and on the Nevada, 2 adits and a shaft were developed.

The area is underlain by Jurassic pseudodiorite and pyroxenite of unknown affinity and by volcanic rocks of the Lower Jurassic Elise Formation, Rossland Group. These have been intruded by granodiorite of the Middle to Late Jurassic Nelson Intrusions (Nelson batholith).

The Royal Canadian vein, striking 345 degrees and dipping 60 degrees to 70 degrees northeast, is hosted in psuedodiorite. The vein is 1 to 30 centimetres wide and contains quartz gangue impregnated with pyrite and chalcopyrite. Pyrite is also disseminated in the country rock. The southern portion of the vein is offset a few metres and it is reported that the vein is weaker and the values lower beyond the fault.

The Nevada vein lies about 460 metres to the southwest of the No.4 adit on the Royal Canadian vein. The vein strikes at 080 degrees with a 50 degree southeast dip, almost at right angles to the trend of the Royal Canadian vein. It is located for the most part, at the contact of psuedodiorite with a raft or inlier of schistose volcanics. The Nevada ranges from 0.20 to 1.37 metres in width and hosts stringers and knots of quartz well mineralized with pyrite.

Both veins produced gold, silver and minor lead and zinc. From a total of 113 tonnes (90 tonnes reportedly from the Nevada), 3,359 grams of gold and 3,454 grams of silver were produced. In 1943, scheelite was reported from the Royal Canadian and Nevada groups on 49 Creek. Scheelite was also found in gravels of 49 Creek on the

CAPSULE GEOLOGY

Acorn (082FSW269) occurrence downstream from these claims.

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EMPR ASS RPT 11438
EMPR BC METAL MM01060
EMPR BULL 1, p. 100; *10, p. 155; 41; 109
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
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1999, p. 214
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16; 1991-17, 1999-3
GSC MAP 3-1956; 52-13A; 62A; 1090A; 1091A
GSC MEM 34; *191, p. 72; 308, pp. 156,172
GSC OF 1195
GSC P 49-22; 52-13
GSC SUM RPT 1911, p. 151

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/27

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW089**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOOD HOPE**, DOROTHEA, OPHIR,
KING GEORGE V, BIRD

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 26 37 N
LONGITUDE: 117 26 53 W
ELEVATION: 945 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Good Hope workings near the centre of Lot 15237 (Open File 1989-11).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5476868
EASTING: 467520

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Gold
ASSOCIATED: Quartz
COMMENTS: Oxidation minerals are not identified.
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Concordant
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION:
COMMENTS: Bands and lenses of quartz with schistose interbands are up to 1 metre wide.
STRIKE/DIP: 085/35S
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic	Ymir	Unnamed/Unknown Formation	

LITHOLOGY: Quartz Mica Schist
Quartz Mica Chlorite Schist
Siliceous Schist
Meta Sediment/Sedimentary
Lapilli Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE: Greenschist

INVENTORY

ORE ZONE: ADIT
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY:

COMMODITY	GRADE	
Silver	89.8000	Grams per tonne
Gold	61.7000	Grams per tonne
Copper	1.0000	Per cent

COMMENTS: Samples taken over 0.06 to 0.30 metres from the footwall vein in the No. 3 adit.
REFERENCE: Assessment Report 11554.

CAPSULE GEOLOGY

The Good Hope occurrence is located on the west side of Bird Creek, 13 kilometres southwest of Nelson. The workings consist of 3 adits and the work dates back to 1911. A number of veins of variable orientation and with spotty mineralization were subjected to prospecting at various times and all are in the immediate vicinity of the Good Hope or Ophir veins.

The area is underlain by volcanic (lapilli tuff) and metavolcanic rocks of the Lower Jurassic Elise Formation, Rossland Group and metasedimentary rocks of the Lower Jurassic Ymir Group. The mineralization occurs along or near the contact.

Parallel quartz veins hosted in east striking fissures and conformable to the regional foliation occur within quartz-mica and quartz-mica-chlorite schist. Bands and lenses of quartz, with

CAPSULE GEOLOGY

interbands of pyritic, siliceous schist are up to about 1 metre wide and strike 085 degrees with a dip of 30 to 45 degrees south. Pyrite and chalcopryrite is reported locally from various veins in the area and some free gold is reported from oxidized portions of the mineralized zones.

Samples taken over 0.06 to 0.30 metre from the footwall vein in the No. 3 adit assayed 61.7 grams per tonne gold, 89.8 grams per tonne silver and 1 per cent copper (Assessment Report 11554).

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DATE CODED: 1985/07/24
DATE REVISED: 1991/05/27

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW090**

NATIONAL MINERAL INVENTORY:

NAME(S): **MIRACLE**

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 26 30 N
LONGITUDE: 117 22 45 W

NORTHING: 5476625
EASTING: 472513

ELEVATION: 1160 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Workings (?) on Lot 4656 (Open File 1989-11).

COMMODITIES: Gold

Silver

MINERALS

SIGNIFICANT: Unknown
COMMENTS: No specific data is available.
ASSOCIATED: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
COMMENTS: The showing plots on the trace of the Red Mountain fault.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic
Jurassic

Rossland

Elise

Nelson Intrusions

LITHOLOGY: Augite Basalt Flow
Flow Breccia
Sub Volcanic Intrusive
Granite
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
COMMENTS: Island arc alkaline volcanics.

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Miracle showing is located on the east side of Forty Nine Creek, 17.5 kilometres southwest of Nelson. The only recorded work, 10 metres of drifting, was done in 1944.

The area is underlain by augite basalt flows, flow breccias and subvolcanic intrusions of the Lower Jurassic Elise Formation (Unit J_{el}), Rossland Group. These have been intruded by granite of the Middle to Late Jurassic Nelson Intrusions and are cut by the Red Mountain fault.

A geological description is not available but it is assumed to be similar to the May & Jennie showing (082FSW091) immediately to the south. The showing plots right on the trace of the Red Mountain fault and is described as a occurring above Forty Nine Creek road.

Records indicate about 24 tonnes of material yielded about 13.7 grams per tonne gold and 32.9 grams per tonne silver.

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1207
REPORT: RGEN0100

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DATE CODED: 1985/07/24
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FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

and 175 metres of drifting carried out. No. 2 adit was driven 114 metres to the vein and 198 metres of drifting was done. A 34-metre raise connected the two level and a 30-metre raise was driven to the surface. Reserves were estimated in 1903 at about 60,000 tons above No. 2 level. Extensive surface work was done on the Red Top claim in IL903 the option was apparently abandoned that same year.

Construction of a 50 ton mill was begun in 1904 by Reliance Gold Mining and Milling Company, Limited, which was incorporated in March of that year. The cyaniding plant proved to be inadequate and the mill operated for only a short period in 1906. The company charter was surrendered in 1914. The mill was dismantled in about 1918.

Two adjacent claims, the Gold Note (Lot 616) and Giant Fraction (Lot 6449) were Crown-granted to A.H. Kelly in 1903 and 1907, respectively. The Gold Note and adjacent claims were owned during the 1919-1921 period by Alex Long and Jeff Steele, of Nelson; in 1921 the claim was part of the High Ore group; the veins were traced along strike for several hundred metres by a series of short adits and open cuts.

The May & Jennie claim was under lease for a short time in 1940 to C.H. Erickson and A. Olsen, of Nelson; some work was reported in reopening the old adits.

Highland Star Mines Limited in August 1973 optioned from R.A. Sostad, of Vancouver, the May & Jennie claim, Mineral Leases covering the Golden Giant, Tip Top, Cold Bell, Giant Fr., and Cold Note claims, and the "49" Nos. 1-15 located claims. Reserves were estimated at 80,000 tons averaging 8.57 grams per tonne gold (indicated) (Northern Miner, Feb. 28, 1974, p. 21).

The May & Jennie Crown-grant and four reverted Crown-grants, owned by Anne Kramer, of West Vancouver, were acquired by Shackelton Petroleum Corporation in about 1980; the company name was changed to Europa Petroleum Ltd in May 1983. No work was reported.

Player Petroleum Inc. in May 1983 acquired the 6 claims comprising the property through separate transactions with Europa Petroleum and L. Leighton, of Nelson. Austin Resources Inc. reportedly carried out geochemical and geophysical surveys under a joint venture agreement early in 1984. The company name (Player) was changed in June 1984 to Player Resources Inc. Work at this time included magnetometer and electromagnetic surveys over 18.4 kilometres, geochemical surveys comprising 709 soil and 64 rock samples, and trenching. An option to earn a 49 per cent interest was given to Yucana Resources Inc. in 1985; drilling work was reported; the option was given up and the property reverted to Europa Petroleum Ltd. in 1986. Aurora Gold Ltd. optioned the property in 1987.

The May & Jennie vein is located on the southwest slope of Forty Nine Creek valley, 8.5 kilometres southwest of Nelson. Development was carried out on this property between 1900 and 1905, comprising 610 metres of underground workings. The workings are caved or flooded and the vein is now only exposed in adit No. 2.

The property is underlain by Lower Jurassic Elise Formation (Rossland Group) augite basalt flows, flow breccias and pyroclastics previously mapped as the Beaver Mountain Formation. Locally, the volcanics have been intruded by dominantly fault controlled late stage, biotite-rich lamprophyre dykes which are probably related to the nearby large granitic stocks and plugs of the Middle to Late Jurassic Nelson Intrusions.

The occurrence consists of quartz-pyrite vein mineralization which is controlled by a major normal fault (the Red Mountain fault) striking 150 to 160 degrees and dipping 80 degrees east. The fault closely follows the trend of the local stratigraphy and schistosity and has numerous associated minor shears. The vein averages about 0.6 to 0.8 metre in width and has been traced for about 345 metres (although it may have a strike length of over 700 metres) along strike on surface. The gangue consists of quartz with minor calcite mineralized by fine to medium grained disseminated pyrite. Wider sections of the fault host massive pyrite with possibly some pyrrhotite and little or no quartz gangue. Locally, a quartz-pyrite rich envelope extends into the footwall stratigraphy. Assays vary from 1 gram to about 36 grams gold. Free gold occurs in near-surface oxidized zones.

Chip sampling across intervals of the exposed vein assayed 0.96 grams per tonne gold across 0.41 metre to 33.1 grams per tonne gold across 0.66 metre (Assessment Report 14417).

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EMPR BULL 41; 109

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Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/27

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW092**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD HILL**, GOLD HILL 1-4, GEM,
MCDONALD

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 25 33 N
LONGITUDE: 117 22 04 W
ELEVATION: 1572 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Old workings at the side of the road (Assessment Report 13878).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5474860
EASTING: 473330

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Gold Chalcopyrite Bornite Arsenopyrite
ASSOCIATED: Quartz Plagioclase
ALTERATION: Chlorite Biotite Sericite Malachite Azurite
ALTERATION TYPE: Chloritic Sericitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive
CLASSIFICATION: Hydrothermal
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
SHAPE: Irregular
MODIFIER: Faulted Sheared

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Rossland Elise

LITHOLOGY: Augite Porphyritic Andesite
Lamprophyre Dike
Schist
Lapilli Tuff
Basalt Flow
Breccia

HOSTROCK COMMENTS: Units Je8l and Je1(?) in the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Channel
COMMODITY Gold GRADE 25.1000 Grams per tonne
COMMENTS: Trenching on mineralized structure over 1 metre.
REFERENCE: George Cross News Letter No.205, 1988.

CAPSULE GEOLOGY

The Gold Hill occurrence is located on Fortynine Creek, 16 kilometres southwest of Nelson. The area was initially explored in the 1890's. The old workings were re-opened in 1974.

The area is underlain by andesite, lapilli tuff (Unit Je8l), basalt flows, flow breccias and subvolcanic intrusions (Unit Je1) of the Lower Jurassic Elise Formation, Rossland Group intruded by lamprophyre dykes. The two units are separated by the Red Mountain normal fault. Foliation and shearing follow a general northwest trend. The sheared volcanic rocks are chloritic with lesser biotite and sericite.

Mineralization occurs in shears and quartz zones, associated with the margins of lamprophyre dykes, hosted in massive to schistose dark green augite porphyritic andesite. The veins generally parallel the strike and dip of the foliation in the schists. The three mineralized veins identified are strongly fault/shear controlled and contain erratic quartz-plagioclase pegmatitic lenses which host chalcopyrite, bornite, and arsenopyrite. Oxidized portions of the

CAPSULE GEOLOGY

veins host malachite, azurite, and free gold. Historical sampling and mining activities indicate erratic gold values which are locally up to 65 grams per tonne, but appear to average about 10 grams. The gold is associated with about 60 grams per tonne silver and about 1.35 per cent copper.

The highest assay from exploration in 1984 was 207.4 grams per tonne gold, 168.315 grams per tonne silver and 4.24 per cent copper (Assessment Report 13878). A channel sample from trenching on the mineralized structure in 1988 assayed 25.1 grams per tonne gold (George Cross News Letter No.205, 1988).

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Placer Dome File

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/08

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REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

the Le Roi, Centre Star, War Eagle, Iron Mask, Josie, Kootenay Columbia, Nickel Plate, and Crown Point claims. By an agreement of August 1, 1967, Hunstone assigned the agreement to Falaise Lake Mines Ltd. During 1967-1968 Falaise carried out 3194 metres of surface diamond drilling, in 41 holes in the hanging wall of the Le Roi, Centre Star, and War Eagle veins, and magnetometer and electromagnetic surveys over other parts of the property. Based on this drilling, together with the work by Cominco in 1940, the indicated ore reserves in pillars and stope remnants in the upper part of the Le Roi, Iron Mask, and War Eagle workings were estimated at 278,800 tonnes averaging 79 grams per tonne gold, 20.9 grams per tonne silver, and 0.65 per cent copper. In May 1969 an adit was begun at the north edge of the Golden-Born Crown-grant (Lot 1234) and directed towards the 800 level crosscut of the Le Roi workings. The adit, driven for 1310 metres, was completed in October 1970. Underground diamond drilling was carried on into 1971. The option was subsequently dropped.

The southern part of the Rossland area is underlain primarily by volcanic rock of the Lower Jurassic Elise Formation (Rossland Group). These rest unconformably on metasedimentary rocks of the Pennsylvanian and possibly Permian Mount Roberts Formation and are in apparent fault contact with rocks of Unit Cs of Carboniferous age (both Upper Paleozoic units may be correlative with the Milford Group). Locally, the Elise Formation is overlain by coarse conglomerates of the Upper Cretaceous Sophie Mountain Formation.

Four prominent igneous suites intrude these rocks. The Rossland monzonite, recently dated at 190 million years (Early Jurassic), is an east trending intrusive complex centred near the Rossland gold camp. It is cut by the Middle to Late Jurassic Trail pluton (Nelson Intrusions) and by the alkaline Middle Eocene Coryell Intrusions. The Middle Eocene Sheppard Intrusions occur as stocks in the southeastern part of the area and in north-trending felsic dykes; they are also cut by the Coryell Intrusions. Also important is an augite porphyry intrusion known as the Rossland sill that hosts a number of the principal orebodies of the camp. The sill, exposed south of the monzonite and on the east slopes of Red Mountain, intrudes the upper part of the Elise Formation and is considered to be part of that formation.

The Rossland mining camp is the second largest gold-producing camp in British Columbia, with recovery of more than 84,000 kilograms of gold and 105,000 kilograms of silver between 1894 and 1941. These deposits are classified as three main types referred to as the North belt, the Main veins and South belt. The Rossland gold-copper veins are dominantly pyrrhotite with chalcopyrite in a gangue of altered rock with minor lenses of quartz and calcite.

In the North belt, a zone of discontinuous veins extends eastward from the northern ridge of Red Mountain to Monte Cristo Mountain. The veins strike easterly and dip north at 60 to 70 degrees. The largest, on the St. Elmo claims (082FSW134), is in the Rossland sill and is 1 to 2 metres thick.

The Main veins form a continuous well-defined fracture system that trends 070 degrees from the southern slope of Red Mountain northeast to the eastern slopes of Columbia Kootenay Mountain, a distance of over 1 kilometre. More than 98 per cent of the ore shipped from the Rossland camp was produced from these veins, of which more than 80 per cent were from deposits in a central core zone between two large north-trending lamprophyre dykes. These important deposits include the Le Roi, Centre Star (082FSW094), Nickel Plate (082FSW095), War Eagle (082FSW097) and Josie (082FSW147) orebodies. The Main vein system consists of a series of veins, commonly in echelon, that dip steeply north. They are mostly within the Rossland sill or the Rossland monzonite. They crosscut lithologies and early structures, but appear to be cut by the late north-trending faults and associated dykes.

The principal veins of the South belt trend 110 degrees and dip steeply north or south. They are within siltstone lapilli tuff and augite porphyry of the Elise Formation, several hundred metres south of the Rossland monzonite. In addition to the typical copper-gold mineralization of the main veins and North belt, some veins in the south belt also contain sphalerite, galena, arsenopyrite and boulangerite.

The Le Roi deposit, part of the Main vein system, consisted of a series of ore shoots with narrow width or strike length with the greatest dimension on the dip. The ore shoots are strung out along a main fissure, which in general is nonpersistent, and end abruptly against dykes or cross structures. The Le Roi vein system strikes 070 degrees and dips 70 degrees north. The deposit was mined to about 600 metres elevation and explored vertically to a dimension greater than the strike length.

CAPSULE GEOLOGY

The vein system is hosted by the Rosslund monzonite which is comprised of a biotite-hornblende-augite monzonite stock that intrudes augite porphyry of the Rosslund sill. The porphyry occurs more than 450 metres below the footwall of the sill and is therefore older than the monzonite intrusion. The augite porphyry in the mine area is thought to have been a stock or dyke-like feeder for the sill exposed on the surface. The monzonite is fine to medium-grained, grey to green in color and hosts magnetite, apatite, some sphene with chlorite, epidote, pyrite, and pyrrhotite.

The Le Roi vein was formed by mineralization replacing wallrock along well defined fractures and by filling fractures and faults with pyrrhotite and chalcopyrite. The gangue consists of altered host rock with lenses of quartz and calcite. Actinolite forms rosettes of silky green needles between chalcopyrite and pyrrhotite. Minor pyrite occurs as well formed crystals in the pyrrhotite and as disseminations in the host rock. Garnet crystals are associated with the pyrrhotite and chalcopyrite which occur in fractures with quartz.

Native silver has been reported in pyrrhotite rich ore from the Le Roi central zone. It occurs as blebs along the grain contacts of pyrrhotite and at the contacts of pyrrhotite with magnetite and gangue. Small grains of a silver bearing mineral, probably stromeyerite, with heavy surface stain are associated with the silver.

Between 1898 to 1917, 1,791,680 tonnes of ore was mined from the Le Roi deposit from which was recovered: 24,091,170 grams gold, 37,563,105 grams silver, and 21,330,618 kilograms copper. Production from the deposit is reported to have commenced in 1893.

After 1917, between 1918 and 1942, production from the main mines (Centre Star, Josie, Le Roi, War Eagle, White Bear) was combined and recorded as the Rosslund Properties.

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EMR MP CORPFILE (Cominco Ltd.; War Eagle Consolidated Mining and
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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/24

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

is thought to have been a stock or dyke-like feeder for the sill exposed on the surface.

The Rossland monzonite is fine to medium-grained, grey to green in color and hosts magnetite, apatite with minor chlorite, epidote, pyrite, and pyrrhotite. The Centre Star vein was formed by replacing wallrock along well defined fractures with fracture infillings comprised of pyrrhotite and chalcopyrite with a gangue of altered host rock with lenses of quartz and calcite. Minor pyrite occurs as well formed crystals in the pyrrhotite and as disseminations in the host rock. Molybdenite is reported to occur in quartz-rich ore.

The Centre Star - Le Roi vein was mined almost continuously over 1 kilometre. The vein system is comprised of a series of ore shoots which are more or less en echelon in strike and dip. The ore shoots end abruptly against dykes or cross structures. Between 1897 to 1917, 2,065,331 tonnes of ore were mined from the Centre Star portion of the Main vein system. Recovery totalled 34,164,625 grams gold, 23,147,008 grams silver and 13,366,167 kilograms copper.

From 1928 to 1942 production from the deposit was combined with the Le Roi, Josie, War Eagle and White Bear and is reported with the Le Roi data (082FSW093).

The Centre Star, War Eagle and Le Roi claims, located at the northwestern edge of the city of Rossland, formed the nucleus of a property that was subsequently expanded by the Consolidated Mining and Smelting Company of Canada Limited (Cominco) to include some 30 claims and fractions. The three claims were located in 1890 by Messrs. Bourjouis and Morris, the Le Roi claim being recorded in the name of E.S. Topping.

Early development work on the Centre Star claim was reportedly carried out by the Centre Star Cold Lining and Smelting Company, and from about 1902 by the Centre Star Mining Company, Limited. The War Eagle and Iron Mask claims were reportedly developed by the War Eagle Gold Mining Company, and from about 1897 by the War Eagle Consolidated Mining & Development Company, Limited. The Centre Star, War Eagle and Iron Mask mines were acquired by Cominco in 1906.

The Le Roi claim was reportedly developed by a Spokane company, be the Le Roi Mining & Smelting Co., from 1891. The Le Roi Mining Company, Limited, acquired the Le Roi and Black Bear claims in 1898 and the mine operated continuously until it closed in September 1910. The property was acquired by Cominco in 1911.

Cominco purchased the adjoining Josie property in 1923. By 1928 when the company closed the mine the original workings had all been connected underground to form one large mine with a total of about 97 kilometres of underground workings; mining operations were carried on to a depth of about 503 metres.

Groups of lessees, sometimes over 30 in number, extracted remnants of ore from the old surface and underground workings from 1932 until the company closed down the operation in June 1942; Cominco carried out a program of geological mapping during 1940-1941.

In May 1967 Hunstone Ventures Ltd. obtained an option from Cominco on 72 Crown-granted claims, including the mine workings of the Le Roi, Centre Star, War Eagle, Iron Mask, Josie, Kootenay Columbia, Nickel Plate, and Crown Point claims. By an agreement of August 1, 1967, Hunstone assigned the agreement to Falaise Lake Mines Ltd. During 1967-1968 Falaise carried out 3194 metres of surface diamond drilling, in 41 holes in the hanging wall of the Le Roi, Centre Star, and War Eagle veins, and magnetometer and electromagnetic surveys over other parts of the property. Based on this drilling, together with the work by Cominco in 1940, the indicated ore reserves in pillars and stope remnants in the upper part of the Le Roi, Iron Mask, and War Eagle workings were estimated at 278,800 tonnes averaging 7 grams per tonne gold, 20.9 grams per tonne silver, and 0.65 per cent copper. In May 1969 an adit was begun at the north edge of the Golden-Born Crown-grant (Lot 1234) and directed towards the 800 level crosscut of the Le Roi workings. The adit, driven for 1310 metres, was completed in October 1970. Underground diamond drilling was carried on into 1971. The option was subsequently dropped.

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EMPR BC METAL MM00652, MM00698
EMPR BULL *74; 109

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EMPR GEM 1969-315; 1970-437
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EMR MR 223, B.C. 24
GSC MAP 1002; 1004; 1518; 1090A; 1504A
GSC MEM 77, pp. 94,96-100; 308, pp. 112,179
GSC P *79-26
CIM *Jubilee Vol. 1948, pp. 189-196
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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/29

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW095**

NATIONAL MINERAL INVENTORY:

NAME(S): **NICKEL PLATE (L.537)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 04 47 N
LONGITUDE: 117 48 08 W
ELEVATION: 1035 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5436628
EASTING: 441417

LOCATION ACCURACY: Within 500M

COMMENTS: Located just north of Rossland on the southeast slope of Red Mountain.

COMMODITIES: Gold Silver Copper

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Augite Porphyry
Monzonite
Biotite Hornblende Augite Monzonite
Lamprophyre Dike

HOSTROCK COMMENTS: The Rossland monzonite was dated March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE:

CAPSULE GEOLOGY

The deposit is part of the "Main vein" system, in the Rossland mining camp, which forms a continuous well defined fracture system on a regional scale. The Main vein system trends 70 degrees for a strike length in excess of 1.0 kilometre with the veins dipping steeply to the north. Refer to the Le Roi deposit (082FSW093) for a more detailed discussion of the regional geology and the Main vein system.

The Nickel Plate vein system is hosted by the Early Jurassic Rossland monzonite and augite porphyry of the Lower Jurassic Elise Formation (Rossland Group), known as the Rossland sill. The Rossland monzonite is an east-trending stock of biotite-hornblende-augite monzonite. Tertiary lamprophyre dykes, trending northwards, crosscut the monzonite and sill. This dyke is about 70 metres thick and gives a potassium-argon date of 49.6 plus or minus 1.6 million years (Bulletin 74). The dyke appears to control the concentrations of copper and copper-gold ore. It is a dark greenish dyke with pre-dominant crystals of biotite and abundant potassic feldspar. Minor serpentine occurs on blocky joint faces which caused unstable ground when driving the adit.

Sulphide mineralization occurs from the replacement of wallrock along well defined fractures and by infilling fractures and faults with pyrrhotite and chalcopyrite. The gangue consists of minor lenses of quartz and calcite. Minor pyrite occurs as crystals in the pyrrhotite and as disseminations in the host rock.

In 6 years between 1901 and 1913, 18,685 tonnes of ore were mined from the Nickel Plate vein system with recovery totalling: 291,778 grams of gold, 335,787 grams of silver and 209,376 kilograms of copper.

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1899-600,716; 1900-859; 1901-1046; 1902-170; 1903-161; 1910-116;
1911-173,285; 1912-323; 1913-137,420; 1916-208-244; 1937-E30;
1967-236
EMPR BC METAL MM00691
EMPR BULL *74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR GEM 1969-314; 1970-437
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (*Gilbert, G. and Malcolm, D.C. (1958): Rossland Properties -
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British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/29

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

at 278,800 tonnes averaging 7 grams per tonne gold, 20.9 grams per tonne silver, and 0.65 per cent copper. In May 1969 an adit was begun at the north edge of the Golden-Born Crown-grant (Lot 1234) and directed towards the 800 level crosscut of the Le Roi workings. The adit, driven for 1310 metres, was completed in October 1970. Underground diamond drilling was carried on into 1971. The option was subsequently dropped.

The Iron Mask mine is hosted by the Rossland monzonite and the Rossland sill. The Rossland monzonite is an east trending stock which intrudes an augite porphyry sill of the Lower Jurassic Elise Formation (Rossland Group), known as the Rossland sill.

The deposit is part of the "Main vein" system of the Rossland camp which forms a continuous well defined fracture system on a regional scale trending 70 degrees for a strike length in excess of 1.0 kilometre. The Iron Mask deposit is a mineralized cross structure, a zone of enrichment at the intersection of the Iron Mask and Centre Star north veins (082FSW094). Sulphide mineralization consists of the replacement of wallrock along well defined fractures and infilling the fractures or fault system with pyrrhotite, chalcopyrite, and pyrite. Gangue consists mainly of altered wallrock with minor lenses of quartz and calcite.

A vertical shaft driven in 1896 contained high grade ore which averaged 78.86 grams per tonne gold (Geological Survey of Canada Memoir 77, page 103). BC production records show production for the Iron Mask from 1898 to 1901 and again in 1904 when a total of 14,218 tonnes were mined from which 448,059 grams of gold, 434,019 grams of silver and 189,328 kilograms of copper were recovered. The Iron Mask was historically part of the Centre Star-War Eagle Group (082FSW094 and 082FSW097) and other production data may be combined with one of these occurrences.

Refer to the Le Roi deposit (082FSW093) for details of the regional geology and Main vein-type deposit characteristics.

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1899-599,715,815; 1900-858,861,985; 1906-128,249; 1907-106;
1908-102; 1909-128; 1910-115; 1911-172; 1912-161; 1913-134;
1914-332; 1916-208-244; 1917-452; 1933-241; 1935-G51; 1936-E49;
1961-66
EMPR BC METAL MM00674
EMPR BULL *74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMR MP CORPFILE (Falaise Lake Mines Ltd.; Cominco Ltd.; War Eagle
Consolidated Mining and Development Company)
GSC MAP 1002; 1004; 1518; 1090A; 1504A
GSC MEM 77, pp. 9,45,64,95,103; 308, pp. 112,179
GSC P 79-26
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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/26

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW097**

NATIONAL MINERAL INVENTORY: 082F4 Au6

NAME(S): **WAR EAGLE (L.680)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 04 58 N
LONGITUDE: 117 48 25 W
ELEVATION: 1127 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5436971
EASTING: 441076

LOCATION ACCURACY: Within 500M

COMMENTS: Located just north of Rossland on the southeast slope of Red Mountain.

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Gold Silver Stromeyerite
Pyrite Molybdenite Sphalerite
ASSOCIATED: Quartz Calcite Wollastonite Gmelinite Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins L01 Subvolcanic Cu-Ag-Au (As-Sb)
K09 Wollastonite skarn
DIMENSION: STRIKE/DIP: 120/70N TREND/PLUNGE:
COMMENTS: Mineralized War Eagle vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Augite Porphyry
Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: The Rossland monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:

CAPSULE GEOLOGY

The War Eagle mine is part of the "Main vein" system, in Rossland mining camp, which forms a continuous well defined fracture system on a regional scale. The vein system occurs on two general strikes of which the better developed is about 070 degrees. The veins have been traced in excess of 1 kilometre with veins dipping steeply to the north. The less developed vein system is the War Eagle type which strikes 120 degrees and dips 70 degrees north. The War Eagle system is at best only a series of detached ore shoots with marked stepping to the north. The series of ore shoots have narrow widths and short strike lengths with the greatest dimensions down dip. The ore shoots end abruptly against dykes or cross structures.

The system is hosted by the Rossland monzonite, a biotite-hornblende-augite monzonite stock that intrudes augite porphyry of the Lower Jurassic Elise Formation (Rossland Group), known as the Rossland sill. The porphyry is thought to have been a stock or dyke-like feeder for the sill exposed on the surface, prior to the monzonite intrusion.

The veins were formed by mineralization replacing the wallrock along well defined fractures and by filling fractures and faults with pyrrhotite and chalcopyrite. The gangue consists of altered host rock with minor lenses of quartz and calcite. Grayish banded wollastonite is associated with the ore near the altered host rock and gmelinite has been reported, occurring as reddish-white well-formed crystals. Pyrite occurs as well formed crystals in the pyrrhotite and as disseminations in the host rock. Native gold was reported to occur as disseminated fine specks in rusty patches of

CAPSULE GEOLOGY

quartz-rich ore. Minor molybdenite occurs in quartz-rich veins. A brown to black variety of sphalerite was found cutting vein-like through chalcopyrite and pyrrhotite.

Native silver has been identified in pyrrhotite rich ore in the War Eagle mine. It occurs as blebs along grain contacts of pyrrhotite and at the contacts of pyrrhotite with magnetite and gangue. Small grains of a silver-bearing mineral, probably stromeyerite, which develop a very heavy surface stain are associated with the silver.

Between 1898 to 1905, 300,169 tonnes of ore were mined with recovery totalling: 5,659,751 grams gold, 12,036,613 grams silver and 5,021,436 kilograms copper. From 1918 to 1942, production from this deposit was combined with Centre Star (082FSW094), Le Roi (082FSW093), Josie (082FSW147) and White Bear (082FSW114) and reported with Le Roi production (082FSW093) data.

Refer to the Le Roi deposit (082FSW093) for further details of the Rossland mining camp; the Main vein system and the history of work done.

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1900-858-860,945; 1901-1037; 1902-24,166; 1903-16,154,161;
1905-27; 1906-152,249; 1907-106,214; 1908-102,247; 1909-128;
1910-115; 1911-172; 1912-161; 1913-134; 1914-332,399; 1915-176;
*1916-208-244,388,517; 1921-149; 1923-229; 1933-241; 1935-G51;
1936-E49; 1937-E48; 1938-E41; 1939-90; 1940-75; 1941-72; 1942-67;
1949-57
EMPR BC METAL MM00710
EMPR BULL 74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/29

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW098**

NATIONAL MINERAL INVENTORY:

NAME(S): **VIRGINIA (L.681)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 01 N
LONGITUDE: 117 47 58 W
ELEVATION: 1158 Metres

NORTHING: 5437058
EASTING: 441625

LOCATION ACCURACY: Within 500M

COMMENTS: Located just north of Rossland on Acme Creek, on the southwest slope of Monte Cristo Mountain. The Virginia was reported to be part of the Centre Star (082FSW094) - War Eagle (082FSW097) group (Geological Survey of Canada Memoir 77, page 96).

COMMODITIES: Gold Silver Copper

MINERALS

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

DEPOSIT

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

DIMENSION: STRIKE/DIP: 090/85N

COMMENTS: Mineralized Virginia vein averages 7.6 metres in width. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Rossland Monzonite
Lower Jurassic			
ISOTOPIC AGE: 190 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Augite Porphyry
Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: The monzonite was age dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE:

CAPSULE GEOLOGY

The Virginia vein is part of the "Main vein" system, of the Rossland mining camp, which forms a continuous well defined fracture system on a regional scale trending 70 degrees for a strike length in excess of 1.0 kilometre. The Virginia vein is a sulphide ore body which strikes east-west and dips steeply north and averages 7.6 metres in width.

The vein is hosted by the Rossland monzonite, an east-trending biotite-hornblende-augite monzonite stock. The stock intrudes augite porphyry and volcanic rocks of the Lower Jurassic Elise Formations, Rossland Group. The augite porphyry, known as the Rossland sill, intrudes the upper part of the Elise Formation.

Mineralization consists of pyrrhotite and chalcopyrite infilling fractures and/or faults. Gangue consists of altered wallrock with lenses of quartz and calcite. Pyrite occurs as crystals in the pyrrhotite and as disseminations in the host rocks.

In 1899, 95 tonnes of ore were mined from the Virginia vein and 2395 grams gold, 1866 grams silver, and 943 kilograms copper were recovered.

Refer to the Le Roi deposit (082FSW093) for further details of the Rossland mining camp and the Main vein system.

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EMPR AR 1896-15,22,561; 1897-537; 1898-1095; 1899-599,715; 1912-161; 1913-134; 1914-332; 1948-141

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1226
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BC METAL MM00708
EMPR BULL 74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1002; 1004; 1518; 1504A
GSC MEM *77, pp. 6,11,95,103,106
GSC P 79-26
CIM *Jubilee Volume, 1948, pp. 189-196
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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/29

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW098**

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1228
REPORT: RGEN0100

BIBLIOGRAPHY

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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/29

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW100**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRON COLT (L.796)**, KAY, ROSSLAND

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 05 11 N
LONGITUDE: 117 47 29 W
ELEVATION: 1158 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5437361
EASTING: 442216

LOCATION ACCURACY: Within 500M

COMMENTS: Located north of Rossland on the eastern slope of Monte Cristo Mountain.

COMMODITIES: Gold Silver Copper Cobalt

MINERALS

SIGNIFICANT: Chalcopyrite Pyrite Arsenopyrite Cobaltite Magnetite

ASSOCIATED: Calcite Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

DIMENSION: STRIKE/DIP: 063/85N

TREND/PLUNGE:

COMMENTS: Mineralized vein near siltstone and monzonite contact.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Jurassic

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Rossland Monzonite

Lower Jurassic

ISOTOPIC AGE: 190 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Siltstone
Argillite
Hornfels
Monzonite
Biotite Hornblende Augite Monzonite
Volcanic Breccia
Lamprophyre Dike
Dioritic Dike

HOSTROCK COMMENTS: Age date from British Columbia Geological Survey Branch (Personal Communication - K.P.E. Andrew, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Hornfels

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1989

SAMPLE TYPE: Drill Core

COMMODITY

GRADE

Gold

243.4300 Grams per tonne

COMMENTS: A drill hole intersection over an estimated true width of 2.6 metres.

REFERENCE: Vancouver Stockwatch - July 11, 1989.

CAPSULE GEOLOGY

The Iron Colt Crown Grant (Lot 796) is underlain by Lower-Middle Jurassic Rossland Group (Elise Formation) siltstone, argillite and hornfelsed siltstone which is intruded by the Early Jurassic Rossland monzonite. The grey to black siltstone and argillite grades into hornfels and forms distinct layers within the volcanic breccias and several horizons grade laterally into sandstone and breccia. The Rossland Group rocks are crosscut by north trending Early Tertiary lamprophyre and diorite dykes which host disseminated pyrite.

The Iron Colt vein is believed to be the easterly extension of the main Le Roi vein (082FSW093). The Iron Colt vein strikes 063 degrees and dips steeply northwards hosting ore which is light grey

CAPSULE GEOLOGY

in color, containing calcite seams, lenses of quartz and chalcopyrite. Arsenopyrite, cobaltite and magnetite were also found in the ore. The 60-centimetre wide vein occurs near the contact of the Rossland metasediments and the monzonite intrusive. The siltstone-argillite sequence strikes 020 degrees and dips 60 degrees west.

Between 1936 and 1937, 20 tonnes of ore were shipped and 186 grams gold and 466 grams silver were recovered.

Drilling in the late 1980's and early 1990's has defined a high-grade zone averaging 1.8 to 2.4 metres in width contained between two dykes 60 metres apart. The zone has been intersected over a vertical extent of about 90 metres and remains open to depth. In 1989, a drill hole intersection assayed 243.43 grams per tonne gold over an estimated true width of 2.6 metres (Vancouver Stockwatch-July 11, 1989).

Refer to the Le Roi deposit for a summary of the Rossland mining camp.

International Silver Ridge Resources Inc. and Pacific Vangold Mines Ltd. have been conducting underground development work and mining on the Iron Colt and Evening Star (082FSW102) properties. During January and June 1995, the companies shipped approximately 1414 tonnes of gold-bearing ore from the Iron Colt to the Kettle River mill at Republic, Washington for custom milling; 21.4 kilograms of gold were recovered. They plan to continue underground drilling throughout the winter (Information Circular 1995-9, page 18).

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1914-332; 1936-E48; 1937-39
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EMPR BC METAL MM00671
EMPR BULL 74; 109
EMPR EXPL 1980-61; 1985-C36
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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/29

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW101**

NATIONAL MINERAL INVENTORY:

NAME(S): **MONTE CRISTO (L.802)**

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:
LATITUDE: 49 05 22 N
LONGITUDE: 117 47 59 W
ELEVATION: 1280 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located 1.6 kilometres north of Rossland, near the crest of Monte Cristo Mountain.

MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)
NORTHING: 5437707
EASTING: 441611

COMMODITIES: Gold Copper Silver Nickel Cobalt

MINERALS

SIGNIFICANT: Pyrrhotite Arsenopyrite Chalcopyrite Pyrite Cobaltite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Igneous-contact
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
SHAPE: Irregular
MODIFIER: Faulted
DIMENSION:
COMMENTS: Mineralized vein averaging 0.76 metres in width. STRIKE/DIP: 090/70N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Monzonite
Biotite Hornblende Augite Monzonite
Siltstone
Argillite
Hornfels
Lamprophyre Dike
Dioritic Dike

HOSTROCK COMMENTS: The monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
Plutonic Rocks
RELATIONSHIP:
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE:

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1915
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 27.0800 Grams per tonne
REFERENCE: Geological Survey of Canada Memoir 77, page 109.

CAPSULE GEOLOGY

The Monte Cristo veins are part of the "North belt" zone of discontinuous veins in the Rossland mining camp. On a regional scale, the veins appear continuous but in detail they are lenticular and offset by northerly trending faults. The Monte Cristo vein strikes east-west and dips between 70 to 75 degrees north. Refer to the Le Roi deposit (082FSW093) for a summary of the Rossland mining camp.

The vein is hosted by the Early Jurassic Rossland monzonite, a biotite-hornblende-augite monzonite stock which is medium-grained, grey to green in color and hosts magnetite, apatite, some sphene with chlorite, epidote, pyrite, and pyrrhotite. The stock intrudes siltstone, argillite, hornfels and volcanic conglomerate of the Lower

CAPSULE GEOLOGY

Jurassic Elise Formation, Rossland Group. Tertiary lamprophyre dykes and swarms of diorite dykes crosscut the monzonite and host disseminated pyrite.

Mineralization in the vein consists of massive banded pyrrhotite with chalcopyrite and pyrite. Pyrite occurs as crystals in the pyrrhotite and as disseminations in the host rock. The pyrrhotite is auriferous and contains nickel with a trace of cobalt. In 1915, a sample of the pyrrhotite gave 0.13 per cent NiO and trace cobalt (Geological Survey of Canada Memoir 77, page 75). Cobaltite is also found in the ore.

At elevation 1230 metres, Tunnel No. 1 was driven along the main vein which strikes east-west and dips 75 degrees north; it has an average width of 0.76 metres. The sulphide shoot occurs along a major fault and is cut off by a crosscutting sericitic diorite dyke. The pyrrhotite carried low values of gold.

Tunnel No. 2, at elevation 1194 metres, was driven west along a vein which dips 70 degrees north. Ore from this vein assayed 27.08 grams per tonne gold (Geological Survey of Canada Memoir 77, page 109). This tunnel connects with Tunnel No. 1, and a 25 centimetre streak of arsenopyrite was noted in the raise with the pyrrhotite. The shallow underground workings are developed within the northern contact zone of the Rossland monzonite.

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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/29

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW102**

NATIONAL MINERAL INVENTORY:

NAME(S): **EVENING STAR (L.801)**, ROSSLAND

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 05 23 N
LONGITUDE: 117 47 44 W
ELEVATION: 1220 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5437735
EASTING: 441916

LOCATION ACCURACY: Within 500M

COMMENTS: Located 1.6 kilometres north of Rossland on the east side of the peak of Monte Cristo Mountain.

COMMODITIES: Gold Silver Copper Nickel Cobalt
Molybdenum Bismuth

MINERALS

SIGNIFICANT: Pyrrhotite Arsenopyrite Gold Chalcopyrite Molybdenite
Sylvanite Danaite Pyrite Cobaltite Bismuth
Bismuthinite Magnetite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
SHAPE: Irregular
MODIFIER: Faulted
DIMENSION:
COMMENTS: Main vein

STRIKE/DIP: 043/60N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Siltstone
Argillite
Hornfels
Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: Age date from the British Columbia Geological Survey Branch (Personal Communication - K.P.E. Andrew, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE: Hornfels

INVENTORY

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Indicated
QUANTITY: 907000 Tonnes

YEAR: 1995

COMMODITY: Gold
GRADE: 10.2900 Grams per tonne

COMMENTS: Drill indicated reserves.
REFERENCE: Information Circular 1995-9, page 18.

CAPSULE GEOLOGY

The Evening Star veins are part of the "North belt" zone of discontinuous veins. On a regional scale the veins appear to be continuous, but in detail they are lenticular and offset by northerly trending faults. On the claim, the veins strike 065 degrees and dip at moderate angles to the northwest. Old shafts and trenches expose a very rusty zone crossing hornfelsic siltstone between rocks of the Early Jurassic Rossland monzonite on the south and the Trail pluton to the north.

The mineralized veins are hosted in siltstone, argillite and

CAPSULE GEOLOGY

hornfelsic siltstone of the Lower Jurassic Elise Formation, Rossland Group. The main vein is wide and irregular, striking 043 degrees and hosting arsenopyrite, pyrite with minor chalcopyrite. The vein is reported to host danaitite and cobaltiferous arsenopyrite. Considerable stoping was done in a parallel vein hosting pyrrhotite and chalcopyrite.

The pyrrhotite almost always carries a determinable amount of nickel and a trace of cobalt. In 1915, a sample of the pyrrhotite from the Evening Star claims assayed 0.67 per cent NiO and 1.58 per cent cobalt (Geological Survey of Canada Memoir 77, pages 75,76). A quartz vein with considerable width was exposed in the Old Cronin tunnel. The quartz vein dips 45 degrees west and hosts molybdenite and free gold. The siliceous ore also carries a high percentage of pyrrhotite and chalcopyrite. Sylvanite, a gold telluride, was also reported. Cobaltite, native bismuth and bismuthinite are also associated with the ore.

Ore from the veins on the Evening Star claim was mined for 4 years between 1896 to 1907 and from 1932 to 1939. A total of 2,859 tonnes of ore were produced with recovery totalling 56,701 grams gold, 21,521 grams silver and 1276 kilograms copper.

In 1980, seven drill holes intersected subeconomic mineralization with the best hole assaying 0.047 grams per tonne gold (Assessment Report 14236). In 1982, extensive underground workings were found to exist on the property with about 18,150 tonnes of waste material in the lower adit. Two composite samples of the dump material assayed 1.44 and 1.03 grams per tonne gold respectively, suggesting that mineralization extends into the wallrock adjacent to the vein system (Assessment Report 14236).

In 1991, a 3-metre drill intersection assayed 27.43 grams per tonne gold and contained a 2.4 metre section grading 1 per cent copper (George Cross News Letter #45, 1991). This drill hole was targeted 107 metres west of, and on strike from, the Evening Star Main zone where 311,000 grams of gold have been drill indicated.

Refer to the Le Roi deposit (082FSW093) for a summary of the Rossland mining camp.

Drill indicated reserves are 907,000 tonnes grading 10.29 grams per tonne gold. Development work, including drifting on the vein, is in progress. Metallurgical testing has been completed and ore will be shipped to the Kettle River mill at Republic, Washington. Over 1670 tonnes of high-grade ore were shipped during June and yielded 19.4 kilograms of gold; the company intended to ship a minimum 1800 tonnes per month (Information Circular 1995-9, page 18).

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DATE CODED: 1985/07/24
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FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1236
REPORT: RGEN0100

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CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW104**

NATIONAL MINERAL INVENTORY: 082F4 Au6

NAME(S): **RED MOUNTAIN (L.1000)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:
LATITUDE: 49 05 09 N
LONGITUDE: 117 48 35 W
ELEVATION: 1219 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located on the southeast slope of Red Mountain, less than 1.0 kilometres northwest of Rossland. The Red Mountain claim was mined in conjunction with the War Eagle (082FSW097).

MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)
NORTHING: 5437313
EASTING: 440877

COMMODITIES: Gold Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 1 Metres
COMMENTS: Mineralized vein, 0.9 to 1.2 metres wide.
STRIKE/DIP: 090/80N
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Augite Porphyry
Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: The monzonite was age dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Red Mountain showing is part of the "Main vein" system, of the Rossland mining camp, which forms a continuous well defined fracture system which strikes 070 degrees for a strike length in excess of 1 kilometre. The Red Mountain Crown grant is underlain by augite porphyry of the Lower Jurassic Rossland Group, Elise Formation, known as the Rossland sill. The sill is intruded by the Early Jurassic Rossland monzonite, an east trending biotite-hornblende-augite monzonite stock. A gradational contact between the two intrusives passes diagonally from the southwest to the northeast corner of the claim.

The showing consists of a vein striking 090 degrees and dipping steeply to the north. The vein, 0.9 to 1.2 metres in width, consists of low grade pyrrhotite with some chalcopyrite in quartz and altered country rock gangue. The vein carries low gold and copper values.

Refer to the Le Roi deposit (082FSW093) for a summary of the Rossland mining camp.

The War Eagle mine is part of the "Main vein" system, in Rossland mining camp, which forms a continuous well defined fracture system on a regional scale. The vein system occurs on two general strikes of which the better developed is about 070 degrees. The veins have been traced in excess of 1.0 kilometre with veins dipping steeply to the north. The less developed vein system is the War Eagle type which strikes 120 degrees and dips 70 degrees north. The War Eagle system is at best only a series of detached ore shoots with marked stepping to the north. The series of ore shoots have narrow widths and short strike lengths with the greatest dimensions down dip. The ore shoots end abruptly against dykes or cross structures.

CAPSULE GEOLOGY

The system is hosted by the Rosslund monzonite, a biotite-hornblende-augite monzonite stock that intrudes augite porphyry of the Lower Jurassic Elise Formation (Rosslund Group), known as the Rosslund sill. The porphyry is thought to have been a stock or dyke-like feeder for the sill exposed on the surface, prior to the monzonite intrusion.

The veins were formed by mineralization replacing the wallrock along well defined fractures and by filling fractures and faults with pyrrhotite and chalcopyrite. The gangue consists of altered host rock with minor lenses of quartz and calcite. Grayish banded wollastonite is associated with the ore near the altered host rock and gmelinite has been reported, occurring as reddish-white well-formed crystals. Pyrite occurs as well formed crystals in the pyrrhotite and as disseminations in the host rock. Native gold was reported to occur as disseminated fine specks in rusty patches of quartz-rich ore. Minor molybdenite occurs in quartz-rich veins. A brown to black variety of sphalerite was found cutting vein-like through chalcopyrite and pyrrhotite.

Native silver has been identified in pyrrhotite rich ore in the War Eagle mine. It occurs as blebs along grain contacts of pyrrhotite and at the contacts of pyrrhotite with magnetite and gangue. Small grains of a silver-bearing mineral, probably stromeyerite, which develop a very heavy surface stain are associated with the silver.

Between 1898 to 1905, 300,169 tonnes of ore were mined with recovery totalling: 5,659,751 grams gold, 12,036,613 grams silver and 5,021,436 kilograms copper.

Refer to the Le Roi deposit (082FSW093) for further details of the Rosslund mining camp and the Main vein system.

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REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

the ore totalled 5,474 grams gold, 9,891 grams silver, and 4,214 kilograms copper.

The War Eagle mine is part of the "Main vein" system, in system on a regional scale. The vein system occurs on two general strikes of which the better developed is about 070 degrees. The veins have been traced in excess of 1.0 kilometre with veins dipping steeply to the north. The less developed vein system is the War Eagle type which strikes 120 degrees and dips 70 degrees north. The War Eagle system is at best only a series of detached ore shoots with marked stepping to the north. The series of ore shoots have narrow widths and short strike lengths with the greatest dimensions down dip. The ore shoots end abruptly against dykes or cross structures.

The system is hosted by the Rossland monzonite, a biotite-hornblende-augite monzonite stock that intrudes augite porphyry of the Lower Jurassic Elise Formation (Rossland Group), known as the Rossland sill. The porphyry is thought to have been a stock or dyke-like feeder for the sill exposed on the surface, prior to the monzonite intrusion.

The veins were formed by mineralization replacing the wallrock along well defined fractures and by filling fractures and faults with pyrrhotite and chalcopyrite. The gangue consists of altered host rock with minor lenses of quartz and calcite. Grayish banded wollastonite is associated with the ore near the altered host rock and gmelinite has been reported, occurring as reddish-white well-formed crystals. Pyrite occurs as well formed crystals in the pyrrhotite and as disseminations in the host rock. Native gold was reported to occur as disseminated fine specks in rusty patches of quartz-rich ore. Minor molybdenite occurs in quartz-rich veins. A brown to black variety of sphalerite was found cutting vein-like through chalcopyrite and pyrrhotite.

Native silver has been identified in pyrrhotite rich ore in the War Eagle mine. It occurs as blebs along grain contacts of pyrrhotite and at the contacts of pyrrhotite with magnetite and gangue. Small grains of a silver-bearing mineral, probably stromeyerite, which develop a very heavy surface stain are associated with the silver.

Between 1898 to 1905, 300,169 tonnes of ore were mined with recovery totalling: 5,659,751 grams gold, 12,036,613 grams silver and 5,021,436 kilograms copper.

Refer to the Le Roi deposit (082FSW093) for further details of the Rossland mining camp and the Main vein system.

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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/25

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

The quartz-diorite and quartz-diorite breccia are part of the Trail Pluton of the Nelson Intrusions which is comprised of a mass of granodiorite to quartz diorite.

The principal host for the molybdenum mineralization is siltstone that is extensively metamorphosed to various types of hornfels and breccia. The molybdenum zone consists of molybdenite, pyrrhotite and minor chalcopyrite which occurs in randomly oriented fractures in the hornfels breccia and quartz-diorite breccia. Commonly, it lies along margins of breccia blocks and locally is concentrated at junctions between the blocks. The scheelite occurs as fine disseminations and clusters of grains and locally as fine stringers in the rock.

In 1985, a molybdenum reserve calculated for the Golden Queen claim was 17,690 tonnes of 0.17 per cent molybdenum (actual grade is 0.3 MoS₂. Conversion used for MoS₂ to Mo is 1.6681.) (David Minerals, Statement of Material Facts, 1985) This is a recalculation for a Y-shaped body of mineralization, designated as the NGQ zone, located on the northwest corner of the claim, approximately 152 metres east of the A orebody on the Coxey claim (082FSW110).

The Golden Queen claim is located at about 1448 metres elevation on the southerly slope of Red Mountain about 1.6 kilometres northwest of Rossland. The St. Elmo claim adjoins to the north, at the summit of the mountain, and the Novelty claim (Lot 958) joins to the south. The Coxey claim (see 82 F/4, Mo 1) joins to the west.

The Golden Queen claim (Lot 994) was Crown-granted in 1896 to J. Garrison but there is no record of early work on the claim. The St. Elmo claim (Lot 923) was Crown-granted in 1896 to F.C. Loring. Development work continued until 1901 and included about 701 metres of drifts and crosscuts in 2 adits. Further activity was reported in 1908 when a small amount of ore was shipped under the name J.P. Johnson.

No further activity was reported until 1941 when the St. Elmo workings were reopened by A. Grubsic and Ike Glover. Scheelite was discovered in the old workings in 1942 and the Consolidated Mining, Smelting and Power Company Limited examined the property under an option agreement.

Northwood Mining Limited optioned the Golden Queen, St. Elmo, and Surprise (Lot 693) claims from Messrs. Grubsic and Glover in August 1964 and the Gertrude claim (Lot 690) from William Keane. By an agreement of September 1964 Northwood assigned the above 4 Crown-granted claims to McKinney Gold Mines Limited. Geophysical and geochemical surveys were started late in 1964. The geochemical survey of the Golden Queen and St. Elmo claims was continued in 1965. Some bulldozer stripping was done and numerous showings sampled. In addition, 47 vertical diamond drill holes totalling 1471 metres were drilled in the northwestern part of the Golden Queen and western part of the St. Elmo claim. Surface stripping and diamond drilling between elevations of 1472 and 1515 metres on the northwest corner of the Golden Queen claim, and about 152 metres east of the "A" orebody on the Coxey claim, delimited a Y-shaped body of mineralization (designated the NGQ Zone) containing an indicated 68,000 tons averaging 0.24 per cent molybdenite. Near the western boundary of the St. Elmo claim a mineralized zone (designated the NSE Zone) as outlined, which to a depth of 23 metres contains about 73,000 tons averaging 0.33 per cent molybdenite. Scurry-Rainbow Oil Limited optioned the property in December 1966, the option included the Novelty claim (Lot 958). Drilling by Scurry in 1967 tested the eastern part of the breccia complex on the Golden Queen and St. Elmo claims and the full width of the Novelty claim. Of the 14020 metres of diamond drilling in 174 holes, most was done on the adjacent Giant claim (see 82 F/4, Mo 3). Further diamond drilling was done by Scurry in 1968. Under the terms of the agreement Scurry earned a 50 per cent interest in the property. The company name (McKinney) was changed in March 1967 to Continental McKinney Mines Limited. Based on the drilling on this property, and on the adjacent Giant property, independent consultants in 1967 calculated the indicated-reserves available for open pit operations in 5 separate orebodies at 810,540 tons averaging 0.39 per cent molybdenite. In addition, some 88,000 tons of possible ore of various grades are indicated below open pit limits. Continental McKinney in May 1973 amalgamated with Trinat Resources Ltd., Gundex Holdings Ltd., and Modoc Holdings Ltd., under the name Chandalar Resources Limited. A geochemical soil survey was carried out by Mine Finders, Inc., of Lakewood Colorado in 1973. Chandler Resources abandoned its interest in the property prior to 1975; Scutty-Rainbow sold its interest in 1975. David Minerals Ltd. optioned the Golden Queen, St. Elmo, Surprise, and Novelty claims from J.D. Turcotte of Christina Lake, subject to a prior agreement between Turcotte and M. Delich of Rossland. From the exploration work done by Scurry Rainbow on the Golden Queen and St. Elmo (1971)

CAPSULE GEOLOGY

there were outlined 237,000 tons grading 0.273 per cent MOS2 (Geol. Rept. for David Minerals in SMF 268/80, 24/12/80). In 1981, David Minerals diamond drilled 22 holes here and in the Giant, California, Novelty, Gold King areas. (See 82 F/4, Mo 3). Reserves were re-calculated by J.M. Stitt (1980) as follows: Golden Queen - 19,500 tons at 0.30% MOS2 St. Elmo - 65,100 tons at 0.28% MOS2- (Report by J.L. Deleen (1983) - in David Minerals Statement of Material Facts, 11/07/85).

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MINFILE NUMBER: **082FSW107**

NATIONAL MINERAL INVENTORY: 082F4 Mo3

NAME(S): **NOVELTY (L.958)**, GIANT, GIANT - COXEY

STATUS: Developed Prospect

MINING DIVISION: Trail Creek

REGIONS: British Columbia

NTS MAP: 082F04W

BC MAP:

LATITUDE: 49 05 11 N

LONGITUDE: 117 49 22 W

ELEVATION: 1370 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5437385

EASTING: 439924

LOCATION ACCURACY: Within 500M

COMMENTS: Novelty pit, located on the southwest slope of Red Mountain, 1.6 kilometres northwest of Rossland.

COMMODITIES: Gold

Molybdenum

Cobalt

Uranium

Bismuth

MINERALS

SIGNIFICANT: Arsenopyrite Molybdenite Uraninite Bismuthinite Bismuth

Pyrrhotite Pyrite

ASSOCIATED: Quartz Feldspar

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Breccia

CLASSIFICATION: Porphyry Skarn

TYPE: L05 Porphyry Mo (Low F- type) K05 W skarn

O02 Rare element pegmatite - NYF family

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Pennsylvan.-Permian

Jurassic

Jurassic

GROUP

Undefined Group

FORMATION

Mount Roberts

IGNEOUS/METAMORPHIC/OTHER

Trail Pluton

Nelson Intrusions

LITHOLOGY: Breccia
Hornfels
Hornfels Siltstone
Siltstone
Andesite
Quartz Diorite
Quartz Diorite Breccia
Mafic Dike
Granodiorite

HOSTROCK COMMENTS: The Trail pluton is part of the Nelson Intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Slide Mountain

METAMORPHIC TYPE: Contact

Quesnel

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Hornfels

INVENTORY

ORE ZONE: NOVELTY MAIN

REPORT ON: Y

CATEGORY: Indicated

YEAR: 1984

QUANTITY: 77110 Tonnes

COMMODITY

GRADE

Gold 5.1400 Grams per tonne

Cobalt 0.1260 Per cent

Molybdenum 0.2200 Per cent

COMMENTS: Undiluted drill indicated reserves calculated by J.L. Deleen (1984).

Actual grade is 0.38 per cent MoS2. Conversion used MoS2 to Mo 1.6681.

REFERENCE: Statement of Material Facts, July 11, 1985, David Minerals Ltd.

CAPSULE GEOLOGY

The Giant claim is located at 1295 metres elevation on the southwesterly slope of Red Mountain about 1.6 kilometres northwest of Rossland. The claim is adjoined to the north and east by the Novelty claim (Lot 958) and to the southeast by the California (Lot 956). The Gold King claim (Lot 1061) lies about 91 metres west of the Giant claim.

The Giant, Novelty, California, and Gold King claims were Crown-granted in 1896 to G.W. Coplin, T.F. Wren, Chas. Warren and D.M. Lennard, respectively. Very little development work was reported on the Gold King. On the Novelty claim a shaft was sunk to

CAPSULE GEOLOGY

12 metres and 2 short adits driven. The Giant and California were developed by two companies, the Giant Gold Mining Company and the California Gold Mining Company, which were organized in Spokane. Development work continued into 1903 and included, on the Giant, 2 shafts totalling about 61 metres and 152 metres of drifts and crosscuts, and, on the California, about 304.8 metres of drifts and a 51.2 metre shaft.

The Giant-California Mining Company, Limited was incorporated in 1907 as successor to the above companies. The property was apparently optioned by The Granby Consolidated Mining, Smelting and Power Company, Limited. Development work during 1907-1908 was confined to the California claim in search for the extension of the ore zone from its adjacent Annie claim held by Le Roi No. 2, Limited. A 36-metre crosscut and a 91 metre shaft were driven to connect with the Le Roi No. 2 workings. In 1914 the Le Roi No. 2, Limited secured a bond on the Giant and California and some development work was reported in 1914 and 1915. The Cal-Roi Mining Company, Limited was incorporated in 1921 to acquire the property but no work was reported.

Cascade Molybdenum Mines Ltd. was incorporated in October 1964 to acquire 9 Crown-granted claims (Gold King, Evening, etc.). The Giant claim was acquired on a 20-year lease from Cominco Ltd. During 1965 the company explored several zones of mineralization by 30 diamond drill holes totalling 2624 metres on the Giant, by 15 holes totalling 1159 metres on the Evening, by 7 holes totalling 920 metres on the Gold King, and by 3 holes totalling 295 metres on the Little Darling. The work on the Giant was localized in two areas, the first in the vicinity of the upper adit at about 1295 metres elevation, and the second a breccia zone to the northeast of the first at 1356 metres elevation. In 1966 approximately 9144 metres of AX wireline drilling in 17 holes was done, mainly on the Giant claim.

Reserves on the Giant claim were estimated at 558,375 tons. The company reported total indicated open pit reserves at 1,078,233 tons averaging 0.282 per cent molybdenite and 1.16 grams per tonne gold.

In January 1967 Cascade Molybdenum and Scurry-Rainbow Oil Limited agreed to a joint exploration program. During the year the full width of the breccia complex on the Giant and adjoining Novelty claim, and the eastern part of the breccia on the Golden Queen and St. Elmo claims (see 82 T/4, Mo 2), was tested by diamond drilling totalling 14020 metres in 174 holes, mainly on the Giant claim. Scurry thereby earned a major share position (282) in Cascade and assumed the management of that company. Based on the drilling by Scurry on this property, and on the adjoining Golden Queen-St. Elmo property, independent consultants calculated the indicated reserves available for open pit operations in 5 separate orebodies at 810,540 tons averaging 0.39 per cent molybdenite. In addition, some 88,000 tons of possible ore of various grades are indicated below open pit limits. In 1970 Red Mountain Mines Limited carried out trenching on the Novelty claim. Mine Finders, Inc. of Lakewood Colorado carried out a geochemical soil survey over the property in 1973. Scurry-Rainbow sold its interest in Cascade Molybdenum in 1975. The company name (Cascade) was changed in June 1975 to New Cascade Minerals Ltd., and in January 1976 to Maloney Steel Ltd.

David Minerals Ltd. by an agreement of August 1980 acquired the property from Maloney Steel for 12,000 shares, subject to a 5 per cent net smelter interest in Giant claim in favour of Cominco Ltd. Drilling was carried out on the Novelty claim in 1981. From the exploration done by Cascade there were estimated 1,070,280 tons grading 0.282 per cent MOS₂ and 1.16 grams per tonne gold on the Giant and Novelty (1967) or 778,500 tons grading 0.340 per cent MOS₂ and 1.98 grams per tonne gold (1971). (Geol. Rept. for David Minerals in SMF 268/80, 24/12/80).

Undiluted drill indicated reserves on the Novelty Main Zone were reported as 85,000 tons at 5.14 grams per tonne gold, 0.380 per cent MOS₂, 0.126 per cent cobalt (J.L. Deleen (1984) - in David Minerals Statement of Material Facts, 11/07/85, p. 7).

The Novelty area is underlain by siltstone, hornfelsed siltstone, hornfels and a breccia complex of the Pennsylvanian and possibly Permian Mount Roberts Formation. The characteristics of the mineralization and its association with the Middle to Late Jurassic Trail pluton, especially its upper and western margins, point to its classification as a porphyry-type deposit (Bulletin 74).

The siltstone is intruded by lenticular masses of andesite, irregular bodies of quartz diorite and quartz diorite breccia, and late, steeply dipping mafic dykes which trend northward. The quartz-diorite and quartz-diorite breccia are part of the Trail Pluton of the Nelson Intrusions which is comprised of a mass of granodiorite to quartz diorite. A set of faults trend 160 degrees

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and are downthrown on the west.

Molybdenite, usually without other sulphides, occurs in randomly oriented fractures in all types of hornfels breccia and in granodiorite breccia. Commonly, it lies along the margins of breccia blocks and locally is concentrated at junctions between the blocks. Pyrrhotite, and locally pyrite, are disseminated in hornfels and also occur in fractures and as massive lenses between breccia fragments. Its distribution seems to be independent of the distribution of molybdenite.

In the Novelty pit, fractures in siliceous hornfels contain arsenopyrite, cobalt minerals, bismuthinite, and uraninite (Bulletin 74, page 49; Thorpe, 1967, pages 15,32). Grab samples of molybdenite from the Giant-Coxey area assayed 0.017 to 0.20 per cent uranium (Geological Survey of Canada Economic Geology Series No. 16, 1952).

Undiluted drill indicated reserves on the Novelty main one were reported as 77,110 tonnes at 5.14 grams per tonne gold, 0.22 per cent molybdenite, 0.126 per cent cobalt (Actual grade is 0.38 per cent MoS₂. Conversion used for MoS₂ to Mo is 1.6681.) (J.L. Deleen, 1984 - in David Minerals Statement of Material Facts, July 11, 1985; National Mineral Inventory - 082F4 Mo3).

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CAPSULE GEOLOGY

summit of the mountain, and the Novelty claim (Lot 958) joins to the south. The Coxey claim (see 82 F/4, Mo 1) joins to the west.

The Golden Queen claim (Lot 994) was Crown-granted in 1896 to J. Garrison but there is no record of early work on the claim. The St. Elmo claim (Lot 923) was Crown-granted in 1896 to F.C. Loring. Development work continued until 1901 and included about 701 metres of drifts and crosscuts in 2 adits. Further activity was reported in 1908 when a small amount of ore was shipped under the name J.P. Johnson.

No further activity was reported until 1941 when the St. Elmo workings were reopened by A. Grubsic and Ike Glover. Scheelite was discovered in the old workings in 1942 and the Consolidated Mining, Smelting and Power Company Limited examined the property under an option agreement.

Northwood Mining Limited optioned the Golden Queen, St. Elmo, and Surprise (Lot 693) claims from Messrs. Grubsic and Glover in August 1964 and the Gertrude claim (Lot 690) from William Keane. By an agreement of September 1964 Northwood assigned the above 4 Crown-granted claims to McKinney Gold Mines Limited. Geophysical and geochemical surveys were started late in 1964. The geochemical survey of the Golden Queen and St. Elmo claims was continued in 1965. Some bulldozer stripping was done and numerous showings sampled. In addition, 47 vertical diamond drill holes totalling 1471 metres were drilled in the northwestern part of the Golden Queen and western part of the St. Elmo claim. Surface stripping and diamond drilling between elevations of 1472 and 1515 metres on the northwest corner of the Golden Queen claim, and about 152.4 metres east of the "A" orebody on the Coxey claim, delimited a Y-shaped body of mineralization (designated the NGQ Zone) containing an indicated 68,000 tons averaging 0.24 per cent molybdenite. Near the western boundary of the St. Elmo claim a mineralized zone (designated the NSE Zone) as outlined, which to a depth of 23 metres contains about 73,000 tons averaging 0.33 per cent molybdenite.

Scurry-Rainbow Oil Limited optioned the property in December 1966, the option included the Novelty claim (Lot 958). Drilling by Scurry in 1967 tested the eastern part of the breccia complex on the Golden Queen and St. Elmo claims and the full width of the Novelty claim. Of the 14020 metres of diamond drilling in 174 holes, most was done on the adjacent Giant claim (see 82 F/4, Mo 3). Further diamond drilling was done by Scurry in 1968. Under the terms of the agreement Scurry earned a 50 per cent interest in the property. The company name (McKinney) was changed in March 1967 to Continental McKinney Mines Limited. Based on the drilling on this property, and on the adjacent Giant property, independent consultants in 1967 calculated the indicated-reserves available for open pit operations in 5 separate orebodies at 810,540 tons averaging 0.39 per cent molybdenite. In addition, some 88,000 tons of possible ore of various grades are indicated below open pit limits.

Continental McKinney in May 1973 amalgamated with Trinat Resources Ltd., Gundex Holdings Ltd., and Modoc Holdings Ltd., under the name Chandalar Resources Limited. A geochemical soil survey was carried out by Mine Finders, Inc., of Lakewood Colorado in 1973. Chandler Resources abandoned its interest in the property prior to 1975; Scutty-Rainbow sold its interest in 1975. David Minerals Ltd. optioned the Golden Queen, St. Elmo, Surprise, and Novelty claims from J.D. Turcotte of Christina Lake, subject to a prior agreement between Turcotte and M. Delich of Rossland. From the exploration work done by Scurry Rainbow on the Golden Queen and St. Elmo (1971) there were outlined 237,000 tons grading 0.273 per cent MOS₂ (Geol. Rept. for David Minerals in SMF 268/80, 24/12/80). In 1981, David Minerals diamond drilled 22 holes here and in the Giant, California, Novelty, Gold King areas. (See 82 F/4, Mo 3). Reserves were re-calculated by J.M. Stitt (1980) as follows: Golden Queen - 19,500 tons at 0.30% MOS₂ St. Elmo - 65,100 tons at 0.28% MOS₂- (Report by J.L. Deleen (1983) - in David Minerals Statement of Material Facts, 11/07/85).

The Gertrude Crown Grant is underlain by siltstone, hornfelsed siltstone, hornfels and a breccia complex of the Pennsylvanian and possibly Permian Mount Roberts Formation. The succession is thought to have been thrust over the underlying Rossland sill of the Elise Formation, Rossland Group, prior to the intrusion of the Middle to Late Jurassic Trail pluton. Augite porphyry of the Rossland sill may underlie the eastern part of the claim.

The siltstone is intruded by lenticular masses of andesite, irregular bodies of quartz diorite and quartz diorite breccia, and late, steeply dipping mafic dykes which trend northward. Small scale

CAPSULE GEOLOGY

faults parallel to this trend step the older rocks down on the west. The quartz-diorite and quartz-diorite breccia are part of the Trail pluton of the Nelson Intrusions which is comprised of a mass of granodiorite to quartz diorite.

A little mineralization is reported to occur in the vicinity of a granitic dyke. At a shaft near the dyke there is a few streaks of ore along bedding planes and in the granitic rock itself. Seams of calcite are present. The ore on the shaft dump consist of pyrrhotite, chalcopyrite, pyrite, arsenopyrite and a little molybdenite. Sphalerite, native bismuth and bismuthinite are also associated with the ore.

The characteristics of the mineralization in this area and its association with the Trail pluton, especially its upper and western margins, point to its classification as a porphyry-type deposit (Bulletin 74).

In 1991, drilling was initiated on the Gertrude claim in order to test for the strike extension of the War Eagle/Number One vein (082FSW097). One drill interval graded 14.06 grams per tonne gold over 5 metres (George Cross News Letter No.65, April 4, 1991).

Pacific Vangold and International Silver Ridge plan work (surface drilling and drifting from existing workings to intersect the vein), where proven reserves are estimated at 44,447 tonnes grading 7.9 grams per tonne gold (Information Circular 1995-9, page 18).

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CAPSULE GEOLOGY

The Giant claim is located at 1295 metres elevation on the southwesterly slope of Red Mountain about 1.6 kilometres northwest of Rossland. The claim is adjoined to the north and east by the Novelty claim (Lot 958) and to the southeast by the California (Lot 956). The Gold King claim (Lot 1061) lies about 91 metres west of the Giant claim.

The Giant, Novelty, California, and Gold King claims were Crown-granted in 1896 to G.W. Coplin, T.F. Wren, Chas. Warren and D.M. Lennard, respectively. Very little development work was reported on the Gold King. On the Novelty claim a shaft was sunk to 12 metres and 2 short adits driven. The Giant and California were developed by two companies, the Giant Gold Mining Company and the California Gold Mining Company, which were organized in Spokane. Development work continued into 1903 and included, on the Giant, 2 shafts totalling about 61 metres and 152 metres of drifts and crosscuts, and, on the California, about 305 metres of drifts and a 51-metre shaft.

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Cascade Molybdenum Mines Ltd. was incorporated in October 1964 to acquire 9 Crown-granted claims (Gold King, Evening, etc.). The Giant claim was acquired on a 20-year lease from Cominco Ltd. During 1965 the company explored several zones of mineralization by 30 diamond drill holes totalling 2624 metres on the Giant, by 15 holes totalling 1159 metres on the Evening, by 7 holes totalling 920 metres on the Gold King, and by 3 holes totalling 295 metres on the Little Darling. The work on the Giant was localized in two areas, the first in the vicinity of the upper adit at about 1295 metres elevation, and the second a breccia zone to the northeast of the first at 1356 metres elevation. In 1966 approximately 9144 metres of AX wireline drilling in 17 holes was done, mainly on the Giant claim.

Reserves on the Giant claim were estimated at 558,375 tons. The company reported total indicated open pit reserves at 1,078,233 tons averaging 0.282 per cent molybdenite and 1.16 grams per tonne gold.

In January 1967 Cascade Molybdenum and Scurry-Rainbow Oil Limited agreed to a joint exploration program. During the year the full width of the breccia complex on the Giant and adjoining Novelty claim, and the eastern part of the breccia on the Golden Queen and St. Elmo claims (see 82 T/4, Mo 2), was tested by diamond drilling totalling 14020 metres in 174 holes, mainly on the Giant claim. Scurry thereby earned a major share position (282) in Cascade and assumed the management of that company. Based on the drilling by Scurry on this property, and on the adjoining Golden Queen-St. Elmo property, independent consultants calculated the indicated reserves available for open pit operations in 5 separate orebodies at 810,540 tons averaging 0.39 per cent molybdenite. In addition, some 88,000 tons of possible ore of various grades are indicated below open pit limits. In 1970 Red Mountain Mines Limited carried out trenching on the Novelty claim. Mine Finders, Inc. of Lakewood Colorado carried out a geochemical soil survey over the property in 1973. Scurry-Rainbow sold its interest in Cascade Molybdenum in 1975. The company name (Cascade) was changed in June 1975 to New Cascade Minerals Ltd., and in January 1976 to Maloney Steel Ltd.

David Minerals Ltd. by an agreement of August 1980 acquired the property from Maloney Steel for 12,000 shares, subject to a 5 per cent net smelter interest in Giant claim in favour of Cominco Ltd. Drilling was carried out on the Novelty claim in 1981. From the exploration done by Cascade there were estimated 1,070,280 tons grading 0.282 per cent MOS₂ and 1.16 grams per tonne gold on the Giant and Novelty (1967) or 778,500 tons grading 0.340 per cent MOS₂ and 1.98 grams per tonne gold (1971). (Geol. Rept. for David Minerals in SMF 268/80, 24/12/80).

Undiluted drill indicated reserves on the Novelty Main Zone were reported as 85,000 tons at 5.14 grams per tonne gold, 0.380 per cent MOS₂, 0.126 per cent cobalt (J.L. Deleen (1984) - in David Minerals Statement of Material Facts, 11/07/85, p. 7).

The Giant Crown grant is underlain by the Pennsylvanian and possibly Permian Mount Roberts Formation siltstone, hornfelsed siltstone, hornfels and a breccia complex. The siltstone is rusty,

CAPSULE GEOLOGY

sooty and massive or thinly bedded with minor disseminated pyrrhotite and pyrite. The hornfels and hornfelsic siltstones are thinly laminated, massive cherty rocks, which locally contain brown garnet and epidote.

The succession is thought to have been thrust over augite porphyry of the underlying Rosslund sill of the Elise Formation (Rosslund Group) prior to the intrusion of the Middle to Late Jurassic Trail pluton (Nelson Intrusions). The siltstone is also intruded by the Early Jurassic Rosslund monzonite and monzonite breccia as well as by the syenitic Middle Eocene Coryell Intrusions and associated syenite dykes. Lenticular masses of andesite and late, steeply dipping, north-trending lamprophyre and diorite dykes have also invaded the siltstone.

Two types of mineral deposits occur on the property. The initial underground workings were on a narrow easterly dipping vein mineralized with sulphides of cobalt, nickel, arsenic, iron and molybdenum, all with gold. The molybdenum zone developed in later work occurs in breccia and consists of molybdenite, pyrrhotite, and minor chalcopyrite.

The mineralized vein strikes north and dips steeply to the east. Sulphides infill along a sheared dyke and comprise ore shoots which end abruptly against cross structures. Native gold occurs in impregnations of arsenopyrite, pyrrhotite, pyrite, molybdenite and bismuthinite near the dyke. The pyrrhotite is the most abundant ore mineral and carries determinable amounts of cobalt and nickel. Cobaltite is also present. Bismuthinite and native bismuth occurs in particles or aggregates up to a few centimetres in diameter and is found associated with the pyrrhotite and frequently is found with visible gold. Microscopic magnetite forms a thin rim or coatings around arsenopyrite grains which are associated with molybdenite, pyrrhotite, and chalcopyrite.

Between 1898 to 1913, 4,131 tonnes of ore was shipped from the Giant and California claims (082FSW113). From this ore, 113,246 grams gold, 23,265 grams silver, and 1,330 kilograms of copper were recovered (Geological Survey of Canada Memoir 77, page 141). Included in these figures are 3,940 tonnes of ore shipped from the Giant claim before operations were suspended in 1903.

Later work discovered molybdenum-gold mineralization essentially within the breccia complex. The hornfels and hornfelsic siltstone comprises a breccia with angular blocks ranging up to 30 metres across. The matrix between the blocks is comprised of fine silicates, quartz and calcite, garnet or scheelite. Molybdenum occurs in randomly oriented fractures in the hornfels breccia. It commonly lies along the margins of the breccia blocks and locally, is concentrated at junctions between the blocks. Pyrrhotite, chalcopyrite, pyrite, and arsenopyrite are disseminated in the hornfels and occur in fractures and as massive lenses between breccia fragments. The sulphide distribution seems independent of the distribution of the molybdenite.

In 1966, 17 drill holes indicated open pit reserves on the Giant claim were 50,700 tonnes of molybdenite averaging approximately 0.282 per cent molybdenite and 1.16 grams per tonne gold. In 1971, the indicated reserves for the Novelty and Giant claims were 706,177 tonnes averaging 1.9 grams per tonne gold, 0.20 per cent molybdenite. Actual grade is 0.34 per cent MoS₂ (David Minerals Limited, Statement of Material Facts, Dec. 24, 1980). Conversion used for MoS₂ to Mo is 1.6681.

The characteristics of the molybdenite mineralization and its association with the Middle to Late Jurassic Trail pluton, especially its upper and western margins, point to its classification as a porphyry-type deposit (Bulletin 74).

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DATE CODED: 1985/07/24
DATE REVISED: 1991/05/02

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW110**

NATIONAL MINERAL INVENTORY: 082F4 Mo1

NAME(S): **COXEY, RED MOUNTAIN, COXEY (L.1221), NEVADA (L.966)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:
LATITUDE: 49 05 23 N
LONGITUDE: 117 49 40 W
ELEVATION: 1379 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Open Pit A, located 2.5 kilometres northwest of Rossland on the west side of Red Mountain.

Open Pit

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

NORTHING: 5437760
EASTING: 439563

COMMODITIES: Molybdenum Copper Tungsten Gold

MINERALS

SIGNIFICANT: Molybdenite Pyrrhotite Chalcopyrite Arsenopyrite Scheelite
Pyrite Magnetite
ASSOCIATED: Silica Quartz Calcite
ALTERATION: Garnet Epidote Silica
ALTERATION TYPE: Silicific'n Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Vein
CLASSIFICATION: Hydrothermal Epigenetic Disseminated
TYPE: L05 Porphyry Mo (Low F- type) Porphyry K05 Skarn
L07 Porphyry W W skarn
SHAPE: Irregular
MODIFIER: Faulted

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian Jurassic Lower Jurassic	Undefined Group	Mount Roberts	Trail Pluton Nelson Intrusions

LITHOLOGY: Breccia
Hornfels
Hornfels Siltstone
Quartz Diorite Breccia
Quartz Diorite
Granodiorite
Andesite
Lamprophyre Dike

HOSTROCK COMMENTS: The Trail pluton is part of the Nelson Intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels
Post-mineralization

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: COXEY AND NEVADA CLAIMS REPORT ON: Y

CATEGORY: Indicated YEAR: 1982
QUANTITY: 244917 Tonnes
COMMODITY GRADE
Molybdenum 0.2200 Per cent

COMMENTS: Drill indicated in upper B and C zones. Actual grade is 0.37 per cent MoS2. Conversion used to MoS2 to Mo is 1.6681.
REFERENCE: Filing Statement 139/82, David Minerals Ltd.

CAPSULE GEOLOGY

The CoxeY mine is underlain by the Pennsylvanian and possibly Permian Mount Roberts Formation siltstone, hornfelsed siltstone, hornfels and a breccia complex. The siltstone is rusty, sooty and massive or thinly bedded with minor disseminated pyrrhotite and pyrite. The hornfels and hornfelsic siltstones are thinly laminated, massive cherty rocks, which locally contain brown garnet and epidote. The succession is thought to have been thrust over augite

CAPSULE GEOLOGY

porphyry of the underlying Rossland sill of the Elise Formation (Rossland Group) prior to the intrusion of the Middle to Late Jurassic Trail pluton (Nelson Intrusions). The siltstone is intruded by lenticular masses of andesite, irregular bodies of quartz diorite and quartz diorite breccia, and late steeply dipping dykes which trend northward. The quartz diorite is assumed to be part of the Trail pluton.

Steeply dipping faults, trending 160 degrees, offset the orebodies. One such fault separates the A from the B orebodies, another passes between the A and upper A orebodies, and yet another passes between the A and E orebodies. From the offset of the orebodies the faults are assumed to be downthrown on the west. The Headwall fault, between the A and upper A orebodies, is followed by a lamprophyre dyke which is locally sheared along the fault. The quartz diorite breccia is also offset 45 to 50 metres to the right along this fault. Potassium-argon dating of biotite from the Headwall lamprophyre dyke gave an age of 49.0 plus or minus 1.6 million years (Bulletin 74).

The molybdenum mineralization occurs essentially within the Mount Roberts Formation breccia complex. The hornfels and hornfelsic siltstone comprises a breccia with angular blocks ranging up to 30 metres across. The matrix between the blocks is comprised of fine silicates, quartz, calcite, garnet or scheelite. Molybdenite, usually without other sulphides, occurs in randomly oriented fractures in all types of hornfels breccia and in the quartz diorite breccia. Commonly, it lies along the margins of breccia blocks and locally is concentrated at junctions between the blocks. Rarely, these junctions also contain drusy quartz, scheelite, hornblende or epidote. Pyrrhotite, chalcopyrite and pyrite are disseminated in the hornfels and also occur in fractures and as massive lenses between breccia fragments. The sulphide distribution seems independent of the distribution of molybdenite. Arsenopyrite is a predominant mineral with molybdenite and chalcopyrite in the Coxey-Novelty vein (082FSW107). Microscopic magnetite rims the arsenopyrite grains.

Between 1966 to 1972, 1,035,509 tonnes of ore was mined from the open pits and produced 1,748,871 kilograms of molybdenum. In 1982, the indicated reserves for the orebodies on the Coxey and Nevada claims was calculated to be 244,917 tonnes of 0.22 per cent molybdenite. Actual grade is 0.37 per cent MoS₂ (Filing Statement 139/82, David Minerals Limited). Conversion used of MoS₂ to Mo is 1.6681. Some of this material is reported to carry gold but estimates of the average grade cannot be made from the data available.

Scheelite occurring as medium to coarse grains, is scattered throughout the breccia complex. Rarely, it forms spectacular clusters of grains between fragments. Its occurrence is erratic and company records indicate the highest grades were found in the E and F orebodies on the Mountain View claim (082FSW140), where the grade was about 0.10 per cent WO₃ (tungsten trioxide).

The characteristics of the molybdenite and scheelite mineralization and its association with the Middle to Late Jurassic Trail pluton, especially its upper and western margins, point to its classification as a porphyry-type deposit (Bulletin 74).

The property is located on the west slope of Red Mountain about 18 kilometres northwest of Rossland. It consists of 10 claims, the Coxey, Nevada, Mountain View, Ontario, Good Friday, Peak, High Ore, Ophir, Jumbo, and Sam Hayes. Most of these claims were Crown-granted during the period 1895-97 and were well known in the early days of the Rossland camp.

Development work on the Coxey was begun in 1897 by Messrs. Cook & Johnson. In 1899 Montreal Goldfields Ltd. prospected the property for gold and copper. Development work consisted of two tunnels, a shaft, and several open cuts. The Coxey claim was reportedly worked by lessees Williams and Ruffner during the first World War but it is not known what development work was done at that time.

Late in 1963 Torwest Resources acquired the group of 10 claim. During 1964, 59 diamond drill holes were put down on the Coxey claim, 53 on the A or east zone and 6 on the B or west zone. Stripping on the B zone traced the mineralization for over 213 metres.

Metal Mines Limited optioned the property in September 1964 and early in 1965 they assigned one half of their interest in the project to Canadian Nickel Company Limited, the exploration arm of The International Nickel Company of Canada Limited.

At the end of 1964 ore reserves were estimated at 400,000 tons grading 0.5 per cent molybdenite.

Thirty-four drill-holes put down by Metal Mines Limited late in 1964 reportedly confirmed the results of the Torwest drilling. Red Mountain Mines Limited was formed in April 1965 to operate the property. The new company was owned by Torwest Resources (60 per

CAPSULE GEOLOGY

cent), Metal Mines (20 per cent), and Canadian Nickel (20 per cent). Mining was by open pit. A 400 ton per day mill began operating April 24, 1966. Reserves at that time were estimated at 800,000 tons averaging 0.45 per cent molybdenite.

The property was financed to production jointly by Canadian Nickel Company and Consolidated Canadian Faraday Limited.

Mining was done initially in the A zone. Mill capacity was increased to 600 tons per day by 1969 and 750 tons per day by 1970. The mine closed in December 1970 due to lack of ore. The discovery of the E zone late in 1970 permitted the resumption of milling in February 1971. The mine closed in January 1972. After closing, The International Nickel Company engaged Min Finders Inc., of Lakewood Colorado to carry out an extensive exploration program based on a porphyry model of mineralization. Geochemistry, geophysics and deep drilling were carried out in the mine area between 1972 and 1974.

In 1980-81 David Minerals Ltd acquired the property from AJM Explorations Ltd. and AJM Mill Ltd. and also acquiring the interests of Hunstone Ventures Ltd. and those of Inco Limited, Consolidated Canadian Faraday and Teck Corporation. The 1980 agreement included purchase of the 600 tpd mill. In 1981 the company drilled 9 short holes just south of the mine area. Reserves were reported as drill indicated 270,000 tons at 0.37 per cent MOS2 on the Coxe and Nevada claims (David Minerals Ltd., FS 139/82, p. 3, 1982).

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DATE CODED: 1985/07/24
DATE REVISED: 1991/05/02

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW111**

NATIONAL MINERAL INVENTORY: 082F4 Au4

NAME(S): **JUMBO (L.965)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Open Pit Underground

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 20 N
LONGITUDE: 117 50 04 W
ELEVATION: 1295 Metres

NORTHING: 5437672
EASTING: 439076

LOCATION ACCURACY: Within 500M

COMMENTS: Located west of Red Mountain on the west side of Jumbo Creek, 3.2 kilometres northwest of Rossland.

COMMODITIES: Gold Silver Molybdenum Copper Bismuth

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Arsenopyrite Gold Molybdenite
 Bismuthinite Bismuth Pyrite Magnetite Hematite
ASSOCIATED: Quartz Calcite Ankerite
ALTERATION: Garnet Epidote
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Disseminated Shear
CLASSIFICATION: Hydrothermal Porphyry
TYPE: I02 Intrusion-related Au pyrrhotite veins L01 Subvolcanic Cu-Ag-Au (As-Sb)
 K05 W skarn
DIMENSION: 9 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Vein

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian	Undefined Group	Mount Roberts	Coryell Intrusions
Eocene			
ISOTOPIC AGE: 49.1 +/- 1.4 Ma			
DATING METHOD: Potassium/Argon			
MATERIAL DATED: Biotite			Trail Pluton
Jurassic			

LITHOLOGY: Breccia
Siltstone
Hornfels
Hornfels Siltstone
Syenite
Syenite Dike

HOSTROCK COMMENTS: Syenite dated March 1983 at UBC, Sample R70-18 (Bulletin 74).
The Trail pluton is part of the Nelson Intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Slide Mountain Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE: Hornfels

CAPSULE GEOLOGY

The Jumbo claim, located about 3.2 kilometres northwest of Rossland, was staked by A.D. Coplen in 1892 and Crown granted to J.A. Finch & associates in 1895. The Jumbo Gold Mining Company of Spokane operated the mine from 1896 until it closed in 1906. Development work, totalling over 244 metres of tunnel was carried on in three adits. Further work was done on the property during 1934-36 by Mr. Slubowski and associates. Lessees worked the property, owned by Mrs. C.F. Smith of California, during 1942.

Late in 1963 Torwest Resources (1962) Limited acquired a group of 10 claims, including the Jumbo and Coxey. Some diamond drill holes were put down on the presumed extension of the oreshoot on the Jumbo. (See: Coxey; Area, 82F/4, Ref. Mo 1).

The Jumbo Crown Grant is underlain by siltstone, hornfelsed siltstone, hornfels and a breccia complex of the Pennsylvanian and possibly Permian Mount Roberts Formation. The siltstone is rusty, sooty and massive or thinly bedded with minor disseminated pyrrhotite and pyrite. The hornfels and hornfelsic siltstones are thinly laminated, massive cherty rocks, which locally contain brown garnet and epidote.

CAPSULE GEOLOGY

The succession is thought to have been thrust over augite porphyry of the underlying Rosslund sill of the Elise Formation (Rosslund Group) prior to the intrusion of the Middle to Late Jurassic Trail pluton (Nelson Intrusions). The siltstone is also intruded by the Early Jurassic Rosslund monzonite and monzonite breccia as well as by the syenitic Middle Eocene Coryell Intrusions and associated syenite dykes. Lenticular masses of andesite and late, steeply dipping, north-trending lamprophyre and diorite dykes have also invaded the siltstone.

A vein along a minor shear, ranging up to 9 metres or more in width, is mineralized with pyrrhotite, arsenopyrite, molybdenite, bismuthinite and native gold in a gangue comprised mainly of quartz with ankerite and calcite. The gold values were highest where the vein is crosscut by syenite dykes. The bismuthinite occurs in particles or aggregates up to a few centimetres in diameter and usually shows perfect cleavage with a lustre that is intermediate between lead-grey and tin-white. Pyrrhotite and other sulphides are associated with the native bismuth and bismuthinite in the country rock. It is often seen as a thin film along cracks and fractures. Visible free gold is frequently found with native bismuth.

Between 1903 to 1906, 28,829 tonnes of ore was mined and produced 415,878 grams of gold. And, between 1934 to 1942, approximately 1965 tonnes were mined and produced 19,719 grams gold and 12,347 grams silver.

The molybdenum mineralization occurs within the breccia complex which is comprised of angular blocks of siltstone and hornfelsic siltstone ranging up to 30 metres across. Molybdenite occurs in randomly oriented fractures in the breccia and locally, is concentrated at the junctions between the blocks. Pyrrhotite, pyrite and minor chalcopryrite with arsenopyrite also occur within fractures in the breccia and as massive lenses between the fragments. Magnetite is found in the ore as microscopic particles associated with the arsenopyrite-molybdenite. The magnetite adjoins or surrounds the arsenopyrite grains with a thin rim or coating. Hematite is represented only by pseudomorphs of magnetite.

Molybdenite occurrences are spatially related to the the Middle to Late Jurassic Trail pluton, especially its upper and western margins. In the region, both skarn and porphyry molybdenum mineralization occur along the margins of the Nelson Intrusions (Fieldwork 1990, pages 21-31). The characteristics of the molybdenite mineralization on Red Mountain indicate classification as a porphyry-type deposit (Bulletin 74, page 52). The copper-gold vein-type mineralization is apparently younger than the porphyry/skarn events.

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EMPR GEM 1972-50; 1973-62; 1974-70-71
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EMR MP CORPFILE (Torwest Resources (1962) Ltd.)
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DATE CODED: 1985/07/24
DATE REVISED: 1991/05/02

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW112**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD HILL (L.640)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 05 38 N
LONGITUDE: 117 50 22 W
ELEVATION: 1525 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5438232
EASTING: 438717

LOCATION ACCURACY: Within 500M

COMMENTS: Located approximately 3.0 kilometres northwest of Rossland on the southeastern slopes of Mt. Roberts.

COMMODITIES: Silver

MINERALS

SIGNIFICANT: Arsenopyrite Pyrrhotite Pyrite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Pennsylvan.-Permian
Eocene

GROUP

Undefined Group

FORMATION

Mount Roberts

IGNEOUS/METAMORPHIC/OTHER

Coryell Intrusions

ISOTOPIC AGE: 49.1 +/- 1.4 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

LITHOLOGY: Black Argillite
Siltstone
Sandstone
Breccia
Syenite
Monzonite
Syenite Porphyry
Tuff

HOSTROCK COMMENTS: Syenite dated March 1983, Sample R70-18 (Bulletin 74).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain
METAMORPHIC TYPE: Contact

Quesnel
RELATIONSHIP: Syn-mineralization
Post-mineralization

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Hornfels

CAPSULE GEOLOGY

The Gold Hill claim is underlain by Pennsylvanian and possibly Permian Mount Roberts Formation rocks comprised of a coarse sedimentary breccia that grades to the east into a grayish to green, thinly laminated sandstone that, still farther east, grades into thinly bedded grey siltstone and argillite. A mass of Middle Eocene Tertiary Coryell Intrusions, comprised of syenite to monzonite, intrudes these older rocks; the eastern portion of the claim is reported to be underlain by syenite porphyry.

On the claim, the Mount Roberts bedded rocks strike northwards and dip steeply to the west. The host rock is black argillite with some coarser, banded, brown rock that resembles an ash bed or a tuff. Mineralization consists of a series of quartz stringers or veinlets containing pyrrhotite with some calcite along with the quartz. Drusy cavities are present in the quartz. Arsenopyrite was also reported to occur with the vein pyrrhotite. Disseminated pyrite is also present.

In 1894, 9 tonnes of high grade ore were shipped from a quartz vein and 31,103 grams of silver was recovered.

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1260
REPORT: RGEN0100

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British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW113**

NATIONAL MINERAL INVENTORY: 082F4 Mo3

NAME(S): **CALIFORNIA (L.956)**, GIANT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 54 N
LONGITUDE: 117 49 22 W
ELEVATION: 1190 Metres

NORTHING: 5436860
EASTING: 439919

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the south slope of Red Mountain, 1.0 kilometres northwest of Rossland; adjoined to the Giant (082FSW109) on the northwest side.

COMMODITIES: Gold Copper Silver Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Arsenopyrite Pyrite Sphalerite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: STRIKE/DIP: 360/85E TREND/PLUNGE:
COMMENTS: Mineralized vein hosting banded ore ranging from 18 to 33.5 metres in width.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Pennsylvan.-Permian
Eocene
Lower Jurassic

GROUP

Undefined Group

FORMATION

Mount Roberts

IGNEOUS/METAMORPHIC/OTHER

Coryell Intrusions
Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY:

Quartzite
Diorite
Pulaskite Dike
Syenite
Siltstone
Hornfels
Hornfels Siltstone
Breccia
Monzonite

HOSTROCK COMMENTS: Age date from K. Andrew of the B.C. Geological Survey Branch (personal communication, March 1991). Trail and Rainy Day plutons intrude rocks.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain
METAMORPHIC TYPE: Contact

Quesnel

RELATIONSHIP: Syn-mineralization
Post-mineralization

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Hornfels

CAPSULE GEOLOGY

The Giant claim is located at 1295.4 metres elevation on the southwesterly slope of Red Mountain about 1.6 kilometres northwest of Rossland. The claim is adjoined to the north and east by the Novelty claim (Lot 958) and to the southeast by the California (Lot 956). The Gold King claim (Lot 1061) lies about 91 metres west of the Giant claim.

The Giant, Novelty, California, and Gold King claims were Crown-granted in 1896 to G.W. Coplin, T.F. Wren, Chas. Warren and D.M. Lennard, respectively. Very little development work was reported on the Gold King. On the Novelty claim a shaft was sunk to 12 metres and 2 short adits driven. The Giant and California were developed by two companies, the Giant Gold Mining Company and the California Gold Mining Company, which were organized in Spokane. Development work continued into 1903 and included, on the Giant, 2 shafts totalling about 61 metres and 152 metres of drifts and crosscuts, and, on the California, about 304.8 metres of drifts and a 51.2-metre shaft.

The Giant-California Mining Company, Limited was

CAPSULE GEOLOGY

incorporated in 1907 as successor to the above companies. The property was apparently optioned by The Granby Consolidated Mining, Smelting and Power Company, Limited. Development work during 1907-1908 was confined to the California claim in search for the extension of the ore zone from its adjacent Annie claim held by Le Roi No. 2, Limited. A 365.7-metre crosscut and a 91.4-metre shaft were driven to connect with the Le Roi No. 2 workings. In 1914 the Le Roi No. 2, Limited secured a bond on the Giant and California and some development work was reported in 1914 and 1915. The Cal-Roi Mining Company, Limited was incorporated in 1921 to acquire the property but no work was reported.

Cascade Molybdenum Mines Ltd. was incorporated in October 1964 to acquire 9 Crown-granted claims (Gold King, Evening, etc.). The Giant claim was acquired on a 20-year lease from Cominco Ltd. During 1965 the company explored several zones of mineralization by 30 diamond drill holes totalling 2624 metres on the Giant, by 15 holes totalling 1159 metres on the Evening, by 7 holes totalling 920 metres on the Gold King, and by 3 holes totalling 295 metres on the Little Darling. The work on the Giant was localized in two areas, the first in the vicinity of the upper adit at about 1295 metres elevation, and the second a breccia zone to the northeast of the first at 1356 metres elevation. In 1966 approximately 9144 metres of AX wireline drilling in 17 holes was done, mainly on the Giant claim.

Reserves on the Giant claim were estimated at 558,375 tons. The company reported total indicated open pit reserves at 1,078,233 tons averaging 0.282 per cent molybdenite and 1.16 grams per tonne gold.

In January 1967 Cascade Molybdenum and Scurry-Rainbow Oil Limited agreed to a joint exploration program. During the year the full width of the breccia complex on the Giant and adjoining Novelty claim, and the eastern part of the breccia on the Golden Queen and St. Elmo claims (see 82 T/4, Mo 2), was tested by diamond drilling totalling 14020 metres in 174 holes, mainly on the Giant claim. Scurry thereby earned a major share position (282) in Cascade and assumed the management of that company. Based on the drilling by Scurry on this property, and on the adjoining Golden Queen-St. Elmo property, independent consultants calculated the indicated reserves available for open pit operations in 5 separate orebodies at 810,540 tons averaging 0.39 per cent molybdenite. In addition, some 88,000 tons of possible ore of various grades are indicated below open pit limits. In 1970 Red Mountain Mines Limited carried out trenching on the Novelty claim. Mine Finders, Inc. of Lakewood Colorado carried out a geochemical soil survey over the property in 1973. Scurry-Rainbow sold its interest in Cascade Molybdenum in 1975. The company name (Cascade) was changed in June 1975 to New Cascade Minerals Ltd., and in January 1976 to Maloney Steel Ltd.

David Minerals Ltd. by an agreement of August 1980 acquired the property from Maloney Steel for 12,000 shares, subject to a 5 per cent net smelter interest in Giant claim in favour of Cominco Ltd. Drilling was carried out on the Novelty claim in 1981. From the exploration done by Cascade there were estimated 1,070,280 tons grading 0.282 per cent MOS₂ and 1.16 grams per tonne gold on the Giant and Novelty (1967) or 778,500 tons grading 0.340 per cent MOS₂ and 1.98 grams per tonne gold (1971). (Geol. Rept. for David Minerals in SMF 268/80, 24/12/80).

Undiluted drill indicated reserves on the Novelty Main Zone were reported as 85,000 tons at 5.14 grams per tonne gold, 0.380 per cent MOS₂, 0.126 per cent cobalt (J.L. Deleen (1984) - in David Minerals Statement of Material Facts, 11/07/85, p. 7).

The California Crown Grant is underlain by the Pennsylvanian and possibly Permian Mount Roberts Formation consisting of siltstone, hornfelsed siltstone, hornfels and a breccia complex. The siltstone is rusty, sooty and massive or thinly bedded with minor disseminated pyrrhotite and pyrite. The hornfels and hornfelsic siltstones are thinly laminated, massive cherty rocks, which locally contain brown garnet and epidote.

The succession is thought to have been thrust over augite porphyry of the underlying Rosslund sill of the Elise Formation (Rosslund Group) prior to the intrusion of the Middle to Late Jurassic Trail pluton (Nelson Intrusions). The siltstone is also intruded by the Early Jurassic Rosslund monzonite and monzonite breccia as well as by the syenitic Middle Eocene Coryell Intrusions and associated syenite dykes. Lenticular masses of andesite and

CAPSULE GEOLOGY

late, steeply dipping, north-trending lamprophyre and diorite dykes have also invaded the siltstone.

The workings of the No. 1 tunnel were started on a pyritic vein following a contact between diorite and quartzite (Mount Roberts Formation?). The tunnel, driven about 100 metres by 1915, crosscut a 15 centimetre wide vein of arsenopyrite that ran as high as 35 per cent arsenic. A shaft, started on a vein striking north and dipping east, contained unspecified economic minerals. Quartzite contains specks of chalcopyrite and abundant pyrite. In places such mineralization is concentrated in definite bands 18 to 33.5 metres in width which as rule follows micaceous syenite porphyry (pulaskite). A sample taken from the California claim for a thesis study contained arsenopyrite, pyrite and sphalerite (Thorpe, 1967).

The California vein was mined in conjunction with the Giant vein system (082FSW109). In 7 years between 1898 to 1913, 4131 tonnes of ore was shipped from the California and Giant claims. From this ore, 113,246 grams gold, 23,265 grams silver, and 1330 kilograms of copper were recovered.

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GSC MAP 1002; 1004; 1518; 1090A; 1504A
GSC *MEM 77, pp. 142-143; 308
GSC P 79-26
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DATE CODED: 1985/07/24
DATE REVISED: 1991/05/03

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW114**

NATIONAL MINERAL INVENTORY:

NAME(S): **WHITE BEAR (L.1149)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 04 35 N
LONGITUDE: 117 49 12 W
ELEVATION: 1060 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5436271
EASTING: 440115

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the west side of the town of Rossland on the south slope of Red Mountain.

COMMODITIES: Gold Copper Silver

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Arsenopyrite Pyrite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER

Pennsylvan.-Permian Undefined Group Mount Roberts

Lower Jurassic Rossland Elise

Lower Jurassic

Rossland Monzonite

ISOTOPIC AGE: 190 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

Eocene

Coryell Intrusions

LITHOLOGY: Diorite Porphyry
Quartz Monzonite
Mafic Volcanic
Siltstone
Argillite
Augite Porphyry
Banded Hornfels
Syenite Dike

HOSTROCK COMMENTS: The Rossland monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE:

CAPSULE GEOLOGY

The White Bear deposit is associated with the "Main vein" system, of the Rossland mining camp, which forms a continuous well defined fracture system on a regional scale, striking 070 degrees for a length in excess of 1 kilometre. The White Bear mine, along with The Centre Star (082FSW094), Le Roi (082FSW093) and War Eagle (082FSW097) mines are all connected underground and constitute one large mine with a total of about 97 kilometres of underground workings. Refer to the Le Roi deposit (082FSW093) for further details of the Main vein system and the Rossland mining camp.

The White Bear Crown Grant appears to lie on or near the north-trending Rossland fault which divides augite porphyry of the Elise Formation (Rossland Group) on the east from sediments of the Pennsylvanian and possibly Permian Mount Roberts Formation on the west. The augite porphyry, known as the Rossland sill, has intruded the upper part of the Elise Formation. The Mount Roberts succession on Red Mountain is thought to have been thrust over the underlying Rossland sill prior to the intrusion of the Middle to Late Jurassic Nelson Intrusions. The strata are intruded by the Early Jurassic Rossland monzonite, the Rainy Day pluton (Nelson Intrusions), to the west, and by the syenitic Middle Eocene Coryell Intrusions and associated syenite dykes.

By 1902, a shaft passed through a barren package of rocks,

CAPSULE GEOLOGY

described as "altered basic volcanic rock" (Mount Roberts Formation?), up to 150 metres thick and encountered ore-bearing "diorite porphyry" (Geological Survey of Canada Memoir 77, pages 136-137). The diorite porphyry was later interpreted as a marginal facies of the Rossland monzonite (Bulletin 74, page 26).

Mineralization consists of sulphides replacing wallrock along well-defined fractures and infilling fractures and faults with pyrrhotite, chalcopyrite, minor arsenopyrite and pyrite. The pyrite occurs as crystals in the pyrrhotite and as disseminations in the host rock. The gangue is mainly altered wallrock with minor lenses of quartz and calcite.

In 8 years between 1903 to 1920, 17,028 tonnes of ore was mined from the White Bear vein and produced 72,905 grams gold, 229,104 grams silver, and 142,064 kilograms copper. From 1918 to 1942 production from this deposit was combined with the Le Roi, Josie and War Eagle and is reported with the Le Roi (082FSW093) data.

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DATE CODED: 1985/07/24
DATE REVISED: 1991/05/06

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW115**

NATIONAL MINERAL INVENTORY:

NAME(S): **SNOWDROP**, DOMINION (L.1513), SNOWDROP (L.3513),
GOLD KING (L.1229), CONCORDIA (L.2943), SNOWDROP FRACTION

STATUS: Developed Prospect

Underground

MINING DIVISION: Trail Creek

REGIONS: British Columbia

NTS MAP: 082F04W

BC MAP:

LATITUDE: 49 04 33 N

LONGITUDE: 117 49 31 W

ELEVATION: 1097 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located 3.0 kilometres west of Rossland on the lower slopes of O.K. Mountain at the junction of Snowdrop and Little Sheep Creeks.

UTM ZONE: 11 (NAD 83)

NORTHING: 5436214

EASTING: 439729

COMMODITIES: Gold

Silver

Copper

Lead

MINERALS

SIGNIFICANT: Gold Pyrite Chalcopyrite Galena Marcasite

Hematite

ASSOCIATED: Quartz Carbonate Ankerite

ALTERATION: Magnetite Hematite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION: 2 Metres

STRIKE/DIP: 045/50S

TREND/PLUNGE:

COMMENTS: Veins.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Pennsylvanian

Undefined Group

Mount Roberts

Lower Jurassic

Rossland

Elise

Permian

Ultramafic Intrusions

LITHOLOGY: Greenstone

Siltstone

Sandstone

Serpentinite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

Slide Mountain

METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization

GRADE:

CAPSULE GEOLOGY

The Snowdrop workings lie within greenstone and altered greenstone of the Lower Jurassic Elise Formation, Rossland Group and in dark grey siltstone and sandstone of the Pennsylvanian and possibly Permian Mount Roberts Formation. The veins lie adjacent to the northern contact of a body of serpentinite of probable Permian age which trends easterly and dips steeply to the south. The contact is an east trending fault which is terminated by the Middle Eocene Marron Formation on the west and the Jumbo fault on the east.

On the Snowdrop property, amygdules and small lenticular inclusions of limestone in the greenstone indicate that these rocks are in part, flows. In the upper workings of the Snowdrop mine, the veins are quartz-carbonate filled fissures which trend northeast and dip 50 degrees to the southeast. Other individual veins are not continuous bodies of quartz but rather are tight fractures which contain lenses which pinch and swell and change their attitudes. Widths range from a few centimetres to 0.5 metres in a few places as much as 2.0 metres. Mineralization consists of pockets which host free gold, often in particles visible to the naked eye. Although, occasional concentrations do occur, sulphides are not common in the veins. These sulphides include pyrite, chalcopyrite, and galena. Blades of marcasite were found included in chalcopyrite in ore from the Snowdrop property. Pyrite is also quite widely disseminated in small amounts throughout the wallrock. The only other gangue mineral in addition to the quartz is ankeritic carbonate, which occurs in irregular areas in the vein and occasionally as veinlets in the surrounding rocks. Hematite occurs on the Snowdrop property and is

CAPSULE GEOLOGY

mostly represented as pseudomorphs of magnetite. Also, hematite included in chalcopyrite is completely replaced.

The veins were mined in 1931, 1932, 1937 and 1955 to 1957. Six tonnes of ore were shipped and 6843 grams gold and 16640 grams silver were recovered.

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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/02

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Marron Group on the west and the Jumbo fault on the east. Irregular masses of monzonite of the Middle Eocene Coryell Intrusions were encountered in the I.X.L. workings. Also, mafic and lamprophyre dykes, most of which trend northward, are widely distributed. The lamprophyre dykes occupy faults which cut, and in some places, have slightly displaced, the quartz veins.

The Rossland greenstone is very fine-grained, dense, and massive rock of dark green to brownish hue. The original texture has been destroyed by both the development of chlorite and fibrous amphibole and by local silicification and serpentinization. It varies from a highly altered rock with small amounts of serpentine and magnetite to a mottled phase and then a phase which carries abundant, uniform serpentinite and magnetite. The typical massive serpentinite (Permian body) is a very dense black rock with cross-fibre asbestos infilling joints as 0.2 to 0.6 centimetre veinlets and light green talc has developed in the immediate vicinity of the faults. Ten samples of serpentinite taken from this area gave nickel assays of less than 0.24 per cent (Bulletin 74).

On the I.X.L. the three principal veins strike 060 to 080 degrees and dip 35 to 75 degrees to the south. Widths range from a few centimetres to 0.5 metres and in a few places as much as 2 metres. The strongest mineralized zones are less than 100 metres long and have been developed about the same distance up dip. The quartz veins contain free gold, often in particles visible to the naked eye. Mineable pockets of gold are erratically distributed in the veins. Although occasional concentrations do occur, sulphides are not common in the quartz veins. These sulphides include pyrite, chalcopyrite, galena, and sphalerite. Pyrite is also widely disseminated in the wallrock. The only other gangue mineral in addition to the quartz is ankeritic carbonate which occurs in irregular areas in the vein and occasionally as veinlets in the surrounding rocks.

The I.X.L. veins were mined in 53 years between 1899 to 1974 producing a total of 5,248 tonnes of ore were mined. Commodity recovery is recorded at 811,746 grams gold, 270,531 grams silver, 8,255 kilograms copper, 256 kilograms lead, and 154 kilograms zinc. Ore from the I.X.L. claim and Golden Drip claim (082FSW118) was stockpiled and milled between 1977 and 1984. In 1988, a portable mill and concentrator is planned to process an estimated 54,430 tonnes of dump material grading 24.0 grams per tonne gold (George Cross News Letter, September 23, 1988).

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E6-9,E31,G51; 1937-A39,E48; 1938-A37,E41; 1939-40,86; 1940-17,27,
70; 1941-63; 1942-60; 1943-63; 1944-41; 1945-96; 1946-137;
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EMPR BC METAL MM00673
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GSC P 79-26
GCNL *#84, 1988

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/03

CODED BY: GSB
REVISED BY: LLD

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW117**

NATIONAL MINERAL INVENTORY: 082F4 Au7

NAME(S): **O.K.**, O.K. (L.678)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 04 21 N
LONGITUDE: 117 50 49 W
ELEVATION: 1250 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5435861
EASTING: 438143

LOCATION ACCURACY: Within 500M

COMMENTS: Located 3.6 kilometres west of Rossland on the lower eastern slopes of O.K. Mountain.

COMMODITIES: Gold Silver Copper Lead Asbestos

MINERALS

SIGNIFICANT: Gold Chalcopyrite Pyrite Galena Asbestos
ASSOCIATED: Quartz Carbonate Ankerite
ALTERATION: Malachite Azurite Chlorite Amphibole Serpentine
Magnetite Talc Silica
ALTERATION TYPE: Silicific'n Serpentin'zn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au M06 Ultramafic-hosted asbestos

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvanian	Rossland	Mount Roberts	
Lower Jurassic	Rossland	Elise	
Permian			Ultramafic Intrusions

LITHOLOGY: Greenstone
Siltstone
Sandstone
Serpentinite
Lamprophyre Dike
Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The property is located at 1067 metres elevation on the east of O.K. Mountain, about 2.4 kilometres west of Rossland. The I.X.L. claim lies to the east and adjoining.

The O.K. claim (Lot 678) was located by J.Y. Cole in June 1892 and Crown-granted in 1896. Underground work by Mr. Cole & associates opened up a large pocket of high-grade free gold-bearing quartz. The O.K. Gold Mining Company, a Spokane, Washington company, which was registered in B.C. in 1895, acquired the property and carried on mining operations until August 1897 when the affairs of the company were ordered wound up. Most of the old underground workings were driven during the period 1893-1896 and include about 305 metres of crosscuts, drifts and raises in 3 adits. During the period 1923-1944 lessees carried out some exploration work each year in search of the downward continuation of the O.K. veins or the extension of the I.X.L. veins.

The O.K. claim was owned by Mrs. J. Pike, of California, and J. Wey and Mrs. Anabelle, of Seattle, in 1953. Some rehabilitation and exploration work was done by lessee M. Doran in 1953 and 1956.

Midnight Consolidated Mines Ltd. was organized in September 1956 to carry out exploration work on the O.K., I.X.L., and Midnight claims. A small amount of drifting was done on the O.K. claim before operations ceased in April 1957.

The O.K. veins lie within greenstone and altered greenstone of the Lower Jurassic, Elise Formation of the Rossland Group. The mine workings pass into dark grey siltstone and sandstone of the Pennsylvanian and possibly Permian Mount Roberts Formation. These rocks lie adjacent to the northern contact of a body of serpentinite, of probable Permian age, which trends east and apparently dips

CAPSULE GEOLOGY

steeply to the south. Many small shear zones along this contact suggest that it is an east trending fault which is terminated by the Middle Eocene Marron Group on the west and the Jumbo fault on the east. It is reported that the gold-bearing quartz veins in the O.K. mine occur only in the greenstone and siltstone to the north and those faults which trapped quartz and precious-metal-bearing solutions did not continue from the greenstone into the serpentinite.

A small intrusion of Middle Eocene Coryell biotite-monzonite was intersected in the lower O.K. adit. Mafic and lamprophyre dykes, most of which trend northward, are widely distributed. The lamprophyre dykes (which range up to 3.0 metres in width), occupy faults which cut the greenstone and monzonite, and in some places have slightly displaced the quartz veinlets.

The greenstone is very fine-grained, dense and massive rock of dark green to brownish hue. The original texture has been destroyed by both the development of chlorite and fibrous amphibole and by local silicification and serpentinization. It varies from a highly altered rock with small amounts of serpentine and magnetite to a mottled phase and then a phase which carries abundant, uniform serpentinite and magnetite. The typical massive serpentinite is a very dense black rock with cross-fibre asbestos infilling joints as 0.2 to 0.6 centimetres veinlets and light green talc has developed in the immediate vicinity of the faults.

The veins are quartz-carbonate fissures which range up to 0.6 metre in width, and strike easterly with moderate to steep dip angles to the north. The veins host free gold, often visible to the naked eye, in mineable pockets that are very erratically distributed along the veins. The mineralized parts of the veins pinch and swell and change their attitudes. Widths range from a few centimetres to 0.5 metre and up to 2 metres in places. The strongest mineralized zones are less than 100 metres long and have been developed for the same distance up the dip. Other sulphides which occur in the quartz and ankeritic carbonate veins are pyrite, chalcopyrite, and galena as well as malachite and azurite. Pyrite is widely disseminated in the host rock.

The O.K. veins were mined in 1909 and from 1933 to 1939. A total of 293 tonnes of ore were mined and 17,916 grams gold, 14,991 grams silver, and 154 kilograms copper were recovered.

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1932-196; 1933-200,241; 1934-E37; 1935-A28,E4,E6,E9,E31,G51;
1936-E48; 1937-A39,E48; 1938-A38,E41; 1939-40,86; 1940-70;
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EMPR BC METAL MM00693
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GSC MEM 77, pp. 151-152; 308, pp. 180-181
GSC OF 1195
GSC P 79-26

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/03

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW118**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN DRIP (L.539)**, GOLD DRIP, I.X.L.,
MIDNIGHT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 04 13 N
LONGITUDE: 117 50 35 W
ELEVATION: 930 Metres

UTM ZONE: 11 (NAD 83)
NORTHING: 5435611
EASTING: 438424

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 3.0 kilometres west of Rossland on the lower slope of
O.K. Mountain; adjoins the I.X.L. claim and was mined in conjunction
with the I.X.L. mine (082FSW116).

COMMODITIES: Gold Silver Lead Zinc Copper
Asbestos

MINERALS

SIGNIFICANT: Gold Chalcopyrite Galena Sphalerite Pyrite
ASSOCIATED: Quartz Carbonate Ankerite Asbestos
ALTERATION: Chlorite Amphibole Serpentine Magnetite Talc
ALTERATION TYPE: Silicific'n Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au M06 Ultramafic-hosted asbestos

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Rossland Elise
Permian Ultramafic Intrusions

LITHOLOGY: Greenstone
Serpentinite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Golden Drip workings lie within greenstone and altered greenstone of the Elise Formation of the Lower Jurassic Rossland Group. These lie adjacent to the northern contact of a body of serpentinite, of probable Permian age, which trends easterly and probably dips steeply to the south. Many small shear zones along this contact suggest that it is an east trending fault which is terminated by the Middle Eocene Marron Group on the west and the Jumbo fault on the east.

The greenstone is very fine-grained, dense and massive rock of dark green to brownish hue. The original texture has been destroyed by both the development of chlorite and fibrous amphibole and by local silicification and serpentinization. It varies from a highly altered rock with small amounts of serpentine and magnetite to a mottled phase and then a phase which carries abundant, uniform serpentinite and magnetite. The typical massive serpentinite is a very dense black rock with cross-fibre asbestos infilling joints as 0.2 to 0.6 centimetre veinlets and light green talc has developed in the immediate vicinity of the faults. The serpentinite is brown weathering and stands out as open outcrops with sparse vegetation on the Golden Drip claim and host coatings of green and locally bluish fibrous serpentine. Ten samples taken from the serpentinite exposed in the area gave nickel assays of less than 0.24 per cent (Bulletin 74).

The Golden Dip was mined in conjunction with the I.X.L. (082FSW116).

Workings in the Golden Drip consists of adits and crosscuts which follow discontinuous quartz-carbonate veins or lenses which host free gold and local concentrations of pyrite, chalcopyrite, galena, and sphalerite. The quartz veins are within the Rossland Group rocks and do not pass into the serpentinite.

The veins were mined between 1923 and 1939 producing about 184

CAPSULE GEOLOGY

tonnes of ore from which was recovered 5244 grams gold, 6843 grams silver, 39 kilograms copper, and 186 kilograms lead. Between 1978 and 1982, 33 tonnes of ore were milled and produced 6784 grams gold, 4067 grams silver, 276 kilograms lead and 60 kilograms zinc.

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EMPR BC METAL MM00664
EMPR BULL 1, p. 123; *74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR MINING 1975-1980, Vol.1, p. 75
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1990-27, p. 39; 1991-2; 1991-16; 1995-25
EMR MP CORPFILE (I.X.L. Gold Mining and Milling Co.)
GSC MAP 1090A; 1504A; 1518
GSC MEM 77; 308, p. 176
GSC OF 1195
GSC P 79-26

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/03

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW119**

NATIONAL MINERAL INVENTORY: 082F4 Au3

NAME(S): **MIDNIGHT (L.1186)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 04 20 N
LONGITUDE: 117 50 23 W
ELEVATION: 1067 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5435824
EASTING: 438670

LOCATION ACCURACY: Within 500M

COMMENTS: Located 1.8 kilometres west of Rossland, on the lower slopes of O.K. Mountain, on the west side of Little Sheep Creek.

COMMODITIES: Gold Silver Lead Zinc Copper
Nickel Chromium Asbestos

MINERALS

SIGNIFICANT: Gold Chalcopyrite Galena Sphalerite Pyrite
Millerite Linnaeite Magnetite
ASSOCIATED: Quartz Carbonate Ankerite
ALTERATION: Chlorite Amphibole Serpentine Magnetite Talc

ALTERATION TYPE: Silicific'n Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: M07 Ultramafic-hosted talc-magnesite
COMMENTS: Average trend of principal gold vein. STRIKE/DIP: 350/65W TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE Lower Jurassic Permian
GROUP Rossland
FORMATION Elise
IGNEOUS/METAMORPHIC/OTHER Ultramafic Intrusions

LITHOLOGY: Greenstone
Serpentinite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization Post-mineralization GRADE: Greenschist

INVENTORY

ORE ZONE: DRIFT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Chip
COMMODITY Gold GRADE 6.8600 Grams per tonne
COMMENTS: The chip sample was taken along a 15-metre section of an underground drift within serpentinite.
REFERENCE: Vancouver Stockwatch, August 21, 1989, page 15.

CAPSULE GEOLOGY

The Midnight claim, located on the west side of Little Sheep creek 1.6 kilometres west of Rossland, was Crown-granted in 1897. No work was reported done on the property until leasers began operations in 1925. The claim was owned by T.S. Gilmour in 1930. A small mill (7.3 tonnes/24 hours) was installed on the property in 1932. Leasers continued to work the property until it was purchased by B.A. Lins in 1940. Intermittent operations were carried on by Lins until Kootenay Central Mines Ltd. purchased the property in 1948. Small scale operations were continued by the company or by leasers until 1952. Midnight Consolidated Mines Ltd. acquired the property in 1956.

A private company, headed by Messrs. Thompson and Sheward, began rehabilitation of the workings in 1964. Cinola Mines Ltd. acquired an interest in the Midnight Crown-grant (Lot 1186) and 12 adjacent recorded claims in 1965. The old workings were rehabilitated, short drifts and raises were driven, and diamond drilling totalling 610

CAPSULE GEOLOGY

metres on surface and 914 metres from underground was carried out. In 1966 a new adit (3,100 foot level) was begun 46 metres below the old workings and during 1967 about 305 metres of drifting and raising was done, including a raise to the old workings. Further drifting, raising, and stoping was carried on in 1968 and a small amount of ore shipped. Tull Mines Ltd., incorporated May 1968, agreed to participate in bringing the property to production. Construction of a 90 tonne per day mill was begun late in 1968 but was not completed under the agreement. Federated Mining Corporation Ltd. optioned a 50 per cent interest in the property from Cinola Mines in 1970 and mill construction was completed during the year. Some stope preparation and stoping was done to supply the mill with sufficient ore for recovery tests. Mill tune up operations reportedly began in June 1970 but subsequent modifications were required due to metallurgical problems. The mill operated briefly early in 1971; no production data has been released. All work at the property ceased in September 1971.

The company name was changed in January 1973 to Consolidated Cinola Mines Ltd. During the year about 200 tonnes of ore, mainly cleaned up from the idle mill on the property, was shipped to Trail. A November 1974 agreement between Consolidated Cinola and Sand Mines Ltd. called for the latter company to advance all necessary capital to put the property into production. Consolidated Cinola is to receive 20 per cent, and Federated Mining 10 per cent, of net smelter returns. Underground rehabilitation, development, and diamond drilling was begun. Small shipments of crude ore were made in 1975 and 1976.

Carnelian Mines Ltd. held the property in 1979 and reported a small shipment of crude ore. Tagus Resources Ltd. sub-optioned the property from Carnelian in December 1979; the agreement was abandoned in 1980 following limited diamond drilling and sampling.

The Midnight veins lie within greenstone and altered greenstone of the Elise Formation of the Lower Jurassic Rossland Group. These lie adjacent to the northern contact of a body of serpentinite, of probable Permian age, which trends east and probably dips steeply to the south. Many small shear zones along this contact suggest that it is an east trending fault which is terminated by the Middle Eocene Marron Group on the west and the Jumbo fault on the east.

The greenstone is very fine-grained, dense and massive rock of dark green to brownish hue. The original texture has been destroyed by both the development of chlorite and fibrous amphibole and by local silicification and serpentinitization. It varies from a highly altered rock with small amounts of serpentine and magnetite to a mottled phase and then a phase which carries abundant, uniform serpentinite and magnetite.

The typical massive serpentinite, of the Permian ultramafic body, is a very dense black rock with cross-fibre asbestos infilling joints as 0.2 to 0.6 centimetre veinlets and light green talc has developed in the immediate vicinity of the faults. In 1969, near the northern contact of a mass of serpentinite on the Midnight property along the western side of Little Sheep Creek, samples from underground workings gave several thousand tonnes of serpentinite averaging 0.25 per cent nickel. Selected samples assayed up to 0.45 per cent nickel (Bulletin 74, page 23). The serpentinite hosts pyrite, millerite, and a mineral of the linnaeite group. Chromite is associated with the fine-grained serpentinite. A drift through the serpentinite cut a 15-metre wide mineralized zone grading up to 6.86 grams per tonne gold over its entire length, with up to 17 grams per tonne gold over 4.6 metres (Vancouver Stockwatch, August 21, 1989, page 15).

The principal gold vein on the Midnight claim strikes north to 020 degrees west and dips 65 degrees west in the Rossland Group rocks. The vein ranges from 5 centimetres to 1.5 metres in width and hosts free gold, pyrite, galena, chalcopyrite, and sphalerite in quartz and ankeritic carbonate. The gold is present in very high grade pockets that are erratically distributed along the veins. Other individual veins are not a continuous body of quartz, rather they are tight fractures which every 15 metres or so, contain quartz lenses from 20 to 61 centimetres thick, 15 to 31 metres long, that pinch and swell in both horizontal and vertical sections.

Between 1927 to 1974, 4760 tonnes of ore were mined with the resulting recovery of 218,346 grams gold, 124,383 grams silver, 2097 kilograms lead, 1460 kilograms zinc, and 62 kilograms copper.

Drexore Developments Inc. optioned the property in 1987.

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1938-A38,E41; 1939-40,84,85; 1940-27,70; 1941-27,63; 1942-28,60;
1943-63; 1944-41,59; 1945-43,96; 1946-35,136; 1947-158; 1948-129;
1949-156; 1950-118; 1951-43,134; 1952-44,142; 1956-77; 1957-71;
1965-174; 1966-199; 1967-235; 1968-236
EMPR BC METAL MM00684
EMPR BULL 1, p. 123; *74, pp. 23,41,42; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR GEM 1969-315; 1970-437; 1971-403; 1973-61
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16; 1995-25
EMR MP CORPFILE (Midnight Mine; Kootenay Central Mines Ltd.;
Cinola Mines Ltd.; Federated Mining Corporation Ltd.; Tagus
Resources Ltd.)
GSC MAP 1518; 1090A; 1504A
GSC MEM 77; 308, p. 171
GSC OF 1195
GSC P 79-26
GCNL #192, 1987
V STOCKWATCH *Aug. 21, 1989, p. 15
WWW <http://www.infomine.com/>

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/03

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW120**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORWAY (L.1628)**

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 05 25 N
LONGITUDE: 117 41 59 W
ELEVATION: 792 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5437727
EASTING: 448913

LOCATION ACCURACY: Within 500M

COMMENTS: Property adjoins the Trail City limits on the south side.

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Gold
COMMENTS: Specific vein mineralogy is unknown.
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions
Lower Jurassic			Rossland Monzonite

LITHOLOGY: Granodiorite
Quartz Diorite
Diorite
Siltstone
Hornfels Siltstone
Breccia
Monzonite
Biotite Hornblende Augite Monzonite
Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains
Plutonic Rocks
RELATIONSHIP: Syn-mineralization
GRADE: Hornfels

CAPSULE GEOLOGY

The Norway Crown Grant is underlain by a stock of the Middle to Late Jurassic Nelson Intrusions comprised of a granodiorite to quartz diorite. The stock intrudes the Lower Jurassic Elise Formation, Rossland Group comprised of altered siltstone, hornfelsed siltstone, conglomerate, and breccia. These rocks are also intruded by a stock of Early Jurassic Rossland monzonite (recently dated at 190 million years) comprised of a mass of biotite-hornblende-augite monzonite (Andrew, K.P.E., Personal Communication, 1991).

Mineralization on the Norway consists of a quartz vein in the Nelson granitic rocks which hosts gold in places. In 1929, the quartz vein which ranged up to 0.9 metres in width was developed by two adits. The upper adit is about 61 metres in length, while the lower adit followed the vein for some 15 to 18 metres.

In 1936, one tonne of ore was shipped and 156 grams of silver were recovered.

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1932-197; 1936-E49
EMPR BC METAL MM00692
EMPR BULL 74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1090A; 1504A
GSC MEM 77; 308
GSC P 79-26

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1278
REPORT: RGEN0100

BIBLIOGRAPHY

ECON GEOL Vol.68, 1973, pp. 1337-1346

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/27

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

degrees north and hosts 0.5 metres of ore. The ore consists of veinlets, stringers, and impregnations of pyrite, pyrrhotite and chalcopyrite with magnetite traversing the country rock in a gangue of quartz and calcite. Minor scheelite is disseminated in the altered wallrock. In 1906, the average analysis of the ore assayed 8.57 grams per tonne gold, 17.14 grams per tonne silver, and 0.7 per cent copper (Geological Survey of Canada Memoir 77, page 141).

Between 1900 to 1905, 5910 tonnes of ore were mined from the Spitzee system from which was recovered 55,207 grams gold, 97,290 grams silver, and 52,264 kilograms copper.

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1905-172; 1907-107
EMPR BC METAL MM00702
EMPR BULL 74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16; 1991-17
GSC MAP 1002; 1004; 1504A; 1518
GSC MEM 77, pp. 71,90,140
GSC OF 1195
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
*Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1985/07/24
DATE REVISED: 1987/09/16

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW122**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEER PARK (L932)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 03 38 N
LONGITUDE: 117 49 26 W
ELEVATION: 1204 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5434514
EASTING: 439812

LOCATION ACCURACY: Within 500M

COMMENTS: Located approximately 2.0 kilometres southwest of Rossland on the southeast slope of Deer Park Hill.

COMMODITIES: Gold Copper Silver Molybdenum Iron
 Tungsten Cobalt Bismuth Lead

MINERALS

SIGNIFICANT: Pyrrhotite Gold Arsenopyrite Chalcopyrite Pyrite
 Molybdenite Magnetite Scheelite Bismuth Galena
 Kobellite Danaite

ASSOCIATED: Quartz Calcite Actinolite

ALTERATION: Actinolite Magnetite

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Vein Massive
CLASSIFICATION: Hydrothermal Skarn Igneous-contact Industrial Min.
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L01 Subvolcanic Cu-Ag-Au (As-Sb)
 K03 Fe skarn K04 Au skarn

DIMENSION:

STRIKE/DIP: 170/85N TREND/PLUNGE:

COMMENTS: Mineralized quartz stockwork.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Volcanic Rock
Greenstone
Volcanic Breccia
Volcanic Conglomerate
Sandstone
Monzonite
Biotite Hornblende Augite Monzonite
Lamprophyre Dike

HOSTROCK COMMENTS: The new age date for the Rossland Monzonite is a personal communication with K.P.E. Andrew of the Geological Survey Branch (March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE: Hornfels

CAPSULE GEOLOGY

The Deer Park occurrence is hosted by greenstone, volcanic breccia, conglomerate and sandstone sequence of the Lower Jurassic Elise Formation, Rossland Group. The mineralization is considered to be a Rossland-type ore that occurs within the contact aureole of the Early Jurassic Rossland monzonite. The Rossland Monzonite has recently been age dated at 190 million years and consists of a biotite-hornblende-augite monzonite stock. The mineralized veins are considered as part of the South belt vein system. Refer to the Le Roi deposit (082FSW093) for a summary of the Rossland mining camp.

Mineralization consists of massive to semi-massive, pyrite, pyrrhotite and magnetite along the monzonite contact. Abundant fibrous radiating masses of actinolite in a magnetite skarn occur near the massive ore. The low-grade massive pyrrhotite-magnetite ore carries a little copper with traces of gold.

A quartz vein network associated with the monzonite hosts mostly pyrite with some arsenopyrite and free gold, minor calcite, chalc-

CAPSULE GEOLOGY

pyrite, molybdenite and scheelite. The arsenopyrite is nearly always cobaltiferous approaching a danaita composition, and shows unusual twinning in crystals found in the Deer Park veins. The vein system strikes 170 degrees and dips steeply to the north. In 1967, Thorpe identified kobellite, a lead-bismuth sulphide, in the ore from the Deer Park mine. This mineral is a rare sulphosalt, and blades of the kobellite are enclosed in the coarsely granular vein quartz, which also includes minor pyrite, arsenopyrite, pyrrhotite, and chalcopyrite.

The vein system, or ore shoots, terminate abruptly against cross structures. There are several lamprophyre dykes or spessartite dykes with large phenocrysts of hornblende and biotite which traverse the country rock and dissect mineralized ore shoots.

By 1899, 600 metres of underground development had occurred and 16 tonnes of ore had been shipped (Minister of Mines Annual Report 1899, page 599). Statistics on the recovery of minerals from the ore were not reported.

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1967-235
EMPR BULL *74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16; 1991-17
GSC EC GEOL #20, pp. 288-289
GSC MAP 1004; 1091A; 1504A; 1518
GSC MEM *77, pp. 78,79,81,94,163; 308
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
PERS COMM Andrew, K.P.E., March 1991
*Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/28

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW123**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOMESTAKE (L.936)**, ROSSLAND

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 03 47 N
LONGITUDE: 117 47 59 W

UTM ZONE: 11 (NAD 83)

NORTHING: 5434773
EASTING: 441580

ELEVATION: 975 Metres
LOCATION ACCURACY: Within 500M

COMMENTS: Located south of Rossland near Trail Creek on the lower eastern slopes of Deer Park Hill. One shaft is located between the road and the railway tracks and another shaft and two adits are located about 200 metres to the west and probably within 100 metres to the east of the Monday shaft (082FSW124), (Assessment Report 16751). Another adit is just west of the road.

COMMODITIES: Silver Gold Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrrhotite Marcasite Sphalerite Galena Arsenopyrite
Chalcopyrite Pyrite Magnetite

ASSOCIATED: Quartz Calcite

ALTERATION: Magnetite

ALTERATION TYPE: Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Epigenetic Hydrothermal Skarn
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au K03 Fe skarn
DIMENSION: 210 Metres STRIKE/DIP: 090/70N TREND/PLUNGE:
COMMENTS: Main mineralized vein

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Augite Porphyry
Lamprophyre Dike
Dioritic Dike
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: Age date from the British Columbia Geological Survey Branch (Personal Communication - K.P.E. Andrew, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Contact Plutonic Rocks RELATIONSHIP: GRADE:

CAPSULE GEOLOGY

The Homestake showings are hosted by the Lower-Middle Jurassic Rossland Group (Elise Formation) augite porphyry. The porphyry is known as the Rossland sill and is dark green with phenocrysts of augite which are partly altered to hornblende. The Rossland Group rocks are intruded by the Early Jurassic Rossland monzonite which consists of a biotite-hornblende-augite monzonite stock. The Homestake veins lie in the zone of thermal metamorphism associated with the monzonite intrusive. The ore in the Homestake vein system, which strikes 100 degrees is classed as transitional-type which is a gradational mineralogy and metal content between the Rossland-type and the South belt-type (Bulletin 74, page 39).

The main mineralized vein on the claim strikes east and dips 70 degrees north and is traceable in excess of 210 metres in length. The ore consists of pyrrhotite, pyrite, sphalerite, galena, marcasite and arsenopyrite in a calcite, quartz and altered country rock gangue. In 1903, the ore assayed an average of 1.37 grams per tonne gold, 96.0 grams per tonne silver, and 0.3 per cent copper (Geological Survey of Canada Memoir 77, page 166).

Another vein strikes 280 degrees and dips steeply to the north

CAPSULE GEOLOGY

and hosts pyrite, pyrrhotite with minor chalcopyrite and magnetite. The vein is 1.8 metres in width and hosts 22.9 centimetres of sulphides on the footwall with 46 centimetres on the hanging wall. The sulphides are part of a magnetite-skarn which occurs in the altered wallrock in a well-defined fracture and/or fault zone. This main fault averages 7.6 centimetres in width. The ore shoots end abruptly against cross structures comprised of lamprophyre and dioritic dykes.

In 3 years, between 1901 and 1908, 236 tonnes of ore were mined and 933 grams gold, 74,927 grams silver, and 91 kilograms copper were recovered.

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EMPR ASS RPT 16751, 19601
EMPR BC METAL MM00668
EMPR BULL *74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
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EMPR MAP 65 (1989)
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (Westoll, N.D. and Associates: Geological Report on the
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GSC MAP 1004; 1504A; 1518
GSC MEM *77, p. 166
GSC OF 1195
GSC P 79-26
PERS COMM Andrew, K.P.E., March 1991
*Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/10

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW124**

NATIONAL MINERAL INVENTORY:

NAME(S): **MONDAY (L.995)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 03 48 N
LONGITUDE: 117 48 11 W

UTM ZONE: 11 (NAD 83)

NORTHING: 5434807
EASTING: 441337

ELEVATION: 1005 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located south of the town of Rossland, on the lower east slopes of Deer Park Hill. The shaft is shown to be located about 100 metres west of the road (Assessment Report 16751, Maps 1 and 2).

COMMODITIES: Silver

Zinc

Lead

Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Arsenopyrite Pyrrhotite Chalcopyrite
Pyrite

MINERALIZATION AGE: Unknown

DEPOSIT

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

DIMENSION:
COMMENTS: Mineralized vein in shaft.

STRIKE/DIP: 056/75N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite
ISOTOPIC AGE: 190 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			
Eocene			Coryell Intrusions

LITHOLOGY: Banded Hornfels
Hornfels Siltstone
Greenstone
Volcanic Conglomerate
Augite Porphyry
Breccia
Argillite
Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: The Rossland monzonite was dated in March of 1991 (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
Plutonic Rocks
RELATIONSHIP:
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE: Hornfels

CAPSULE GEOLOGY

The region of the Monday Crown Grant is underlain by the Lower Jurassic Elise Formation, Rossland Group comprised of banded hornfels, grey to black siltstone, greenstone and a unit consisting of green volcanic conglomerate, breccia and sandstone. Augite porphyry (diorite) of the Rossland sill intrudes the upper part of the Elise Formation and occurs south and east of the Monday property. The southern edge of the Lower Jurassic Rossland monzonite is located approximately 100 metres north of the property. A stock of the Middle Jurassic Coryell Intrusion composed of syenite to monzonite and granite intrudes the strata a few hundred metres to the south.

The Monday vein system lies within the zone of thermal metamorphism associated with the monzonite intrusive and is hosted by the banded hornfels. The ore associated with the Monday veins is classed as Transitional-type which is a gradational mineralogy and metal content between the Main vein-type and the South-belt type (Bulletin 74). Ore generally contains abundant sphalerite, minor galena, and is low in silver.

A shaft was sunk along a vein striking 056 degrees and dipping 75 degrees north. The vein hosts pyrrhotite, pyrite with minor

CAPSULE GEOLOGY

chalcopyrite and crosscuts hornfels and monzonite. Other veins strike between north and 045 degrees and are hosted by hornfelsic siltstone. Mineralization consists of arsenopyrite, sphalerite, galena, pyrrhotite and pyrite.

In 1937, 64 tonnes of ore were mined from veins within the Monday claim from which was recovered 13,468 grams silver, 2,226 kilograms lead and 3,467 kilograms zinc.

BIBLIOGRAPHY

EMPR AR 1900-986; 1937-A39; 1949-158
EMPR ASS RPT 24, 34, *16751, 19601
EMPR BC METAL MM00686
EMPR BULL *74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1504A; 1518
GSC MEM 77, p. 169
GSC OF 1195
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
PERS COMM Andrew, K.P.E., March 1991
Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW125**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOPHER (L.1050)**, ROSSLAND

MINING DIVISION: Trail Creek

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 082F04W
 BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 45 N
 LONGITUDE: 117 47 41 W
 ELEVATION: 1005 Metres

NORTHING: 5434708
 EASTING: 441945

LOCATION ACCURACY: Within 500M

COMMENTS: Located south of Rossland, on Trail Creek. Adit on Gopher Crown Gant is about 400 metres east of the Homestake mine (082FSW123), (Assessment Report 16751, Map 2).

COMMODITIES: Gold Silver Copper Zinc Bismuth

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite Arsenopyrite Sphalerite

Bismuth Bismuthinite

ASSOCIATED: Calcite Quartz

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>
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
 DATING METHOD: Uranium/Lead
 MATERIAL DATED: Zircon

LITHOLOGY: Augite Porphyry
 Volcanic Conglomerate
 Volcanic Breccia
 Volcanic Sandstone
 Monzonite

HOSTROCK COMMENTS: The Rossland Monzonite was dated in March of 1991 (Andrew, K.P.E., personal communication, March 1991). Augite porphyry of Rossland sill.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

Plutonic Rocks

METAMORPHIC TYPE: Contact

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

30.1700

Grams per tonne

Gold

10.3500

Grams per tonne

COMMENTS: From a 1 metre chip sample.

REFERENCE: Assessment Report 16751.

CAPSULE GEOLOGY

The Gopher showing is hosted by the augite porphyry (diorite) of the Rossland sill. The sill itself has intruded volcanic conglomerate, breccia, and sandstone of the Elise Formation, Rossland Group. The contact of the sill is poorly defined but appears concordant. The Rossland Group rocks are intruded by the Lower Jurassic Rossland monzonite which is comprised of a biotite-hornblende-augite monzonite stock. The showing lies within the zone of thermal metamorphism associated with the monzonite intrusive.

The mineralized vein lies east of the main fault on the Homestake claim (082FSW123) and, in part, is a continuation of the east Homestake vein system. Mineralization consists of pyrrhotite, pyrite, chalcopyrite, sphalerite and minor arsenopyrite in quartz-calcite gangue. Equidimensional pyrite grains occur as islands in

CAPSULE GEOLOGY

the pyrrhotite. Native bismuth and associated bismuthinite were also reported to occur in the ore. Chip samples taken across 1 metre at the Gopher adit assayed from 8.37 to 10.35 grams per tonne gold and 12.34 to 30.17 grams per tonne silver (Assessment Report 16751).

BIBLIOGRAPHY

EMPR AR 1896-17,30; 1897-537,543,571; 1905-172; 1949-158
EMPR ASS RPT *16751
EMPR BULL 24, *74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (Westoll, N.G. and Associates: Geology Report on the Rossland
Property, British Columbia, Aug.18, 1987 in Prospectus for
Antelope Resources Limited, effective date Mar.10, 1988)
GSC MAP 1004; 1504A; 1518
GSC MEM 77, p. 165
GSC P 79-26
EC GEOL Vol.68, 1973, pp. 1337-1346
PERS COMM Andrew, K.P.E., March 1991
*Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW126**

NATIONAL MINERAL INVENTORY:

NAME(S): **TUESDAY (L.1278)**, HATTIE BROWN (L.1047)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 43 N
LONGITUDE: 117 48 31 W
ELEVATION: 990 Metres

NORTHING: 5434657
EASTING: 440930

LOCATION ACCURACY: Within 500M

COMMENTS: Located south of Rossland on the lower slopes of Deer Park Hill, on Trail Creek (Assessment Report 16751, Map 1).

COMMODITIES: Copper Gold Silver

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Sphalerite Galena Pyrite

COMMENTS: These significant minerals are only presumed to exist based on the type of mineralogy that exists at adjacent occurrences.

ALTERATION: Pyrite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb) I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Eocene			Coryell Intrusions
			Rossland Monzonite

ISOTOPIC AGE: 49.1 to 49.9 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

Lower Jurassic
ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Banded Hornfels
Hornfels
Augite Porphyry
Greenstone
Monzonite
Syenite

HOSTROCK COMMENTS: The Coryell Intrusion was dated in 1983 (Bulletin 74, page 54). The Rossland monzonite was dated in March 1991 (Andrew, K., pers. comm.).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Hornfels

CAPSULE GEOLOGY

The Tuesday claim is underlain by Lower Jurassic Elise Formation (Rossland Group) banded hornfels and areas of augite porphyry. The rocks lie approximately 100 metres south of the southern edge of the Lower Jurassic Rossland monzonite within the zone of thermal metamorphism associated with the intrusion. On the west side of the property, the Middle Eocene Coryell Intrusion comprised of a monzonite to syenite stock intrudes the Rossland Group rocks. In 1983, potassium-argon dating of biotite from the Coryell Intrusions yielded an age of 49.1 to 49.9 million years (Bulletin 74). A widespread heating effect due to the intrusion may have caused a resetting of the potassium-argon ratios in the Rossland monzonite biotite which also gave a Tertiary age. A Uranium/Lead age date of zircon from the Rossland monzonite gave an age of 190 million years (Andrew, K.P.E, personal communication, March 1991).

The ore associated with veins in the vicinity of the Tuesday Crown grant are classified as Transitional-type, which is a gradational mineralogy and metal content between the Main vein-type and the South belt-type (Bulletin 74, pages 37-41; Minister of Mines Annual Report 1949, page 147). A Transitional-type vein is defined as those which host pyrrhotite, chalcopyrite, pyrite, sphalerite,

CAPSULE GEOLOGY

minor galena and are low in silver. However, commodities reported associated with the showings are gold, silver and copper (Bulletin 74 - Mineral Deposit table in pocket).

BIBLIOGRAPHY

EMPR AR 1898-1193; 1912-326
EMPR ASS RPT *16751, 19601
EMPR BULL 74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1504A; 1518
GSC MEM 77, Fig.13
GSC OF 1195
GSC P 79-26
PERS COMM Andrew, K.P.E., March 1991
Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1985/07/24
DATE REVISED: 1987/09/17

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW127**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUNSET (L.954)**, SUNSET 2

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 01 N
LONGITUDE: 117 48 32 W
ELEVATION: 1075 Metres

NORTHING: 5435213
EASTING: 440915

LOCATION ACCURACY: Within 500M

COMMENTS: Located southwest of the town of Rossland, on the southeast slope of Red Mountain. The claim is situated southeast and adjoins the Abe Lincoln claim (082FSW133).

COMMODITIES: Gold Silver Copper Iron

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite Magnetite
ASSOCIATED: Quartz Carbonate
ALTERATION: Magnetite Quartz
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Skarn Industrial Min.
TYPE: K04 Au skarn K03 Fe skarn

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Monzonite
Biotite Hornblende Augite Monzonite
Greenstone
Volcanic Breccia
Volcanic Conglomerate

HOSTROCK COMMENTS: Monzonite dated March 1991 (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Syn-mineralization
Post-mineralization

GRADE:

CAPSULE GEOLOGY

The Sunset skarn deposit is hosted by the Early Jurassic Rossland monzonite which intrudes the Lower Jurassic Elise Formation (Rossland Group) volcanics and greenstone. The host rock is comprised of a biotite-hornblende-augite monzonite stock which is medium-grained, grey to green in color and hosts magnetite, apatite, some sphene with chlorite, epidote and pyrite.

The ore from the Sunset tunnel is contained in a magnetite-skarn and consists of massive pyrrhotite and magnetite with a fair amount of chalcopyrite intermixed in a quartz and altered monzonite gangue. The massive magnetite shows good octahedral cleavage. A shaft was sunk on a 15 centimetre vein of ore. The ore was mined and shipped in 1898 and 1908 to the Trail smelter. A total of 30 tonnes of ore produced 373 grams gold, 809 grams silver and 99 kilograms copper.

BIBLIOGRAPHY

EMPR AR 1897-537,539; 1898-1094,1157,1161,1193; 1899-717; 1900-861; 1905-253; 1908-105,247; 1914-332; 1949-158
EMPR BC METAL MM00703
EMPR BULL *74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1292
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1004; 1504A; 1518
GSC MEM *77, pp. 79,171,172; 308
GSC OF 1195
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
PERS COMM Andrew, K.P.E., March 1991
Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/09

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW128**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTH GOPHER (L.1050), MAID OF ERIN (L.1293),
ROSSLAND**

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 44 N
LONGITUDE: 117 47 30 W
ELEVATION: 1000 Metres

NORTHING: 5434675
EASTING: 442168

LOCATION ACCURACY: Within 500M
COMMENTS: Located about 1 kilometre south of Rossland near Gopher Creek
(Assessment Report 16751, page 23, Figure 5, Map 2).

COMMODITIES: Gold Silver Copper Zinc

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Arsenopyrite Pyrite Sphalerite
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb) I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 400 x 1 Metres STRIKE/DIP: 070/89S TREND/PLUNGE: /
COMMENTS: The shear is 400 metres long and hosts sulphides up to 1 metre in
width. The shear is either vertical or dips slightly to the southeast.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Rossland Monzonite
Lower Jurassic			

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Volcanic Conglomerate
Volcanic Breccia
Volcanic Sandstone
Monzonite

HOSTROCK COMMENTS: The Rossland monzonite was age dated in March of 1991 (Andrew, K.P.E.,
personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1986
SAMPLE TYPE: Drill Core
COMMODITY
Silver 31.2000 Grams per tonne
Gold 22.7700 Grams per tonne
COMMENTS: From a 2-metre drill interval.
REFERENCE: Assessment Report 16751.

CAPSULE GEOLOGY

The North shear zone occurs between the Homestake-Gopher and Bluebird-Mayflower shear zones. The shear occurs mainly in the southeast portion of the Gopher Crown Grant, and continues northwest through the Maid of Erin Crown Grant to the Robert E. Lee Crown Grant where the Robert E. Lee/Maid of Erin (082FSW131) occurrence is located (Assessment Report 16751, page 23, Figure 5, Map 2).
The North prospect occurs in green volcanic conglomerate, breccia and sandstone of the Lower Jurassic Elise Formation, Rossland Group. The Rossland Group rocks are intruded within a few hundred metres to the north by the Early Jurassic Rossland monzonite which is a stock comprised of a biotite-hornblende-augite monzonite. The deposit occurs in a shear zone that strikes approximately 070

CAPSULE GEOLOGY

degrees, dips either vertically or steeply to the southeast, and is traceable for 400 metres. The shear zone appears to be cut off to the west by the Gopher Creek fault. The structure is continuous to the northeast as far as the Robert E. Lee/Maid of Erin occurrence (082FSW131) and possibly beyond.

The mineralization consist of pyrrhotite, chalcopyrite, arsenopyrite, pyrite and sulphosalts. Two hundred metres to the northeast sphalerite appears as part of the mineral assemblage. The form of mineralization varies from disseminations and veinlets in the volcanics to massive sections up to 1 metre wide. The sulphides are usually accompanied by silicification.

Chip samples across 1 metre intervals taken from trenches across the structure gave values averaging 12.17 grams per tonne gold and 33.25 grams per tonne silver (Assessment Report 16751, page 23). Six diamond-drill holes tested this zone in 1985/1986 with the best intersection grading 22.77 grams per tonne gold and 31.20 grams per tonne silver (Assessment Report 16751, page 23).

BIBLIOGRAPHY

- EMPR ASS RPT *16751, 19601
EMPR BULL 74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (Westoll, N.D. and Associates: Geological Report on the
Rossland Property in British Columbia, Aug.18, 1987, in Prospectus
for Antelope Resources Limited, effective date Mar.10, 1988 (in
Homestake file - 082FSW123); Filing Statement, Antelope Resources
Inc., Feb. 3, 1989 (in 082FSW123 file))
GSC MAP 1004; 1504A; 1518
GSC MEM 77
GSC OF 1195
GSC P 79-26
GCNL #147, 1988; #10, 1991
Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1991/04/11
DATE REVISED: 1991/04/11

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW129**

NATIONAL MINERAL INVENTORY:

NAME(S): **MABEL (L.1202)**, PAUL BOY (L.1644)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 08 N
LONGITUDE: 117 48 08 W
ELEVATION: 1189 Metres

NORTHING: 5437277
EASTING: 441424

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east side of Acme Creek on the southwest slope of Monte Cristo Mountain, north of Rossland. This property was worked as part of the Centre Star group (082FSW094).

COMMODITIES: Gold Silver Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION:
COMMENTS: Mineralized vein.

STRIKE/DIP: 090/65N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Monzonite
Biotite Hornblende Augite Monzonite
Lamprophyre Dike
Volcanic Rock
Augite Porphyry
Siltstone

HOSTROCK COMMENTS: The Rossland monzonite was age dated in March 1991 for the B.C. Geological Survey (Andrew, K., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE:

CAPSULE GEOLOGY

The Mabel-Paul Boy vein strikes east-west and dips approximately 65 degrees north, hosting pyrrhotite, pyrite, and chalcopyrite in a quartz-calcite gangue. The vein is hosted in the Early Jurassic Rossland monzonite which is comprised of a biotite-hornblende-augite monzonite stock that intrudes the Lower Jurassic Rossland Group (Elise Formation) siltstone, volcanics and augite porphyry sill. A Tertiary lamprophyre dyke, the Spokane dyke, dated at 47.2 to 49.3 million years, crosscuts the monzonite.

In 1967, Thorpe analyzed chalcopyrite from the Mabel property. He determined that the gold:silver ratio was approximately 1:2 (Thorpe, 1967, page 57).

The Mabel was part of the Centre Star group (082FSW094) and some production was reported in 1906 when 22.7 tonnes of ore were shipped (Minister of Mines Annual Report 1906, page 153).

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EMPR AR 1897-572; 1899-846; 1906-153; 1914-332
EMPR BC METAL MM00681
EMPR BULL *74, Figs. 2, 3; 109
GSC MAP 1002; 1504A; 1518
GSC OF 1195
GSC MEM 77, pp.12,95

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1296
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1340
*Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/07

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW130**

NATIONAL MINERAL INVENTORY: 082F4 Cr1

NAME(S): **VANDOT, MAR 1, JOB,
 ROSS 2, ROSS MORRISON, IVANHOE RIDGE,
 GOLDEN LEAF, SOPHIA CREEK, LLL**

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F04W
 BC MAP:
 LATITUDE: 49 02 11 N
 LONGITUDE: 117 52 54 W
 ELEVATION: 1268 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Located on the west side of Ivanhoe Ridge between the two main forks of Sophia Creek about 300 metres southeast of the natural gas pipeline.

MINING DIVISION: Trail Creek
 UTM ZONE: 11 (NAD 83)
 NORTHING: 5431875
 EASTING: 435560

COMMODITIES: Chromium Nickel Platinum Cobalt Titanium
 Iron

MINERALS

SIGNIFICANT: Chromite Magnetite Millerite Linnaeite Pyrite
 ALTERATION: Talc Serpentine Asbestos
 COMMENTS: Mineral is serpentinite.
 ALTERATION TYPE: Serpentin'zn
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive Disseminated
 CLASSIFICATION: Magmatic Industrial Min.
 TYPE: M03 Podiform chromite

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Elise	
Upper Paleozoic			Ultramafic Intrusions

LITHOLOGY: Andesite
 Tuff
 Breccia
 Serpentinite
 Steatite
 Syenite

HOSTROCK COMMENTS: The ultramafic rock is probably of the Slide Mountain terrane and may be of Permian age.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
 TERRANE: Quesnel Slide Mountain
 COMMENTS: The ultramafic rocks are probably of the Slide Mountain terrane.

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1979
SAMPLE TYPE: Grab	
<u>COMMODITY</u>	<u>GRADE</u>
Chromium	29.8000 Per cent
Iron	17.2000 Per cent
Titanium	0.0800 Per cent

COMMENTS: The assays are for oxides of these metals.
 REFERENCE: Assessment Report 7162.

CAPSULE GEOLOGY

The area of interest is in the vicinity of Ivanhoe Ridge and Sophia Creek, some 6.4 kilometres southwest of Rossland. From incomplete information it appears that two chromite showings have been prospected, one located on Crown-grants at about 1341 metres elevation on Ivanhoe Ridge (Burlington, 082FSW264), and the other, about 1.6 kilometres to the south, at about 1250 metres elevation on the ridge between the two main forks of Sophia Creek and about 300 metres southeast of the natural gas pipeline. The Vandot group of 5 recorded claims, reported to be located on the Cascade highway at the first summit west of Rossland, were owned

CAPSULE GEOLOGY

in 1966 by V.M. Van, of Rossland. Old trenches were deepened and sampled.

Noranda Exploration Company Limited held the property in 1984 as the Ross, Ross 2-3, and Cal claims. Work included magnetometer surveys over 16 kilometres, induced polarization and electromagnetometric surveys over 1 kilometre, a geochemical soil survey comprising 177 samples, and trenching.

The Vandot showing is underlain by ultramafic rock, probable of Permian age and related to the Slide Mountain terrane, comprised of serpentinite that is brown weathering and stands out as outcrops with sparse vegetation. The serpentinite is in contact with altered Lower Jurassic Elise Formation volcanics of the Rossland Group. These rocks are intruded by a mass of the Middle Eocene Coryell Intrusions comprised of syenite with associated dykes.

There are three chromite showings on the property in black serpentinite. The serpentinite is highly fractured with light green talc developed in the fractures and minor veinlets of blue-green fibrous asbestos and yellow-green steatite. The highly fractured rocks host abundant nickeliferous magnetite and chromite.

Three shallow pits on the property expose fine-grained serpentinite with many fractures and abundant light green serpentine. Visible chromite associated with these fractures is fairly abundant in one pit. A vertical lense of massive chromite is 30 centimetres wide in a sheared zone striking 330 degrees. The walls host disseminated chromite within patchy bands up to 10 centimetres in width. Chromite stringers and disseminated chromite also occur in the serpentinite. One dump hosts massive chromite up to 15 centimetres in thickness. In 1979, a selected grab of massive chromite yielded 29.8 per cent CrO₃, 17.2 per cent Fe₂O₃, and 0.08 per cent TiO₂ (Assessment Report 7162). Two selected samples of chromite taken by Fyles from a trench assayed 3.24 and 12.0 per cent chromium and 0.10 and 0.20 per cent nickel (Bulletin 74). Samples from another trench near the northern edge of this same mass of serpentinite assayed 0.23 per cent chromium and 0.17 per cent nickel (Bulletin 74).

In 1974, the chromite showings were sampled and analyzed for platinum. Six samples showed trace silver, trace gold, 1.0 to 1.4 grams per tonne platinum, 0.16 to 0.23 per cent nickel, 0.8 to 16.5 per cent chromium and 0.006 to 0.016 per cent cobalt (Assessment Report 4927). Apparently other companies have not been able to duplicate the platinum results. Samples from the serpentinite mass along Little Sheep Creek were submitted to the Geological Survey of Canada and pyrite, millerite, and a mineral of the linnaeite group were identified. Ten samples taken by Fyles at various places throughout the two masses of serpentinite exposed in the area gave nickel assays of less than 0.24 per cent (Bulletin 74).

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- GSC MEM 77, p. 211; 308
- GSC P 79-26, p. 26

DATE CODED: 1985/07/24
DATE REVISED: 1987/10/14

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

well in gold and has the same attitude as the main vein.
In 1896, 11 tonnes of ore were mined from the vein system and
684 grams gold recovered.
The North prospect (082FSW128) to the southwest is reported to
occur along an extension of the same shear zone which hosts the
Robert E. Lee/Maid of Erin deposit. Refer to that deposit for
further details of the host structure.

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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/10

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW132**

NATIONAL MINERAL INVENTORY:

NAME(S): **PHOENIX (L.953)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:
LATITUDE: 49 04 08 N
LONGITUDE: 117 48 32 W
ELEVATION: 1075 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located on the southern edge of the town of Rossland on the east slope of Deer Park Hill.

Underground

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

NORTHING: 5435429
EASTING: 440918

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite
ASSOCIATED: Quartz Carbonate Sphene
ALTERATION: Chlorite Epidote Pyrite Apatite Magnetite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 1 Metres
COMMENTS: The Phoenix vein, up to 1.2 metres in width.
STRIKE/DIP: 080/85N
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: The Rossland monzonite was dated in March 1991 (K.P.E. Andrew, personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Phoenix occurrence is considered Rossland-type mineralization, with sulphides infilling well-defined fractures and faults in the Lower Jurassic Rossland monzonite. The host rock is comprised of a biotite-hornblende-augite monzonite stock which is medium to fine-grained, grey to green in color. The monzonite hosts magnetite, apatite, some sphene with chlorite, epidote, pyrite and pyrrhotite.

The Phoenix vein strikes 080 degrees and dips near vertically, and ranges between 0.6 to 1.2 metres in width hosting 15 to 20 centimetres of gold and copper ore. Mineralization consists mainly of pyrite, pyrrhotite, and chalcopyrite with lenses of quartz and carbonate gangue.

The system was mined in 1912 to 1915 and from 1939 to 1942. A total of 279 tonnes of ore were mined from which was recovered 4,697 grams gold, 16,016 grams silver and 3,212 kilograms copper.

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EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1504; 1518

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1302
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/05

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW133**

NATIONAL MINERAL INVENTORY:

NAME(S): **ABE LINCOLN (L.1296)**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 12 N
LONGITUDE: 117 48 42 W
ELEVATION: 1075 Metres

NORTHING: 5435555
EASTING: 440716

LOCATION ACCURACY: Within 500M

COMMENTS: Located west of Rossland on the eastern slope of Deer Park Hill.

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION:
COMMENTS: Mineralized vein.

STRIKE/DIP: 090/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Monzonite
Biotite Hornblende Augite Monzonite
Augite Porphyry
Volcanic
Porphyritic Dike

HOSTROCK COMMENTS: Monzonite dated March 1991 (K.P.E. Andrew, personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The old Abe Lincoln workings are hosted by the Lower Jurassic Rossland monzonite which is comprised of a biotite-hornblende-augite monzonite stock which is medium-grained, grey to green in color and hosts magnetite, apatite, some sphene with chlorite, epidote, pyrite, and pyrrhotite. The monzonite intrudes the Lower Jurassic Rossland Group (Elise Formation) sediments, volcanics and augite porphyry sill.

On the surface, the claim hosts an east-west striking vein which is comprised of auriferous pyrrhotite, chalcopyrite, and pyrite. Pyrite occurs as well formed crystals in the pyrrhotite and as disseminations in the host rock. A wide, porphyritic dyke cross-cuts the monzonite to the north and west of the workings. The Abe Lincoln mineralization is classed as typical Rossland-type.

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1304
REPORT: RGEN0100

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/05

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Elmo claim (Lot 923) was Crown-granted in 1896 to F.C. Loring. Development work continued until 1901 and included about 701 metres of drifts and crosscuts in 2 adits. Further activity was reported in 1908 when a small amount of ore was shipped under the name J.P. Johnson.

No further activity was reported until 1941 when the St. Elmo workings were reopened by A. Grubsic and Ike Glover. Scheelite was discovered in the old workings in 1942 and the Consolidated Mining, Smelting and Power Company Limited examined the property under an option agreement.

Northwood Mining Limited optioned the Golden Queen, St. Elmo, and Surprise (Lot 693) claims from Messrs. Grubsic and Glover in August 1964 and the Gertrude claim (Lot 690) from William Keane. By an agreement of September 1964 Northwood assigned the above 4 Crown-granted claims to McKinney Gold Mines Limited. Geophysical and geochemical surveys were started late in 1964. The geochemical survey of the Golden Queen and St. Elmo claims was continued in 1965. Some bulldozer stripping was done and numerous showings sampled. In addition, 47 vertical diamond drill holes totalling 1471 metres were drilled in the northwestern part of the Golden Queen and western part of the St. Elmo claim. Surface stripping and diamond drilling between elevations of 1472 and 1515 metres on the northwest corner of the Golden Queen claim, and about 152 metres east of the "A" orebody on the Coxey claim, delimited a Y-shaped body of mineralization (designated the NGQ Zone) containing an indicated 68,000 tons averaging 0.24 per cent molybdenite. Near the western boundary of the St. Elmo claim a mineralized zone (designated the NSE Zone) as outlined, which to a depth of 23 metres contains about 73,000 tons averaging 0.33 per cent molybdenite.

Scurry-Rainbow Oil Limited optioned the property in December 1966, the option included the Novelty claim (Lot 958). Drilling by Scurry in 1967 tested the eastern part of the breccia complex on the Golden Queen and St. Elmo claims and the full width of the Novelty claim. Of the 14020 metres of diamond drilling in 174 holes, most was done on the adjacent Giant claim (082FSW109). Further diamond drilling was done by Scurry in 1968. Under the terms of the agreement Scurry earned a 50 per cent interest in the property. The company name (McKinney) was changed in March 1967 to Continental McKinney Mines Limited. Based on the drilling on this property, and on the adjacent Giant property, independent consultants in 1967 calculated the indicated-reserves available for open pit operations in 5 separate orebodies at 810,540 tons averaging 0.39 per cent molybdenite. In addition, some 88,000 tons of possible ore of various grades are indicated below open pit limits.

Continental McKinney in May 1973 amalgamated with Trinat Resources Ltd., Gundex Holdings Ltd., and Modoc Holdings Ltd., under the name Chandalar Resources Limited. A geochemical soil survey was carried out by Mine Finders, Inc., of Lakewood Colorado in 1973. Chandler Resources abandoned its interest in the property prior to 1975; Scutty-Rainbow sold its interest in 1975.

David Minerals Ltd. optioned the Golden Queen, St. Elmo, Surprise, and Novelty claims from J.D. Turcotte of Christina Lake, subject to a prior agreement between Turcotte and M. Delich of Rossland. From the exploration work done by Scurry Rainbow on the Golden Queen and St. Elmo (1971) there were outlined 237,000 tons grading 0.273 per cent MOS2 (Geol. Rept. for David Minerals in SMF 268/80, 24/12/80).

In 1981, David Minerals diamond drilled 22 holes here and in the Giant, California, Novelty, Gold King areas. (See 82 F/4, Mo 3).

Reserves were re-calculated by J.M. Stitt (1980) as follows:

Golden Queen - 19,500 tons at 0.30% MOS2
St. Elmo - 65,100 tons at 0.28% MOS2-

(Report by J.L. Deleen (1983) - in David Minerals Statement of Material Facts, 11/07/85).

The St. Elmo Crown Grant is underlain, on the west, by the Pennsylvanian and possibly Permian Mount Roberts Formation siltstone, hornfelsed siltstone, hornfels and a breccia complex. The siltstone is rusty, sooty and massive or thinly bedded with minor disseminated pyrrhotite and pyrite. The hornfels and hornfelsic siltstones are thinly laminated and massive cherty rocks which locally contain brown garnet and epidote. The Mount Roberts succession overlies augite porphyry of the Rossland sill, which underlies the eastern half of the Crown grant, and is thought to have been thrust over the sill. The Rossland sill intrudes the upper part of the Elise Formation (Rossland Group) and is considered part of that formation.

The principal host for the molybdenum mineralization on Red Mountain is the hornfelsed and brecciated siltstone. On Red Mountain, a large mass of quartz diorite, probably part of the Trail

CAPSULE GEOLOGY

pluton, was encountered 600 metres below the surface by deep drilling. It contains scattered molybdenite in quartz veinlets for as much as 300 metres below the upper surface of the quartz diorite. The siltstone is also intruded by lenticular masses of andesite and late steeply dipping dykes which trend northward. Small scale faults parallel to this trend step the older rocks down on the west.

According to the National Mineral Inventory (082F04 Mo2), adits explored weak shear zones dipping about 70 degrees north. They are mineralized with pyrrhotite, pyrite and chalcopyrite with calcite and some local silicification, but no true vein quartz. Scheelite occurs in these shear zones in shoots of which the longest is 21 metres. The maximum width is 1.5 metres with an average width of the ore shoots ranging between 0.45 to 0.76 metres. The scheelite occurs as fine disseminations and clusters of grains and locally as fine stringers in the rock.

Drysdale reports in 1915 that the main St. Elmo tunnel was near the east end of the claim (Geological Survey of Canada Memoir 77, page 134). The adit is driven along an east and west wall from which molybdenite, sphalerite and galena occur in a calcite-quartz gangue. A tunnel driven from the Consolidated St. Elmo Crown Grant (082FSW135), adjacent to the east of the St. Elmo claim, encountered a large body of fine-grained ore. In 1899, the end of this tunnel was about 43 metres east of the St. Elmo line. A 1964 sketch plan of the area shows over 200 metres of tunnels on the St. Elmo that are connected to the workings on the Consolidated St. Elmo. In 1908, 70 tonnes of ore was mined and produced 93 grams gold, 6874 grams silver, and 1446 kilograms copper.

Scattered mineralization occurs in a northeasterly trending zone, between elevations 1545 and 1560 metres near the western boundary of the claim. The zone, known in later days as the NSE zone, is about 122 metres long and 30 metres wide and hosts molybdenite as well as chalcopyrite, pyrite, sphalerite and galena in narrow east striking veinlets. The host rocks are apparently quartzites.

In 1980, a molybdenum indicated reserve calculated for the St. Elmo claim was 59,052 tonnes of 0.28 per cent MoS₂ (David Minerals, Statement of Material Facts, July 1985). This is a recalculation of the mineralized NSE zone to a depth of approximately 23 metres. The conversion used for MoS₂ to Mo is 1.6681.

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/07

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

porphyry is a uniform dark green rock with phenocrysts of augite up to 3 millimetres across. The upper contact is planar and dips about 20 degrees west, concordant with the bedding of the siltstone and hornfels of the Rosslund Group. Several narrow dykes or sills of augite porphyry occur within the hornfels which is rich in hornblende and disseminated magnetite. The augite porphyry appears to be intrusive into the siltstones and to have a narrow thermal contact metamorphic zone of hornblende-magnetite hornfels.

The Rosslund Group rocks are intruded to the south by the Lower Jurassic Rosslund monzonite and to the north by the Middle to Late Jurassic Trail Pluton which is comprised of a granodiorite stock.

The vein on the Consolidated St. Elmo claim dips between 60 to 70 degrees north and can be traced for almost the full length of the claim. The vein varies in width from 0.9 to 1.2 metres in width and hosts pyrite, pyrrhotite and scattered chalcopyrite. A 14-metre shaft and 18-metre adit were driven along the vein following a slip plane which hosted 1.5 metres of solid pyrite and pyrrhotite with minor chalcopyrite. The vein was mined in conjunction with the drifts and crosscuts along ore shoots on the Cliff claim (082FSW136).

Several other minerals were reported by Thorpe (1967). A ruby silver mineral, probably pyrargyrite, was observed in a single deposit of the Consolidated St. Elmo. The ore mineral appeared to be secondary. Sphalerite occurs in coarsely granular pyrite, appearing to have replaced the pyrite. Scheelite also occurs.

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/08

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW136**

NATIONAL MINERAL INVENTORY: 082F4 Au8

NAME(S): **CLIFF (L.921)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 05 24 N
LONGITUDE: 117 48 31 W
ELEVATION: 1190 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5437776
EASTING: 440963

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the centre of the Cliff Crown grant (Lot 921) located on the east slope of Red Mountain, approximately 1.3 kilometres north of Rossland.

COMMODITIES: Gold Copper Silver Tungsten Bismuth

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Arsenopyrite Pyrite Scheelite

Bismuth

ALTERATION: Hornblende Magnetite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
SHAPE: Irregular
MODIFIER: Faulted

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Rossland Elise

LITHOLOGY: Augite Porphyry
Hornblende Magnetite Hornfels
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE: Hornfels

CAPSULE GEOLOGY

The Cliff claim is located on the lower east slope of Red Mountain, about 1.6 kilometres of Rossland. The Consolidated St. Elmo adjoins to the west.

The Cliff claim (Lot 921) was staked in September 1890 by Gay Ruder and the Consolidated St. Elmo (Lot 924) in October of that same year by Will Springer. Both claims were Crown-granted, in 1896 to J.R. Cook and associates of Spokane. The Cliff Gold and Copper Mining Company, Limited, was incorporated in 1899. Some further work was reported in 1904. The Granby Consolidated Mining, Smelting and Power Company Limited, acquired the property in 1910 and some development work was carried out. Exploration and development work to that date had been done in 15-metre shaft and 18-metre adit on the Consolidated St. Elmo claim and about 305 metres of drifts and crosscuts in 3 adits on the Cliff claim.

The claims were subsequently acquired by a Rossland syndicate headed by L.A. Campbell. Lessees shipped small tonnages of ore during the period 1933-1936.

Scheelite was discovered in the old workings in 1942 and The Consolidated Mining and Smelting Company of Canada (Limited) examined the property under an option agreement; diamond drilling totalling 67 metres was done on the Cliff claim.

The claims were held in 1968 by Continental McKinney Mines Limited under a lease agreement with an expiry date of July 1972.

The old workings are within the Lower Jurassic Rossland Group (Elise Formation) augite porphyry, known as the Rossland sill. The sill lies beneath siltstone and hornfels and is exposed on the eastern slopes of Red Mountain. The augite porphyry is a uniform dark green rock with phenocrysts of augite up to 3 millimetres across. The upper contact is planar and dips about 20 degrees west,

CAPSULE GEOLOGY

concordant with the bedding of the siltstone and hornfels of the Rosslund Group. Several narrow dykes or sills of augite porphyry occur within the hornfels which is rich in hornblende and disseminated magnetite. The augite porphyry appears to be intrusive into the siltstones and to have a narrow thermal contact metamorphic zone of hornblende-magnetite hornfels.

The Rosslund Group rocks are intruded to the south by the Early Jurassic Rosslund monzonite stock and to the north by the Middle to Late Jurassic Trail Pluton which is comprised of a granodiorite stock.

Mineralization on the claim consists of veins host pyrrhotite, pyrite, and chalcopyrite. These were explored and mined by over 310 metres of drifts and crosscuts in conjunction with adits on the Consolidated St. Elmo claim (082FSW135).

The ore consists of a series of shoots in which sulphides infill well defined fractures or faults. The ore shoots end abruptly against crosscutting dyke structures and the veins are disjointed by faulting. A vein in tunnel No. 2, dipping 40 to 50 degrees north consists primarily of pyrrhotite over a width of 7 metres. The auriferous pyrrhotite is also associated with pyrite and minor arsenopyrite. In tunnel No. 3 a vein dipping 43 degrees north is comprised of massive pyrrhotite with some chalcopyrite and pyrite. On the surface the vein ranges between 0.3 to 0.6 metre in width. In 1942, scheelite was discovered in some of the old workings. The scheelite occurs in many parts of the vein and for a few centimetres into the wallrock. It is mainly disseminated but in places forms streaks and patches 5 to 8 centimetres wide. The average WO₃ content across mineable widths is considered low.

Native bismuth is found in ore from the Cliff property. In 1967, a polished surface of ore from the property indicated 1.4 per cent of the area was occupied by bismuth which has veined and replaced arsenopyrite and also appeared to have extensively replaced pyrrhotite.

Between 1898 to 1911 and 1933 to 1936, 1915 tonnes of ore was mined and produced 14868 grams gold, 99530 grams silver, and 24,195 kilograms copper.

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/08

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW137**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOUTHERN BELLE (L.1348)**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 32 N
LONGITUDE: 117 48 38 W
ELEVATION: 1220 Metres

NORTHING: 5438024
EASTING: 440824

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the centre of the Southern Belle Crown Grant (Lot 1348). Located on the east slope of Red Mountain, 1.5 kilometres northwest of Rossland.

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite
ASSOCIATED: Hornblende Magnetite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION:
COMMENTS: A 0.6-metre wide pyrite vein.

STRIKE/DIP: 077/80N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	

LITHOLOGY: Augite Porphyry
Hornblende Magnetite Hornfels
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE: Hornfels

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
COMMODITY: Gold
GRADE: 33.0000 Grams per tonne

YEAR: 1915

COMMENTS: From a 0.3 metre wide vein.

REFERENCE: Geological Survey of Canada Memoir, page 134.

CAPSULE GEOLOGY

The Southern Belle claim lies within the Lower Jurassic Rossland Group (Elise Formation) augite porphyry, known as the Rossland sill. The sill lies beneath siltstone and hornfels and is exposed on the eastern slopes of Red Mountain. The augite porphyry is a uniform dark green rock with phenocrysts of augite up to 3 millimetres across. The upper contact is planar and dips about 20 degrees west, concordant with the bedding of the siltstone and hornfels of the Rossland Group. Several narrow dykes or sills of augite porphyry occur within the hornfels which is rich in hornblende and disseminated magnetite. The augite porphyry appears to be intrusive into the siltstones and to have a narrow thermal contact metamorphic zone of hornblende-magnetite hornfels.

The Rossland Group rocks are intruded to the south by the Early Jurassic Rossland monzonite stock and to the north by the Middle to Late Trail Pluton which is comprised of a granodiorite stock.

The Southern Belle adjoins the Cliff and Consolidated St. Elmo claims to the north (082FSW135 and 136). The country rock is augite porphyry. A vein, up to 30 centimetre wide, hosts auriferous pyrrhotite and pyrite and in 1915 was reported to assay about 33 grams per tonne gold (Geological Survey of Canada Memoir 77, page 134). By 1915, a prospect shaft had been sunk on a 0.6-metre wide pyrite vein

CAPSULE GEOLOGY

with strike of 077 degrees and dip of 80 degrees north. A lower tunnel discloses the same pyrite vein in the form of three bands of low grade pyrite 15, 30 and 5 centimetres in width, respectively.

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British Columbia, Ph.D. Thesis, University of Wisconsin
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/08

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW138**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLDEN CHARIOT (L.691)**, GREAT WESTERN (L.692)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek

LATITUDE: 49 04 50 N
LONGITUDE: 117 47 48 W
ELEVATION: 1097 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5436716
EASTING: 441824

LOCATION ACCURACY: Within 500M

COMMENTS: Located in the north city limits of the town of Rossland on the south slope of Monte Cristo Mountain.

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite

ASSOCIATED: Calcite Quartz

COMMENTS: Iron staining is assumed to be oxidation.

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive

CLASSIFICATION: Hydrothermal Epigenetic

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

Lower Jurassic

ISOTOPIC AGE: 190 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Monzonite
Biotite Hornblende Augite Monzonite
Greenstone
Volcanic
Sediment/Sedimentary

HOSTROCK COMMENTS: The Monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Golden Chariot occurrence is hosted by the Early Jurassic Rossland monzonite which is comprised of a biotite-hornblende-augite monzonite stock that is medium-grained, grey to green in color and hosts magnetite, apatite, some sphene with epidote, chlorite, pyrite and pyrrhotite. The monzonite intrudes the Lower Jurassic Rossland Group (Elise Formation) sediments, volcanics and greenstone.

The Golden Chariot and Great Western Crown grants are traversed northeast and southwest by a wide, iron stained mineralized zone. The zone consists of sulphides infilling fractures and/or faults hosting auriferous pyrrhotite, chalcopyrite, and pyrite in a gangue of altered host rock and calcite. The pyrite occurs as crystals in the pyrrhotite or as disseminations in the host rock. Drilling in the west part of the claim exposed a 0.76 metre wide solid sulphide vein carrying low gold values. In the eastern part of the property, a shaft was sunk in 3.6 metres of massive ore in a quartz gangue. In both veins, the sulphides were coarse-grained pyrrhotite and pyrite with minor patches of intermixed chalcopyrite.

The ore is reported to assay about 5 to 7 grams per tonne gold (Geological Survey of Canada Memoir 77, page 127).

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RUN DATE: 25-Jun-2003
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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1315
REPORT: RGEN0100

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW139**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOHN, MAGNUSON**

MINING DIVISION: Trail Creek

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 32 N
LONGITUDE: 117 32 28 W
ELEVATION: 762 Metres

NORTHING: 5441554
EASTING: 460521

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 150 metres above Fruitvale to the north (Minister of Mines Annual Report 1954, page 123).

COMMODITIES: Silver Zinc Lead

MINERALS

SIGNIFICANT: Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive Shear
CLASSIFICATION: Unknown
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:

STRIKE/DIP: 100/90 TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Elise	

LITHOLOGY: Limestone
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The John showing is underlain by sediments of the Lower Jurassic Elise Formation, Rossland Group. The host rocks consist of thin-bedded limestones and argillites lying above massive limestone. The bedding strikes 153 degrees and dips 40 degrees to the southwest. Workings, consisting of a pit and an 18-metre long adit, explore a fissure which varies from a crack to 0.45 metres in width. Pyrite is reported to be the main visible mineral. The fissure is vertical and strikes 100 degrees. In 1954, a shipment consisting of 7.2 tonnes of "development rock" was made to the Trail smelter. The ore produced 404 grams of silver, 79 kilograms of lead and 145 kilograms of zinc (Minister of Mines Annual Report 1954, page 153).

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GSC MEM 77; 308
GSC OF 1195
GSC P 62-5; 79-26
EMPR BULL 109

DATE CODED: 1991/05/13
DATE REVISED: 1991/06/18

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW140**

NATIONAL MINERAL INVENTORY: 082F4 Mo1

NAME(S): **MOUNTAIN VIEW (L.682)**, RED MOUNTAIN, COXEY

STATUS: Past Producer Open Pit

MINING DIVISION: Trail Creek

REGIONS: British Columbia

NTS MAP: 082F04W

BC MAP:

LATITUDE: 49 05 27 N

LONGITUDE: 117 49 25 W

ELEVATION: 1524 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Open pits E and F are located just southwest of the peak of Red Mountain in the southeast corner of the Mountain View Crown Grant (Lot 682), approximately 2.5 kilometres northwest of Rossland.

UTM ZONE: 11 (NAD 83)

NORTHING: 5437880

EASTING: 439869

COMMODITIES: Molybdenum Tungsten Copper Gold Silver
Lead

MINERALS

SIGNIFICANT: Molybdenite Scheelite Pyrrhotite Chalcopyrite Arsenopyrite
Pyrite Galena

ASSOCIATED: Silica Quartz Calcite

ALTERATION: Garnet Magnetite Epidote

ALTERATION TYPE: Silicific'n Skarn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Breccia Disseminated Vein
CLASSIFICATION: Porphyry Skarn Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F- type) L07 Porphyry W
K05 W skarn L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: STRIKE/DIP: 120/75N TREND/PLUNGE:

COMMENTS: Vein in F pit

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian Undefined Group Mount Roberts
Jurassic Trail Pluton

LITHOLOGY: Breccia
Quartz Diorite
Hornfels
Siltstone
Hornfels Siltstone
Magnetite Hornfels
Quartz Diorite Breccia
Granodiorite
Andesite
Basic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Slide Mountain

METAMORPHIC TYPE: Contact

Quesnel

RELATIONSHIP: Syn-mineralization GRADE: Hornfels
Post-mineralization

CAPSULE GEOLOGY

The Mountain View Crown Grant hosts open pits E and F of the Coxey Group. The area is underlain by the Pennsylvanian and possibly Permian Mount Roberts Formation siltstone, hornfelsed siltstone, hornfels and a breccia complex. The siltstone is rusty, sooty and massive or thinly bedded with minor disseminated pyrrhotite and pyrite. The hornfels and hornfelsic siltstones are thinly laminated and massive cherty rocks which locally contain brown garnet and epidote.

The succession is thought to have been thrust over augite porphyry of the underlying Rossland sill of the Elise Formation (Rossland Group) prior to the intrusion of the Middle to Late Jurassic Trail pluton (Nelson Intrusions). The siltstone is intruded by lenticular masses of andesite, irregular bodies of quartz diorite and quartz diorite breccia, and late steeply dipping dykes which trend northward. The quartz diorite is assumed to be part of the Trail pluton.

A green, magnetite-bearing hornfels occurs in and around E and F pits. This magnetite-hornfels is similar to the rock that occurs on

CAPSULE GEOLOGY

surface and just above the Rossland sill. Steeply dipping regional faults trending 160 degrees offset the orebodies A, B, and C of the Coxey Mine (082FSW110) with orebodies E and F on the Mountain View claim. One interpretation suggests that all the orebodies are within 100 metres of stratigraphic section; according to another they may be at two horizons covering a stratigraphic interval of 200 metres.

The molybdenum mineralization occurs essentially within the Rossland Group breccia complex and the quartz-diorite breccia. In the breccia complex, the rocks are angular with a matrix comprised of fine silicates, quartz, calcite, garnet or scheelite. Molybdenite, usually without other sulphides, occurs in randomly oriented fractures in all types of hornfels breccia and quartz-diorite breccia. Commonly it lies along the margins of breccia blocks and locally is concentrated at junctions between the blocks. Pyrrhotite, and locally pyrite, are disseminated in the hornfels and also occur in fractures and as massive lenses between the breccia fragments. Some silver values are reported as well as minor galena and arsenopyrite mineralization. In the southeast corner of the F pit a narrow chalcopyrite-pyrrhotite vein trending 120 degrees and dipping 75 degrees to the north cuts molybdenum-bearing hornfels. The vein is typical of Rossland-type mineralization in the main camp, and this exposure is taken as evidence that the copper-gold mineralization of the Rossland camp is later than the molybdenum mineralization.

Scheelite, occurring as medium to coarse grains, is scattered throughout the breccia complex; rarely, it forms spectacular clusters of grains between fragments. Its occurrence is erratic but company records indicate that the highest grades were found in the E and F orebodies, where the average grade was about 0.10 per cent WO₃ (tungsten trioxide).

The characteristics of the molybdenite and scheelite mineralization and its association with the Middle to Late Jurassic Trail pluton, especially its upper and western margins, point to its classification as a porphyry-type deposit (Bulletin 74).

It was reported in 1893 that on the Mountain View claim there was a vein 9 metres wide and 60 metres long, the ore of which was reported to average about 41 grams per tonne gold (Geological Survey of Canada Memoir 77, page 135).

The property is located on the west slope of Red Mountain about 17.6 kilometres northwest of Rossland. It consists of 10 claims, the Coxey, Nevada, Mountain View, Ontario, Good Friday, Peak, High Ore, Ophir, Jumbo, and Sam Hayes. Most of these claims were Crown-granted during the period 1895-97 and were well known in the early days of the Rossland camp.

Development work on the Coxey was begun in 1897 by Messrs. Cook & Johnson. In 1899 Montreal Goldfields Ltd prospected the property for gold and copper. Development work consisted of two tunnels, a shaft, and several open cuts. The Coxey claim was reportedly worked by lessees Williams and Ruffner during the first World War but it is not known what development work was done at that time.

Late in 1963 Torwest Resources acquired the group of 10 claim. During 1964, 59 diamond drill holes were put down on the Coxey claim, 53 on the A or east zone and 6 on the B or west zone. Stripping on the B zone traced the mineralization for over 213 metres.

Metal Mines Limited optioned the property in September 1964 and early in 1965 they assigned one half of their interest in the project to Canadian Nickel Company Limited, the exploration arm of The International Nickel Company of Canada Limited.

At the end of 1964 ore reserves were estimated at 400,000 tons grading 0.5 per cent molybdenite.

Thirty-four drill-holes put down by Metal Mines Limited late in 1964 reportedly confirmed the results of the Torwest drilling. Red Mountain Mines Limited was formed in April 1965 to operate the property. The new company was owned by Torwest Resources (60 per cent), Metal Mines (20 per cent), and Canadian Nickel (20 per cent). Mining was by open pit. A 400 ton per day mill began operating April 24, 1966. Reserves at that time were estimated at 800,000 tons averaging 0.45 per cent molybdenite.

The property was financed to production jointly by Canadian Nickel Company and Consolidated Canadian Faraday Limited.

Mining was done initially in the A zone. Mill capacity was increased to 600 tons per day by 1969 and 750 tons per day by 1970. The mine closed in December 1970 due to lack of ore. The discovery of the E zone late in 1970 permitted the resumption of milling in February 1971. The mine closed in January 1972. After closing, The International Nickel Company engaged Min Finders Inc., of Lakewood Colorado to carry out an extensive exploration program based on a porphyry model of mineralization. Geochemistry, geophysics and deep drilling were carried out in the mine area between 1972 and 1974.

In 1980-81 David Minerals Ltd acquired the property from AJM

CAPSULE GEOLOGY

Explorations Ltd. and AJM Mill Ltd. and also acquiring the interests of Hunstone Ventures Ltd. and those of Inco Limited, Consolidated Canadian Faraday and Teck Corporation. The 1980 agreement included purchase of the 600 tpd mill. In 1981 the company drilled 9 short holes just south of the mine area. Reserves were reported as drill indicated 270,000 tons at 0.37 per cent MOS2 on the Coxey and Nevada claims (David Minerals Ltd., FS 139/82, p. 3, 1982).

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Red Mountain Mines Ltd.; Consolidated Faraday Ltd.; David
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EMPR BULL 109

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FIELD CHECK: N

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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1321
REPORT: RGEN0100

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/14

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW142**

NATIONAL MINERAL INVENTORY:

NAME(S): **HATTIE (L.1054)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 03 35 N
LONGITUDE: 117 48 49 W
ELEVATION: 1036 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5434414
EASTING: 440562

LOCATION ACCURACY: Within 500M

COMMENTS: Located 2.0 kilometres south of Rossland, approximately 10.2 kilometres east from the mouth of the Swedberg Creek and Sheep Creek (Assessment Report 16751).

COMMODITIES: Gold

Silver

Copper

Bismuth

MINERALS

SIGNIFICANT: Arsenopyrite Chalcopyrite Pyrite Gold Bismuth

Bismuthinite

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

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

DIMENSION:

STRIKE/DIP: 105 Polymetallic veins Ag-Pb-Zn±Au
090/85S TREND/PLUNGE:

COMMENTS: Mineralized Hattie vein.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Lower Jurassic
Lower Jurassic

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Rossland Monzonite

ISOTOPIC AGE: 190 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY:

Greenstone
Volcanic Breccia
Volcanic Conglomerate
Sandstone
Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: Monzonite age date - personal communication from K.P.E Andrew, March 1991.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Hornfels

CAPSULE GEOLOGY

The Hattie occurrence is hosted by a sequence of the Lower Jurassic Elise Formation (Rossland Group) consisting of greenstone, volcanic breccia, conglomerate and sandstone. The Hattie mineralization is considered to be a Rossland-type ore which is hosted by Rossland Group rock and located 400 metres south of the southern edge of the Early Jurassic Rossland Monzonite. The monzonite has recently been dated at 190 million years (Andrew, K.P.E., Personal Communication, March, 1991). The showing lies within the zone of thermal metamorphism associated with the monzonite intrusion.

The Hattie vein system consist of fissure filled veins in the Rossland volcanics which host abundant arsenopyrite, chalcopyrite, and pyrite. Pyrite occurs as disseminations in the host rocks as well as in veinlets which crosscut the stratified host rock. The gangue consists mainly of altered host rock with minor lenses of quartz and calcite. The main vein strikes east-west and dips 85 degrees south to vertical. The vein averages 7.6 centimetres in width. A sample taken across 30 centimetres assayed 11.31 grams per tonne gold, 181.72 grams per tonne silver and 5.02 per cent copper (Minister of Mines Annual Report 1921, page 151). In 1980 a series of east-west stacking veins were exposed dipping 75 degrees south. In 1967, Thorpe reported that native gold, bismuth and associated

CAPSULE GEOLOGY

bismuthinite occurs in the ore.
Between 1934 to 1939, 21 tonnes of ore was mined from the Hattie vein system and 310 grams gold and 1090 grams silver were recovered.

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EMPR BULL *74
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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 109A; 1504A; 1518
GSC MEM 77, pp. 166,170; 308, pp. 157-158,205
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
PERS COMM Andrew, K., March 1991
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1987/09/11

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

with associated sphalerite, chalcopyrite, pyrrhotite with minor disseminations of arsenopyrite and pyrite in the layered host rock.
Refer to the Le Roi deposit (082FSW093) for a summary of the Rossland mining camp.

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British Columbia, Ph.D. Thesis, University of Wisconsin
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/28

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1326
REPORT: RGEN0100

MINFILE NUMBER: **082FSW144**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALVA**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 10 25 N
LONGITUDE: 117 51 34 W
ELEVATION: 1580 Metres

NORTHING: 5447111
EASTING: 437357

LOCATION ACCURACY: Within 500M

COMMENTS: Straddles Highway 3B about 10 kilometres north of Rossland at 5200 feet elevation in the headwaters of Murphy Creek.

COMMODITIES: Tungsten

MINERALS

SIGNIFICANT: Scheelite
ALTERATION: Chlorite Calcite
ALTERATION TYPE: Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic
TYPE: L07 Porphyry W
SHAPE: Irregular
MODIFIER: Faulted

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic			Nelson Intrusions

LITHOLOGY: Augite Porphyry
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Minor disseminated scheelite occurs within coarse-grained diorite of the Middle to Late Jurassic Nelson Intrusions. Values up to 0.02 per cent tungsten were recorded. Some northeast trending faulting is observed. The rocks are fractured and host chlorite and calcite.

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EMPR BULL 74
EMPR EXPL 1980-61
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16; 1991-17
GSC MAP 175A; 1090A
GSC MEM 308
GSC OF 1195
GSC P 79-26
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1987/10/07

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW144**

MINFILE NUMBER: **082FSW145**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE BIRD (L.1053)**, COPPER QUEEN (L.1210), BLUEBIRD,
ROSSLAND

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:
LATITUDE: 49 03 36 N
LONGITUDE: 117 48 02 W
ELEVATION: 945 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located 1.5 kilometres south of Rossland, on the west side of Gopher Creek.

Underground
MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)
NORTHING: 5434434
EASTING: 441516

COMMODITIES: Silver Antimony Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Arsenopyrite Tetrahedrite Pyrrhotite
Chalcopyrite Boulangerite Stibnite Pyrite
ASSOCIATED: Quartz Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
MODIFIER: Faulted
DIMENSION:
COMMENTS: Main mineralized vein. STRIKE/DIP: 110/85S TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Siltstone
Hornfels Siltstone
Argillite
Hornfels
Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: The Rossland monzonite was dated March 1991 (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
Plutonic Rocks
RELATIONSHIP:
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE: Hornfels

INVENTORY

ORE ZONE: DRILLHOLE
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core
COMMODITY: Gold
GRADE: 11.3100 Grams per tonne
COMMENTS: From a 3.8-metre drill interval.
REFERENCE: George Cross News Letter No.10, January 15, 1991.

CAPSULE GEOLOGY

The Blue Bird mine workings are hosted by the Lower Jurassic Rossland Group (Elise Formation) siltstone, argillite, hornfelsed siltstone and hornfels. The showings are located within the zone of thermal metamorphism associated with the Early Jurassic Rossland monzonite intrusion. The grey to black siltstone and argillite grades to hornfels. Ammonites of Early Jurassic age were reported to occur in siltstone on Ivanhoe Ridge.

The mine is hosted by the Bluebird-Mayflower shear zone which

CAPSULE GEOLOGY

strikes 120 to 130 degrees and dips from 50 to 65 degrees to the northeast, and is traceable for 600 metres. The Blue Bird zone consists of a series of lenses cut by numerous cross-faults and dykes. The ore bodies have a tendency to pinch and swell. As of 1988, underground development and drilling had tested the zone to a depth of 110 metres at which depth the structure and mineralization appear to be present. Limited drilling between the Blue Bird and Mayflower zone (082FSW146) to the east, to a depth of 45 metres has confirmed continuity of the mineralized structure but grades have been low. At the western extent of the shear zone, near the Hattie Brown shaft (082FSW359), the structure is cut by a 12.2 metre wide monzonite dyke of the Middle Eocene Coryell Intrusions. Surface work and drilling has suggested that the structure continues to the west of the dyke and is mineralized.

Mineralization at the Blue Bird consists of quartz veins hosting pyrite, sphalerite, galena, arsenopyrite, stibnite, chalcopyrite, pyrrhotite, and locally, boulangerite. The stibnite occurs as radiating, white metallic needle-like crystals. The vein system is considered as part of the South Belt-type of mineralization (Bulletin 74, page 39 to 40). The principal gangue mineral is quartz, however, carbonate veinlets also host pyrite, sphalerite, and galena mineralization. Tetrahedrite is generally very closely associated with the galena. The vein system strikes between 110 to 115 degrees, dipping steeply south. The veins are on strike with the main veins on the Mayflower claim and are considered as the westerly extension. Boulangerite appears to replace arsenopyrite, pyrite, and sphalerite in the ore from the Blue Bird mine. Small arsenopyrite crystals and plates of pyrrhotite are included in sphalerite and some have been inherited as inclusions in the boulangerite.

The main access to the vein is by adit No. 2 which was driven at an elevation of 844 metres just above and west of Gopher Creek. The vein is well mineralized 61 metres below this level and 244 metres west of the portal. The host rock is mainly hornfelsic siltstone which dips at moderate angles to the west and is cut by northerly trending dykes. Average grades based on production statistics are 3.87 grams per tonne gold, 653.8 grams per tonne silver, 3.5 per cent lead, 4.2 per cent zinc, and minor copper. Approximately 6503 tonnes of ore were mined from the Blue Bird zone between 1908 to 1914, 1935, 1951 to 1952, and 1972 to 1978. Recovery of commodities from this ore includes: 12,857 grams gold, 3,910,823 grams silver, 181,088 kilograms lead, 207,496 kilograms zinc, and 864 kilograms copper.

In 1990, drill hole 90-3 intersected 3.8 metres grading 11.31 grams per tonne gold (George Cross News Letter No.10, January 15, 1991).

Refer to the Le Roi deposit (082FSW093) for a summary of the Rossland mining camp.

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EMPR GEM 1969-315; 1972-49; 1973-60; 1974-70
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EMPR PF (Westoll, N.D. and Associates: Geological Report on the
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Homestake file - 082FSW123); Filing Statement, Antelope Resources
Inc., Feb. 3, 1989 (in Homestake file))
GSC MAP 1004; 1504A; 1518
GSC MEM 77, p. 160
GSC OF 1195
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
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British Columbia, Ph.D. Thesis, University of Wisconsin
Placer Dome File
EMPR BULL 109

MINFILE NUMBER: **082FSW146**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAYFLOWER (L.799)**, OLLA PORIDA, ROSSLAND

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 34 N
LONGITUDE: 117 47 44 W

NORTHING: 5434369
EASTING: 441881

ELEVATION: 877 Metres
LOCATION ACCURACY: Within 500M

COMMENTS: Located approximately 1.5 kilometres south of Rossland on the east side of Gopher Creek.

COMMODITIES: Silver Gold Lead Zinc Cadmium

MINERALS

SIGNIFICANT: Sphalerite Galena Arsenopyrite Boulangerite Tetrahedrite
Pyrrhotite Ruby Silver Pyrite Magnetite Pyrargyrite
ASSOCIATED: Quartz Carbonate
ALTERATION: Sericite Epidote Hornblende
ALTERATION TYPE: Sericitic Epidote
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: STRIKE/DIP: 110/80N TREND/PLUNGE:
COMMENTS: Main mineralized vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Augite Porphyry Sill
Augite Porphyry
Monzonite
Biotite Hornblende Augite Monzonite
Lamprophyre Dike
Dioritic Porphyry
Breccia

HOSTROCK COMMENTS: Monzonite dated March 1991 (Andrew, K.P.E., personal communication, March 1991). Augite porphyry is also known as Rossland sill.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:

CAPSULE GEOLOGY

The old Mayflower mine workings are hosted by the Lower Jurassic Rossland Group (Elise Formation) augite porphyry, known as the Rossland sill. The porphyry is dark green with phenocrysts of dark augite which are partly altered to hornblende. The rock is commonly brecciated with preferential epidote alteration. The sill is intruded by the Early Jurassic Rossland monzonite which is comprised of a biotite-hornblende-augite monzonite. The sill lies within the zone of thermal metamorphism. Diorite porphyry and lamprophyre dykes crosscut these older rocks striking 015 degrees and dipping 50 to 60 degrees eastward. A sample from a crosscutting lamprophyre dyke on the Mayflower claim gave a potassium-argon date from biotite as 49.4 plus or minus 1.4 million years (Bulletin 74, page 54).

The mine is hosted by the Bluebird-Mayflower shear zone which strikes 120 to 130 degrees and dips from 50 to 65 degrees to the northeast, and is traceable for 600 metres. The Mayflower zone, located about 200 metres east of the Blue Bird zone (082FSW145) on the same structure, is similar in most respects to the Blue Bird zone but differs in its higher gold to silver ratio. Exploration has been carried out to a depth of 60 metres at which level the mineralization is still present. Limited drilling between the Blue Bird and

CAPSULE GEOLOGY

Mayflower zones, to a depth of 45 metres, has confirmed continuity of the mineralized structure, but grades have been low. At the western extent of the shear zone, near the Hattie Brown shaft (082FSW359), the structure is cut by a 12.2 metre wide monzonite dyke of the Middle Eocene Coryell Intrusions. Surface work and drilling has suggested that the structure continues to the west of the dyke and is mineralized.

The main vein strikes 110 degrees and dips 70 to 80 degrees north. The earliest work was on the South vein; later development work proceeded on the North and Main veins which all strike east-west and dip steeply north. The main portal, at elevation 877 metres intersects 5 main ore shoots of 56 metres in length. Mineralization consists of sulphides replacing wallrock along well-defined fracture and faults and infilling fractures. The ore shoots end abruptly against dykes or cross structures.

The ore is composed of fine-grained, disseminated or rudely banded massive sulphides in a gangue consisting of thoroughly sericitized rock with minor carbonate and quartz. The mineralization is of the South Belt-type which contains pyrite, pyrrhotite, arsenopyrite, sphalerite, galena, and boulangerite (Bulletin 74, pages 39-40). Microscopic examination of the ore suggests that pyrrhotite was the earliest mineral to form, followed by and partly replaced by pyrite and arsenopyrite. Tetrahedrite is generally, closely associated with the galena. Silver assays of ore from the Mayflower property suggests that the tetrahedrite contains perhaps 10 per cent silver (Thorpe, 1967). Ruby silver, probably pyrargyrite is reported to occur in the ore as well as magnetite which is associated with the arsenopyrite.

A total of 876 tonnes of ore was mined from the workings between 1907 to 1910, 1929, 1935, 1937, 1948 and 1949. Recovered from this ore were 4,136 grams of gold, 376,780 grams of silver, 25,785 kilograms of lead, 49,390 kilograms of zinc and 139 kilograms of cadmium.

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- EMPR ASS RPT 24, *16751, 19601
- EMPR BC METAL MM00683
- EMPR BULL *74
- EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
- EMPR GEM 1969-315; 1972-49; 1973-60; 1974-70
- EMPR MINING Vol.1, p. 37
- EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
- EMPR PF (Westoll, N.D. and Associates: Geological Report on the Rossland Property in British Columbia, Aug.18, 1987, in Prospectus for Antelope Resources Limited, effective date Mar.10, 1988 (in Homestake file - 082FSW123); Filing Statement, Antelope Resources Inc., Feb. 3, 1989 (in Homestake file))
- GSC MAP 1004; 1090A; 1504A; 1518
- GSC MEM 77, p. 168; 308, p. 134
- GSC OF 1195
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- ECON GEOL Vol.68, 1973, pp. 1337-1346
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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/12

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW147**

NATIONAL MINERAL INVENTORY: 082F4 Au5

NAME(S): **JOSIE (L.536)**, LE ROI 2, HAMILTON,
JOSI, POORMAN NO. 1,
ANNIE, ANNIE FRACTION, NORTH ANNIE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:
LATTITUDE: 49 04 53 N
LONGITUDE: 117 48 42 W
ELEVATION: 1200 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located just north of Rossland on the south slope of Red Mountain.

Underground
MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)
NORTHING: 5436821
EASTING: 440730

COMMODITIES: Gold Silver Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: STRIKE/DIP: 070/75N TREND/PLUNGE:
COMMENTS: Mineralized Josie vein system.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Augite Porphyry
Monzonite
Biotite Hornblende Augite Monzonite
Lamprophyre Dike

HOSTROCK COMMENTS: The monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

Plutonic Rocks
RELATIONSHIP:
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE:

CAPSULE GEOLOGY

The Josie group, consisting of the Josi, Poorman, No. 1, Annie and Annie Fraction claims, lies west of and adjoining the Centre Star property on the northwestern edge of the City of Rossland. The Josie claim was apparently located by, R.E. Lemon in 1890 and Crown-granted to F.C. Loring in 1895. The British American Corporation Limited purchased the Josie and a number of adjoining claims in 1896 and development work was carried on for several years. The property was acquired in 1900 by Le Roi No. 2, Limited, an English company. Mining operations were carried out on 10 levels from a 396-metre deep shaft, and in several adits. Operations were continuous until January 1922 when the mine closed. The Consolidated Mining & Smelting Company of Canada Ltd., owner of the adjoining Centre Star group, purchased the property in 1923 and operations were carried on until 1928 when the mine was closed. Lessees worked the property from 1932 until June 1942. The Josie showing is part of the "Main vein" system which forms a continuous well-defined fracture system, on a regional scale, which strikes 070 degrees for a strike length in excess of 1 kilometre. The system dips steeply north; the Josie vein system dips 75 degrees north. Refer to the Le Roi deposit (082FSW093) for further details of the Rossland mining camp and the Main vein-type ore deposit. The Josie vein system is hosted by the Early Jurassic Rossland monzonite and augite porphyry of the Lower Jurassic Elise Formation (Rossland Group), known as the Rossland sill. The Rossland monzonite is an east-trending stock of biotite-hornblende-augite monzonite. Tertiary lamprophyre dykes,

CAPSULE GEOLOGY

trending northwards, crosscut the monzonite and sill. The Josie dyke averages more than 20 metres in thickness and appears to control the concentrations of copper and copper-gold ore. The ore shoots lie along portions of the main fissure and end abruptly against dykes or cross structures. The Josie vein system is comprised of three main veins, the Hamilton and the North Annie and South Annie (082FSW148) which strike westerly and dip steeply north. Sulphide mineralization consists of the replacement of wallrock along well-defined fractures and the infilling of fractures and faults with pyrrhotite and chalcopyrite. The gangue consists mainly of altered wallrock with minor lenses of quartz and calcite. Minor pyrite occurs as crystals in the pyrrhotite and as disseminations in the host rock. Massive fine-grained sphalerite of a deep brownish colour was observed in small irregular veinlets and blebs from the 275-metre level of the Josie mine.

Although development of the Josie started around 1896, production records start in 1900. Between 1900 to 1922, 554,482 tonnes of ore were mined from the Josie systems. From this, a total of 9,344,182 grams gold, 15,110,710 grams silver and 7,776,067 kilograms copper were recovered.

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1905-27,171-173; 1906-153; 1907-107,214; 1908-103,247;
1909-129,273,277; 1910-116,244; 1911-173,285; 1912-161,323;
1913-134,420; 1914-332,510; 1915-117,446; 1916-208,517;
1918-182; 1919-138; 1920-136; 1921-149; 1922-209; 1923-229;
1933-241; 1949-157; 1967-236
EMPR BC METAL MM00674
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EMPR PF (*Gilbert, G. and Malcolm, D.C. (1958): Rossland Properties -
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EMR MP CORPFILE (Cominco Ltd.; Le Roi No. 2 Ltd.)
GSC MAP 1004; 1090A; 1504A; 1518
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DATE CODED: 1985/07/24
DATE REVISED: 1991/04/29

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW148**

NATIONAL MINERAL INVENTORY: 082F4 Au5

NAME(S): **ANNIE (L.730), JOSIE, LE ROI NO. 2,**
NORTH ANNIE, SOUTH ANNIE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 04 50 N
LONGITUDE: 117 48 52 W
ELEVATION: 1112 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5436730
EASTING: 440526

LOCATION ACCURACY: Within 500M

COMMENTS: The production statistics for the Annie are included with the Josie (082FSW147). The Josie and Annie veins systems were commonly known as the LeRoi No. 2 group. Located west-southwest of the Josie vein system.

COMMODITIES: Gold Silver Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION:
COMMENTS: Mineralized North and South Annie veins.

STRIKE/DIP: 075/80N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Augite Porphyry
Hornfels
Hornfels Siltstone
Siltstone
Monzonite
Biotite Hornblende Augite Monzonite
Lamprophyre Dike
Dioritic Dike

HOSTROCK COMMENTS: The Rossland monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PLUTONIC ROCKS RELATIONSHIP: Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE:

CAPSULE GEOLOGY

The Josie group, consisting of the Josie, Poorman, No. 1, Annie and Annie Fraction claims, lies west of and adjoining the Centre Star property on the northwestern edge of the City of Rossland.

The Josie claim was apparently located by, R.E. Lemon in 1890 and Crown-granted to F.C. Loring in 1895. The British American Corporation Limited purchased the Josie and a number of adjoining claims in 1896 and development work was carried on for several years. The property was acquired in 1900 by Le Roi No. 2, Limited, an English company. Mining operations were carried out on 10 levels from a 396-metre deep shaft, and in several adits. Operations were continuous until January 1922 when the mine closed.

The Consolidated Mining & Smelting Company of Canada Ltd., owner of the adjoining Centre Star group, purchased the property in 1923 and operations were carried on until 1928 when the mine was closed. Lessees worked the property from 1932 until June 1942.

The Annie Crown Grant (Lot 730) hosts two major veins which are part of the "Main vein" system that forms a continuous well-defined regional fracture system striking 070 degrees for a length in excess of 1.0 kilometre. The Annie occurrence consists of the North Annie

CAPSULE GEOLOGY

and the South Annie veins which strike west and dip steeply north. The veins were mined between 1898 and 1922 in conjunction with the Josie or LeRoi No. 2 mine (082FSW147).

The Annie claim is underlain by the Rossland sill, a mass of augite porphyry that intrudes siltstone, hornfels and hornfelsed siltstone of the Lower Jurassic Elise Formation, Rossland Group. The strata are intruded by the Early Jurassic Rossland monzonite, an east-trending biotite-hornblende-augite monzonite stock. The rocks are crosscut by late, lamprophyre and diorite dykes.

Mineralization in the main Annie veins consists of sulphide replacement of wallrock along well-defined fractures. The sulphides include pyrrhotite, chalcopyrite and pyrite in a gangue of altered country rock with lenses of quartz and calcite. The mineralization is described as the Rossland-type heavy sulphide ore, which is predominantly pyrite and pyrrhotite with a little chalcopyrite, and yields gold and copper.

For further details of the Rossland mining camp and the Main vein system refer to the Le Roi deposit (082FSW093).

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1909-129; 1910-116; 1911-173; 1912-161; 1913-134; 1914-332;
1935-G51; 1936-E49; 1937-E48; 1939-90; 1940-75; 1941-72;
1942-67; 1955-48
EMPR BULL 74; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (*Gilbert, G. and Malcolm, D.C. (1958): Rossland Properties -
Geology Report No. 2 (in Le Roi file - 082FSW093))
EMR MP CORPFILE (Cominco Ltd.; Le Roi No. 2 Limited)
GSC MAP 1002; 1004; 1518; 1090A; 1504A
GSC *MEM 77, pp. 45,57,65,116; 308, p. 179
GSC P 79-26
CIM *Jubilee Vol., 1948, pp. 189,196
PERS COMM Andrew, K., March 1991
Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, p.
122
Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/29

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW149**

NATIONAL MINERAL INVENTORY:

NAME(S): **GEORGIA (L.928)**, GEORGIA FRACTION (L.4668), KAY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 05 19 N
LONGITUDE: 117 47 36 W
ELEVATION: 1189 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5437609
EASTING: 442077

LOCATION ACCURACY: Within 500M

COMMENTS: Located north of Rossland on the eastern slopes of Monte Cristo Mountain.

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite

ASSOCIATED: Calcite Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Siltstone
Argillite
Hornfels
Monzonite
Biotite Hornblende Augite Monzonite
Hornfels Siltstone
Volcanic Breccia
Sandstone
Lamprophyre Dike
Dioritic Dike

HOSTROCK COMMENTS: The monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Hornfels

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1982

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

1.2300

Grams per tonne

COMMENTS: 1.2 metre chip sample taken across vein 11 in adit #3.

REFERENCE: Assessment Report 11846.

ORE ZONE: TOTAL

REPORT ON: Y

CATEGORY: Measured

YEAR: 1995

QUANTITY: 48983 Tonnes

COMMODITY

GRADE

Gold

7.8800

Grams per tonne

COMMENTS: Proven reserves.

REFERENCE: George Cross News Letter No.139 (July 20), 1995.

CAPSULE GEOLOGY

The Georgia occurrence is underlain by Lower Jurassic Rossland Group (Elise Formation) siltstone, argillite and hornfelsed siltstone

CAPSULE GEOLOGY

which is intruded by the Rossland Monzonite. The grey to black siltstone and argillite grades into hornfels and forms distinct layers within the volcanic breccias and several horizons grade laterally into sandstone and breccia. Small ammonites of Early Jurassic age are reported to occur in the siltstone on Ivanhoe Ridge. The Rossland Group rocks are crosscut by north trending Early Tertiary lamprophyre and diorite dykes hosting disseminated pyrite.

The Georgia vein system consists of 12 individual veins and lies within the siltstone near the monzonite contact. Mineralization is part of the eastern extension of the Main vein system, and consists mainly of pyrrhotite, chalcopyrite with minor pyrite in quartz-calcite gangue. The best grades of mineralization were obtained along steeply dipping east-west veins where grades consistently ranged between 5.14 to 8.6 grams per tonne gold. Refer to the Le Roi deposit (82FSW093) for further details on the Rossland camp and the Main vein system.

In 4 years between 1933 and 1939, 49 tonnes of ore yielded 466 grams gold and 653 grams silver.

In 1980, 16 drill holes ranged between an average of 0.034 to 2.6 grams per tonne gold, less than 0.4 grams per tonne silver and 0.005 to 0.02 per cent copper (Assessment Report 7868). In 1982, a 1.2-metre chip sample taken across vein 11, where it was exposed in adit #3, assayed 1.23 grams per tonne gold; a second 1.2 metre sample across barren wallrock assayed: 0.75 grams per tonne gold (Assessment Report 11846).

The Georgia property presently has proven reserves of 48,983 tonnes grading 7.88 grams per tonne gold (George Cross News Letter No.139 (July 20), 1995).

BIBLIOGRAPHY

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1936-E49; 1937-E48; 1938-E41; 1939-40
EMPR ASS RPT 7868, *8971, *11846, *14236, *15865, 15743
EMPR BC METAL MM00661
EMPR BULL *74
EMPR EXPL 1980-60; 1983-61; 1985-C36
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1002; 1004; 1518; 1090A; 1504A
GSC MEM 77; 308
GSC P 79-26
EG Vol.68, 1973, pp. 1337-1346
GCNL #139(July 20), 1995
PERS COMM Andrew, K., March 1991
Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning,
Rossland, British Columbia, Ph.D. Thesis, University of Wisconsin
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/14

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW150**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHAWN**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 14 27 N
LONGITUDE: 117 03 07 W
ELEVATION: 1675 Metres

NORTHING: 5454230
EASTING: 496219

LOCATION ACCURACY: Within 500M

COMMENTS: The old adit is located on "East Branch Big Patch Creek" (Assessment Report 17233, Map 87-1).

COMMODITIES: Gold Silver 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: Metasedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Cambrian

Undefined Group

Reno

Nelson Intrusions

Jurassic

LITHOLOGY: Argillaceous Quartzite
Granite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Ancestral North America

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

6.4000

Grams per tonne

Gold

8.0000

Grams per tonne

COMMENTS: From a 60 centimetre chip sample.

REFERENCE: Assessment Report 17233.

CAPSULE GEOLOGY

The Shawn occurrence is hosted by argillaceous quartzites of the Lower Cambrian Reno Formation. The strata are intruded by granite to granodiorite of the Middle to Late Jurassic Nelson intrusions. Swarms of northeast-trending quartz veins with minor sulphides occur in the quartzites, including several which crosscut the stratigraphy at 320 degrees and at 040 to 050 degrees.

A quartz vein exposed in a trench near an old adit varied in width from 5 to 15 centimetres and contained pyrite, chalcopyrite and galena. A grab sample of the vein assayed 6.84 grams per tonne gold, 25.0 grams per tonne silver and 0.6 per cent lead (Assessment Report 17233, page 18). Within a few hundred metres, other old trenches exposed veins. A grab sample from one such quartz vein graded 28.6 grams per tonne gold, 56.0 grams per tonne silver, 0.5 per cent lead and 0.024 per cent zinc; a 60 centimetre chip sample across this vein yielded 8 grams per tonne gold, 6.4 grams per tonne silver and minor amounts of lead and zinc (Assessment Report 17233, page 16).

BIBLIOGRAPHY

EMPR ASS RPT *17233

EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;

1990, pp. 9-31

EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16

GSC MAP 299A; 1090A; 1145A

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1338
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MEM 172; 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1991/05/27
DATE REVISED: 1991/05/27

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW151**

NATIONAL MINERAL INVENTORY:

NAME(S): **COLUMBIA-KOOTENAY**, COLUMBIA (L.694), KOOTENAY (L.697),
NORTH STAR (L.797), TIP TOP (L.798)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Open Pit Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 05 21 N
LONGITUDE: 117 47 02 W
ELEVATION: 1188 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5437664
EASTING: 442767

LOCATION ACCURACY: Within 500M

COMMENTS: Located 1.6 kilometres northeast of Rossland, on the east slope of
Columbia Kootenay Mountain. The location is for the shared boundary
of the Columbia and the Kootenay Crown grants.

COMMODITIES: Gold Copper Nickel Bismuth

MINERALS

SIGNIFICANT: Pyrrhotite Arsenopyrite Chalcopyrite Pyrite Gersdorffite
 Bismuthinite Bismuth
ASSOCIATED: Calcite
ALTERATION: Pyroxene Garnet
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
 DIMENSION: 10 Metres STRIKE/DIP: 060/75 TREND/PLUNGE:
COMMENTS: Main mineralized vein.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Rossland Monzonite
Lower Jurassic			
ISOTOPIC AGE: 190 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			
Jurassic			Trail Pluton

LITHOLOGY: Augite Porphyry
Monzonite
Volcanic Breccia
Volcanic Conglomerate
Sandstone
Hornfels
Biotite Hornblende Augite Monzonite
Dioritic Dike

HOSTROCK COMMENTS: The monzonite was dated in March 1991 for the B.C. Geological Survey
Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE: Hornfels

CAPSULE GEOLOGY

The Columbia-Kootenay vein system is part of the "Main vein" system which forms a continuous well-defined fracture system on a regional scale. The main vein system trends 070 degrees for a strike length in excess of 1.0 kilometres, consisting of mineralized fracture fillings dipping steeply north. Refer to the Le Roi deposit (082FSW093) for further details on the Rossland mining camp and the Main vein system.

The area of the Columbia-Kootenay vein system is underlain by the Lower Jurassic Rossland Group (Elise Formation) volcanic breccia, conglomerate and sandstone sequence which dips fairly uniformly at moderate angles to the west. Primary sedimentary structures indicate the beds face westwards and only small north trending faults cause minor offsets. The Rossland sill, of the Elise Formation, forms an irregular mass of augite porphyry in the thin-bedded sedimentary and massive volcanic breccias and conglomerates. The sill is difficult to distinguish from the thermally metamorphosed Rossland Group rocks.

CAPSULE GEOLOGY

The Rossland Group is intruded to the south by the Rossland monzonite, an east trending stock comprised of biotite-hornblende-augite monzonite. The contact is gradational and grades northwards into the volcanic conglomerate over a distance of 300 metres. A zone of thermal metamorphism has bleached the well-indurated hornfels of the Rossland Group which contains pyroxene and garnet. To the north, the strata are intruded by the Tail pluton of the Middle to Late Jurassic Nelson Intrusions. A swarm of Tertiary diorite dykes crosscut both the monzonite and Rossland Group rocks.

The mineralized zone trends northeast and dips between 45 to 75 degrees northwest passing through both the Columbia and Kootenay Crown grants. The mineralized zone follows a contact between biotite-bearing monzonite, which forms the hanging wall, and augite porphyry (Rossland sill), which forms the footwall and which the ore appears to have replaced. The ore consist of both massive and disseminated pyrrhotite in a hard, fine-grained gangue with minor chalcopryrite. Arsenopyrite occurs in places with the auriferous pyrrhotite. Much of the ore which is made up sulphides in calcite and altered rock gangue, appears to be laminated. The vein is fairly continuous and varies in width from a few centimetres up to 10 metres of nearly solid pyrrhotite. A nickel sulphur arsenide, gersdorffite, is reported to occur in small octahedral crystals in the sulphide ore and is associated with the massive pyrrhotite and chalcopryrite from the Columbia-Kootenay vein. Also, native bismuth and bismuthinite are associated with minor chalcopryrite. The ore shoots end abruptly against cross structures.

Between 1896 to 1904, 144 tonnes of ore were mined and 68,520 grams of gold recovered.

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1900-859; 1901-1046; 1902-166; 1903-161; 1904-207; 1933-241;
1935-G51; 1936-E49; 1937-E48; 1938-E41; 1939-90; 1940-75; 1941-72
EMPR ASS RPT 15743
EMPR BC METAL MM00676
EMPR BULL 74
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR GEM 1973-61
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (*Gilbert, G. and Malcolm, D.C. (1958): Rossland Properties -
Geology Report No. 2 (in Le Roi file - 082FSW093))
GSC MAP 1004; 1518; 1090A; 1504A
GSC *MEM 77, pp. 7,31,128,135; 308, pp. 150,155,157,158,176
GSC P 79-26
PERS COMM Andrew, K., March 1991
Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page 1
*Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/15

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW152**

NATIONAL MINERAL INVENTORY:

NAME(S): **CROWN POINT (L.981)**, HIDDEN TREASURE (L.930), SDR

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 03 53 N
LONGITUDE: 117 45 39 W
ELEVATION: 884 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5434929
EASTING: 444423

LOCATION ACCURACY: Within 500M

COMMENTS: Located 3.0 kilometres southeast of Rossland on the east side of Tiger Creek on lower northeast slopes of Baldy Mountain.

COMMODITIES: Gold Copper Silver

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite
ASSOCIATED: Quartz Calcite
ALTERATION: Hornblende
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive
CLASSIFICATION: Hydrothermal Epigenetic Igneous-contact
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION:
COMMENTS: Mineralized vein system, deposit dips to the north and strikes 030 degrees. STRIKE/DIP: 030/

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Basaltic Tuff
Augite Porphyry
Diorite Porphyry
Monzonite
Biotite Hornblende Augite Monzonite
Pulaskite Dike

HOSTROCK COMMENTS: The Monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PLUTONIC ROCKS RELATIONSHIP: Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE:

CAPSULE GEOLOGY

The old workings on the Crown Point and Hidden Treasure claims are located in an area recently mapped as basaltic tuffs of the Rossland Group, Elise Formation (Open File 1991-2). The Lower Jurassic Rossland Group rocks are intruded by the Early Jurassic Rossland monzonite comprised of a biotite-hornblende-augite monzonite stock. The old workings lie within the zone of thermal metamorphism associated with the monzonite intrusion.

The Crown Point ore shoot is reported to occur along the border of a "diorite porphyrite" tongue intrusive into "augite porphyrite" (Geological Survey of Canada Memoir 77, page 163). The diorite porphyrite, later called diorite porphyry, is considered to be an early dyke facies of the Rossland monzonite. The augite porphyrite is probably an augite phyrlic phase of the basaltic tuffs recently mapped in the area. The ore deposit was later crosscut by a north-trending Tertiary pulaskite (syenite) dyke which ranges from 9 to 12 metres in width and hosts disseminated pyrite.

Mineralization consists of massive pyrrhotite and chalcopyrite with pyrite which replaces altered wallrock along a well-defined fracture or fault system. The sulphides occur in a gangue of altered rock with quartz and calcite lenses. The deposit strikes 030 degrees and dips to the north. Mineralization is classed as Rossland-type which is heavy sulphide ore, predominantly pyrite and pyrrhotite with

CAPSULE GEOLOGY

minor chalcopyrite and yields gold and copper.
Between 1905 to 1906, 714 tonnes of ore were mined from which were recovered 9456 grams gold, 6065 grams silver and 3600 kilograms copper.

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EMPR ASS RPT 24, 9827, 10784
EMPR BC METAL MM00654
EMPR BULL 74
EMPR EXPL 1981-129; 1982-51
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (Sulphidic Zoned Gold Skarn Mineralization at Rosslund, B.C.,
Sept. 1989)
GSC MAP 1504A
GSC MEM *77, pp. 161-163
GSC OF 1195
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
GCNL #118,#156, 1988
Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rosslund,
British Columbia, Ph.D. Thesis, University of Wisconsin
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/17

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW153**

NATIONAL MINERAL INVENTORY:

NAME(S): **LILY MAY (L.1052)**, LILLY MAY, RICHMOND

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 03 24 N
LONGITUDE: 117 48 51 W
ELEVATION: 1066 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5434074
EASTING: 440518

LOCATION ACCURACY: Within 500M

COMMENTS: Located 2.0 kilometres south of Rossland on Trail Creek on the original Dewdney Trail (Assessment Report 16751, Map 1).

COMMODITIES: Silver Copper Lead Zinc Gold

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Boulangerite Sphalerite Galena
 Stibnite Pyrite Magnetite
ASSOCIATED: Quartz Carbonate
ALTERATION: Sericite Magnetite
ALTERATION TYPE: Sericitic Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic Skarn
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: STRIKE/DIP: 135/85N TREND/PLUNGE:
COMMENTS: Mineralized vein system. Minor magnetite skarns occur.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Siltstone
 Argillite
 Hornfels
 Monzonite
 Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: The new age date for the Rossland Monzonite is a personal communication from K.P.E. Andrew of the Geological Survey Branch (March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE: Hornfels

CAPSULE GEOLOGY

The Lily May mine is underlain by siltstone and hornfelsic siltstone of the Lower Jurassic Elise Formation, Rossland Group. The occurrence is located 400 metres south of the southern edge of the Early Jurassic Rossland Monzonite and lies within the zone of thermal metamorphism associated with the monzonite intrusive. The grey to black siltstone and argillite grades to hornfels. Ammonites of Early Jurassic age were reported to occur in the siltstone on Ivanhoe Ridge.

Mineralization consists of veins, crosscutting the siltstone, hosting pyrite, pyrrhotite, magnetite, chalcopyrite, sphalerite, galena and minor stibnite. The vein system is considered part of the South belt of mineralization in the Rossland Camp. The ore is composed of fine-grained, disseminated, or crudely banded, massive sulphides in a gangue consisting of thoroughly sericitized rock with carbonate and quartz. The gangue consists mainly of quartz with altered wallrock. The deposit strikes 135 degrees, dipping 85 degrees north. Minor magnetite skarns also occur.

In 1910 and 1935, a total of 37 tonnes of ore were mined from the vein system with the resulting recovery of 124 grams of gold, 18,506 grams of silver, 549 kilograms of copper, 407 kilograms of lead and 578 kilograms zinc.

At the Lily May mine, considerable galena occurs in massive form

CAPSULE GEOLOGY

showing cleavage cubes 0.6 centimetres in diameter. The galena is argentiferous and is associated with the sphalerite, chalcopyrite, pyrrhotite and minor stibnite. Boulangerite occurs in the ore. Also, a small amount of galena occurs as narrow bands and irregular masses interstitial to bladed and tabular crystals of boulangerite.

BIBLIOGRAPHY

EMPR AR 1890-368; 1896-15,17,31,518,559; 1897-537,544; 1898-1096;
1899-599; 1905-172; 1910-116,244; 1913-135; 1921-151; 1935-A28,E21;
1949-155-158
EMPR ASS RPT 24, 34, 9054
EMPR BC METAL MM00678
EMPR BULL *74
EMPR EXPL 1980-59
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1004; 1504A; 1518
GSC MEM 77, pp. 5,77,170
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
PERS COMM Andrew, K., March 1991
*Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/28

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW154**

NATIONAL MINERAL INVENTORY:

NAME(S): **CURLEW (L.1220)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 03 23 N
LONGITUDE: 117 48 02 W
ELEVATION: 975 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5434033
EASTING: 441512

LOCATION ACCURACY: Within 500M

COMMENTS: Located approximately 2.1 kilometres south of Rossland, adjoins the Blue Bird mine (082FSW145). Within a few hundred metres west of Gopher Creek near the power transmission line (Assessment Report 16751, Map 2).

COMMODITIES: Silver Gold Lead Zinc Copper
Antimony

MINERALS

SIGNIFICANT: Galena Sphalerite Arsenopyrite Tetrahedrite Pyrrhotite

Chalcopyrite Boulangerite Stibnite Pyrite

ASSOCIATED: Quartz Carbonate

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER

Lower Jurassic

Rossland

Elise

Rossland Monzonite

Lower Jurassic

ISOTOPIC AGE: 190 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Augite Porphyry Sill
Augite Porphyry
Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: Monzonite dated March 1991 (Andrew, K.P.E., personal communication, March 1991). The augite porphyry sill is known as the Rossland sill.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1896

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

2740.0000

Grams per tonne

Gold

17.0000

Grams per tonne

COMMENTS: These are the highest assays reported for silver and gold.

REFERENCE: Minister of Mines Annual Report 1896, page 31.

CAPSULE GEOLOGY

The Curlew workings are hosted by the Lower Jurassic Rossland Group (Elise Formation) augite porphyry, known as the Rossland sill. The porphyry is dark green with phenocrysts of dark augite which are partly altered to hornblende. The Early Jurassic Rossland monzonite stock intrudes the Rossland Group rocks and the Curlew Crown Grant lies within the zone of thermal metamorphism.

The underground workings were initially centred on an ore vein from 15 to 25 centimetres wide. The ore is reported to be similar to that of the Blue Bird (082FSW145) which consists of quartz veins containing pyrite, sphalerite, galena, arsenopyrite, stibnite, chalcopyrite, pyrrhotite and boulangerite. The ore is reported to have given assays from 10 to 17 grams per tonne gold and from 2400 to 2740

CAPSULE GEOLOGY

grams per tonne silver (Minister of Mines Annual Report 1896, page 31).

In 1908, 6 tonnes of ore were mined from a vein which produced 62 grams of gold and 3,608 grams of silver.

BIBLIOGRAPHY

EMPR AR *1896-17,31; 1897-570; 1899-717; 1908-105,247

EMPR ASS RPT 24, 34, *16751

EMPR BC METAL MM00655

EMPR BULL 74

EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31

EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16

GSC MAP 1090A; 1504A; 1518

GSC MEM 77, p. 163; 308, pp. 150,151,155

GSC OF 1195

GSC P 79-26

ECON GEOL Vol.68, 1973, pp. 1337-1346

PERS COMM Andrew, K., March 1991

Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin

EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/11

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW155**

NATIONAL MINERAL INVENTORY:

NAME(S): **RED EAGLE (L.1615)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 16 N
LONGITUDE: 117 47 49 W

NORTHING: 5433814
EASTING: 441773

ELEVATION: 914 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Situated 2.2 kilometres south of Rossland; adjoins the Mayflower claim to the north (082FSW146). Located on Gopher Creek about 200 metres south of the power transmission line (Assessment Report 16751, Map 2).

COMMODITIES: Silver Lead Copper Zinc

MINERALS

SIGNIFICANT: Pyrrhotite Arsenopyrite Galena Sphalerite Pyrite

Boulangerite

ASSOCIATED: Quartz Carbonate

ALTERATION: Hornblende Epidote Sericite

ALTERATION TYPE: Sericitic Epidote

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Jurassic

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Rossland Monzonite

Lower Jurassic

ISOTOPIC AGE: 190 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Augite Porphyry
Augite Porphyry Sill
Breccia
Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: Monzonite dated March 1991 (Andrew, K.P.E., personal communication, March 1991). The augite porphyry is known as the Rossland sill.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE:

CAPSULE GEOLOGY

The Red Eagle workings are hosted by the Lower Jurassic Rossland Group (Elise Formation) augite porphyry, known as the Rossland sill. The porphyry is dark green with phenocrysts of dark augite which are partly altered to hornblende. The rock is commonly brecciated with preferential epidote alteration. The Early Jurassic Rossland monzonite stock intrudes the Rossland Group rocks and the Red Eagle claim lies within the zone of thermal metamorphism.

The mineralogy of the Red Eagle occurrence has not been reported but mineralization is considered a South Belt-type which typically contains pyrite, pyrrhotite, arsenopyrite, galena, sphalerite and locally, boulangerite in a gangue of sericitized wallrock, quartz and carbonate (Bulletin 74, page 39,40). In 1908 and 1927, 7 tonnes of ore were mined from which was recovered 4,603 grams of silver, 60 kilograms of copper, 381 kilograms of lead and 15 kilograms of zinc.

Refer to the Le Roi deposit (082FSW093) for a summary of the Rossland mining camp.

BIBLIOGRAPHY

EMPR AR 1897-573; 1908-105,247
EMPR ASS RPT 24, 34, 16751, 19601

BIBLIOGRAPHY

EMPR BC METAL MM00695
EMPR BULL *74
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1518; 1090A; 1504A
GSC MEM 77; 308, pp. 134,149
GSC OF 1195
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
PERS COMM Andrew, K., March 1991
WWW <http://www.infomine.com/>
Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/11

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW156**

NATIONAL MINERAL INVENTORY:

NAME(S): **NATURE BOY**

MINING DIVISION: Trail Creek

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 07 N
LONGITUDE: 117 45 16 W
ELEVATION: 900 Metres

NORTHING: 5437210
EASTING: 444913

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located about 3 kilometres east of Rossland, on the Rossland-Trail Highway (Minister Mines Annual Report 1949, page 156).

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Sphalerite Galena

COMMENTS: Based on the reported commodities recovered, the minerals are assumed to be sphalerite and galena.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: The monzonite was dated in March 1991 (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The area of the Nature Boy occurrence is apparently underlain by the Early Jurassic Rossland monzonite, a biotite-hornblende-augite monzonite stock which intrudes the Lower Jurassic Rossland Group, Elise Formation. The monzonite is medium-grained, grey to green in colour and hosts magnetite, apatite, some sphene with chlorite, epidote, and pyrite.

In 1949, 3.6 tonnes of ore were mined from surface stripping from which was recovered 1062.8 grams per tonne silver, 85.3 kilograms lead, and 40.8 kilograms zinc.

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EMPR AR *1949-156
EMPR BC METAL MM00689
EMPR BULL 74
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1504A; 1518
GSC MEM 77
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
PERS COMM Andrew, K., March 1991
Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland, British Columbia, Ph.D. Thesis, University of Wisconsin
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/16

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW157**

NATIONAL MINERAL INVENTORY:

NAME(S): **URAL (L.2944)**, OTTAWA (L.1193), NOBUS,
HOBUS

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 04 09 N
LONGITUDE: 117 44 18 W
ELEVATION: 900 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5435407
EASTING: 446071

LOCATION ACCURACY: Within 500M

COMMENTS: The showing that was rediscovered on the Nobus claim in 1984 is on the west side of Cambridge Creek approximately where the lapsed Ottawa Crown Grant was located. The Ural Crown Grant was located entirely on the east side of Cambridge Creek (Property File - Mineral Reference Map (showing surveyed claims), 1930).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Arsenopyrite Pyrrhotite Pyrite
COMMENTS: Minor lead and zinc were reported.
ALTERATION: Epidote Chlorite
ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Monzonite

HOSTROCK COMMENTS: The monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Rock
COMMODITY: Gold
GRADE: 24.0000 Grams per tonne
COMMENTS: The sample was taken from a "small vein" on the Nobus claim.
REFERENCE: Assessment Report 12644.

CAPSULE GEOLOGY

The area of the Ural occurrence is underlain by monzonite of the Early Jurassic Rossland monzonite. The stock is intrusive into rocks of the Lower Jurassic Elise Formation, Rossland Group which occur just south of the showing. The monzonites have been altered, showing chloritization and epidotization. The rocks are traversed by numerous faults. The major regional fault, Violin Lake Fault, traverses the rocks paralleling Cambridge Creek.

Between 1935 and 1936, 8 tonnes of ore were shipped under the name Ural and 218 grams gold and 311 grams silver were recovered. The nature of the deposit and its ore was not reported.

In 1984, a small vein within an old shaft on the Nobus claim, just west of Cambridge Creek was sampled and assayed 24.0 grams per tonne gold (Assessment Report 12644). The sulphide vein infills a shear and is comprised of arsenopyrite, pyrite and minor pyrrhotite in a gangue of altered host rock. Minor lead and zinc mineralization

CAPSULE GEOLOGY

with some silver and gold was reported. The mineralization is compared to the South belt-type of mineralization in the Rossland Camp which contains pyrite, pyrrhotite, arsenopyrite, sphalerite and galena.

BIBLIOGRAPHY

EMPR AR 1899-847; 1935-A28,E31; 1936-E49
EMPR ASS RPT 25, *12644, 17214, *18310
EMPR BC METAL MM00705
EMPR BULL *74
EMPR EXPL *1984-43
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (Mineral Reference Map, Trail Creek and Nelson Mining
Divisions, 1930)
GSC MAP 1090A; *1504A
GSC OF 1195
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
PERS COMM Andrew, K., March 1991
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/17

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW158**

NATIONAL MINERAL INVENTORY: 082F4 Au1

NAME(S): **CASINO RED CAP**, W.D.

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 04 20 N
LONGITUDE: 117 38 34 W
ELEVATION: 640 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5435683
EASTING: 453054

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the west side of the Columbia River, about 8 kilometres southeast of the city of Trail near Casino Creek.

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Arsenopyrite Galena Sphalerite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic Igneous-contact

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION: STRIKE/DIP: 045/75N

TREND/PLUNGE:

COMMENTS: General strike/dip of a series of mineralized quartz veins.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Lower Jurassic
Eocene
Jurassic

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Sheppard Intrusion
Nelson Intrusions

LITHOLOGY: Granodiorite
Sediment/Sedimentary
Quartz Diorite
Rhyolite Dike
Volcanic
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks

RELATIONSHIP: Syn-mineralization
Post-mineralization

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE:

CAPSULE GEOLOGY

The area of the Casino Red Cap occurrence is underlain by Lower Jurassic Rossland Group, Elise Formation rocks comprised of altered volcanics and sediments. Intruding the strata are a mass of the Middle to Late Jurassic Nelson Intrusions comprised of granodiorite to quartz diorite and a granitic stock of the Middle Eocene Sheppard Intrusion.

Mineralization occurs in a series of narrow quartz veins along the north dipping contact of the Nelson granodioritic stock and the Rossland sediments to the southeast. The veins have a general north-east strike and dip steeply to the northwest, ranging in widths which average about 35.6 centimetres. Mineralization consists of galena, sphalerite, pyrite and arsenopyrite in a gangue of quartz. The arsenopyrite is auriferous and gold assays from the arsenopyrite range up to 102.9 grams per tonne gold. A total of 5,514 tonnes of ore were mined between 1951 to 1965, and produced: 81,334 grams gold, 23,949 grams silver, 6,009 kilograms lead and 5,982 kilograms zinc.

Mineralized quartz is for the most part confined to the Rossland Group rocks adjacent to the contact. However, some quartz was noted in fractures in the intrusive. Numerous north striking rhyolite dykes were mapped on the surface and underground.

This property is located on the west side of the Columbia River near Casino Creek, about 8 kilometres southeast of Trail.

In 1951 the Casino Red Cap claim was owned by T.P. Voiken & Associates of Trail. The showing was developed by an open cut 2 metres long and 2 metres deep. A crosscut adit, collared 12 metres below the outcrop, was being driven towards the vein.

Nothing more was done with the property until 1957 when Messrs.

CAPSULE GEOLOGY

Wells and Donnelly began development work on a part-time basis. Two drifts 61 metres long and 8 metres apart in elevation were driven on the near vertical vein. A stope 46 metres long and 2 metres wide was mined between the levels. A small amount of cross-cutting was done on the lower level.

In 1961 the W.D. Mining Co. Ltd., consisting of 5 men with equal shares, operated the mine on a part-time basis. During the year 108 metres of diamond drilling was completed.

Casino Gold Mines Ltd. held an option on the property from June to September 1962. A geological survey was made and some development work done on No. 1 level; diamond drilling in 5 holes was done from No. 1 level. The property was then bought by Messrs. Donnelly, Pompu and Ernewin and in October stoping was begun above No. 1 level. During the first half of 1963 about 30 metres of crosscut and 23 metres of raise was completed; stoping was done on No. 1 vein between No. 1 and No. 3 levels.

Columbia River Mines Ltd. was formed in November 1963 to acquire the property and assets of W.D. Mining Co. In 1964 a development program consisting of 625 metres of drifts, raises, and sub-levels was begun on Nos. 1, 2 and 3 veins.

BIBLIOGRAPHY

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1962-71; 1963-69; 1965-178
EMPR BC METAL MM00709
EMPR BULL 74
EMPR EXPL 1980-58,59
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMR MP CORPFILE (Columbia River Mines Ltd.; Ainsworth Resources Ltd.)
GSC MAP 1090A; 1091A; 1504A
GSC MEM 77; 308
GSC P 62-5; 79-26
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/26

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW159**

NATIONAL MINERAL INVENTORY:

NAME(S): **COLUMBIA**, WANETA

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 20 N
LONGITUDE: 117 36 44 W
ELEVATION: 475 Metres

NORTHING: 5428254
EASTING: 455226

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located near Waneta (Minister of Mines Annual Report 1937, page E49).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Unknown mineralogy.
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>
Lower Jurassic	Rossland	Elise	

LITHOLOGY: Volcanic
Sediment/Sedimentary

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Columbia claim at Waneta "produced" 0.9 tonnes of material which yielded 31 grams of gold, and 93 grams of silver (Minister of Mines Annual Report 1937, page E49). The area is underlain by volcanic and/or sedimentary rocks of the Lower Jurassic Elise Formation, Rossland Group.

No further information is available.

BIBLIOGRAPHY

EMPR AR *1937-E49
EMPR BC METAL MM00653
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1090A; 1091A; 1504A
GSC MEM 308
GSC OF 1195
GSC P 79-26
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/17

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW160**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUNSET (L.6563)**, PAT 1-20, LONE STAR (L.4675),
MOUNTAIN TRAIL (L.4078), NEW SUNSET

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:
LATITUDE: 49 00 15 N
LONGITUDE: 117 50 24 W
ELEVATION: 792 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located along the westside of Little Sheep Creek on the lower eastern slopes of Mt. Sophia; along the Canada-U.S.A. International boundary.

Underground
MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)
NORTHING: 5428259
EASTING: 438566

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
MODIFIER: Fractured
DIMENSION: STRIKE/DIP: 090/80 TREND/PLUNGE:
COMMENTS: Mineralized lenses occur in east-west striking, steeply dipping fractures.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian	Undefined Group	Mount Roberts	
Lower Jurassic	Rossland	Elise	
Eocene			Sheppard Intrusion

LITHOLOGY: Limestone
Granite
Siltstone
Andesite
Tuff
Breccia
Argillite
Greywacke

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
Syn-mineralization
Post-mineralization
GRADE:

CAPSULE GEOLOGY

The Sunset Crown grant is underlain by the Pennsylvanian to Permian Mount Roberts Formation comprised of interbedded siltstone, argillite, greywacke and limestone units which strike 038 degrees and dip 40 degrees north. These are overlain by rocks of the Lower Jurassic Elise Formation (Rossland Group) comprised of black siltstone, andesitic flows, tuffs, and breccia. The formations are intruded by a Middle Eocene Sheppard leucocratic granite intrusion.

The occurrence consists of discontinuous veins or lenses of quartz which host argentiferous galena, sphalerite, chalcopyrite and minor pyrite in the metasediments of the Mount Roberts Formation. The lenses occur in steeply dipping fractures which strike east-west and vary in width from several centimetres to a few metres. Mineralized intersections occur in shear zones near or within the margins of the granitic intrusive and limestone contact. Hematite in ore from the New Sunset is partially replaced by magnetite.

In 5 years between 1898 and 1964 the mine produced a total 43 tonnes from which 4,448 grams of silver, 373 grams of gold, 1,420 kilograms of lead, 1,940 kilograms of zinc and 99 kilograms of copper were recovered.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1356
REPORT: RGEN0100

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GSC MAP 1090A; 1091A; *1504A
GSC MEM 308, pp. 120,132
GSC P *79-26
Thorpe, R.I. (1967): *Controls of Hypogene Sulphide Zoning,
Rossland, British Columbia, Ph.D. Thesis, University of
Wisconsin
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/25

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW161**

NATIONAL MINERAL INVENTORY: 082F4 Pb1

NAME(S): **DOUGLAS (L.2865)**, DOUGLAS HUNTER

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 00 12 N
LONGITUDE: 117 54 59 W
ELEVATION: 1237 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5428231
EASTING: 432978

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the west side of Mount Sophia, adjacent to the Canada-U.S.A. International boundary, approximately 1.4 kilometres south of the Velvet mine (082FSW162).

COMMODITIES: Silver Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
MODIFIER: Fractured
DIMENSION: 3 Metres STRIKE/DIP: 120/70E TREND/PLUNGE:
COMMENTS: Mineralized shear zone approximately 3.0 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous Eocene	Undefined Group	Sophie Mountain	Coryell Intrusions

ISOTOPIC AGE: 51.7 +/- 5 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Conglomerate
Porphyritic Syenite
Siltstone
Argillite
Dike
Sandstone
Lamprophyre Dike

HOSTROCK COMMENTS: Syenite dyke age date from Geological Survey of Canada Paper 87-2.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PLUTONIC ROCKS RELATIONSHIP: Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE:

CAPSULE GEOLOGY

The Douglas Crown-granted claim is located on the west side of Mount Sophia adjacent to the International Boundary and about 1.6 kilometres south of the Velvet mine from which it is accessible by road.

The earliest development of the Mine was in 1900 and 1901 when some 240 metres of tunnelling was done. No further activity was reported until the period from 1948 to 1950 when the Present owners did some development work and made a small shipment of ore.

The workings consist of 3 adits at elevations of approximately 1204, 1237 and 1274 metres. In 1949, when the property was examined by Little, the middle adit was caved and the upper adit accessible for only a short distance.

The Douglas Crown grant is underlain by coarse conglomerate of the Upper Cretaceous Sophie Mountain Formation in which lenticular beds of coarse-grained faintly stratified sandstone and argillite strike 340 degrees and dip 70 degrees northeast. The conglomerate is cut by several dykes of the Middle Eocene Coryell Intrusions comprised of pink to greenish porphyritic syenite as well as sheared lamprophyre dykes exposed in the underground workings.

CAPSULE GEOLOGY

A shear zone, striking 120 degrees and dipping 70 degrees northeast, exists along the contact between the conglomerate and syenite. The shear zone is approximately 3.0 metres wide and hosts individual mineralized lenses and veins of quartz ranging up to 0.3 metre in width. They occur in irregular intervals along the lower tunnel of the 230-metre long underground workings. The quartz veins are locally fractured, and the fractures filled with altered wallrock. Pyrite is the most abundant mineral with occasional concentrations of galena, sphalerite and chalcopyrite.

In 1948 and 1950, a total of 9 tonnes of quartz-rich ore was shipped and produced 591 grams silver, 592 kilograms lead, and 479 kilograms zinc.

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EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1090A; 1091A; *1504A
GSC MEM 308, pp. 120,125
GSC P 79-26; *87-2, pp. 13-20
GSC SUM RPT 1900-13A, p. 75
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/22

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW162**

NATIONAL MINERAL INVENTORY: 082F4 Cu1

NAME(S): **VELVET (L.2521)**, PORTLAND (L.2523), VELVET-PORTLAND

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 00 45 N
LONGITUDE: 117 54 54 W
ELEVATION: 1100 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5429249
EASTING: 433092

LOCATION ACCURACY: Within 500M

COMMENTS: Lies on the northwest slope of Mount Sophia, about 12.8 kilometres directly southwest of Rossland and 1.6 kilometres north of the Canada-U.S.A. International boundary.

COMMODITIES: Copper Molybdenum Gold Tungsten Silver Lead Zinc

MINERALS

SIGNIFICANT: Chalcopyrite Specularite Pyrite Molybdenite Scheelite
Galena Sphalerite
ASSOCIATED: Quartz Calcite Scheelite
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I02 Intrusion-related Au pyrrhotite veins
DIMENSION: Metres STRIKE/DIP: 360/75W TREND/PLUNGE:
COMMENTS: The main Velvet vein with 4 other parallel mineralized veins.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene			Coryell Intrusions
	ISOTOPIC AGE: 51.7 +/- 0.5 Ma		
	DATING METHOD: Uranium/Lead		
Paleozoic	MATERIAL DATED: Zircon		Ultramafic Intrusions

LITHOLOGY: Dike
Porphyritic Syenite
Serpentinite
Granodiorite

HOSTROCK COMMENTS: Syenite dyke age date from Geological Survey of Canada Paper 87-2.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Syn-mineralization
GRADE:

CAPSULE GEOLOGY

The Velvet occurrence is underlain by Paleozoic serpentinite which forms a huge roof pendant surrounded by syenite of the Middle Eocene Coryell Intrusions. Within the serpentinite are large xenoliths of Rossland Group volcanic rocks, particularly on the Portland claim. The rocks within the pendant are cut by dykes up to 6.0 metres wide, commonly of porphyritic syenite and of medium-grained granodiorite. These dykes are related to the Coryell and Middle to Late Jurassic Nelson intrusions respectively, and in general are parallel with the main shears.

The origin of the copper, gold, silver veins at the Velvet Mine is not well understood. They may be mesothermal structures related to middle Jurassic thrust faults marginal to ophiolitic lithologies; it may be a skarn; it may be that the veins are related to the Middle Eocene Coryell Intrusions (EMPR Bulletin 109, page 48).

The mineralization occurs in replacement veins that strike north and dip steeply to the west. Besides the main or Velvet vein, four other veins are known to exist in its footwall some 18, 40, 58 and 98 metres to the east, respectively. A few small, relatively short east-west striking veins cut the main vein. Ore shoots occur at intersections of the main vein with crosscutting dykes or faults. Mineralization includes specularite, pyrite, chalcopyrite and malachite in a gangue of quartz and calcite. Molybdenite also occurs

CAPSULE GEOLOGY

locally in a gangue of quartz and altered wallrock. Chalcopyrite mineralization is described as typically massive where it occurs along the walls of the ore shoots. Small amounts of scheelite have been seen in the dump and underground workings. As well, lead and zinc were recovered from minor occurrences of galena and sphalerite.

From 1901 to 1964, 88,833 tonnes of ore produced 620,785 grams gold, 664,359 grams silver, 1,154,104 kilograms copper, 37 kilograms lead, and 25 kilograms zinc. In 1982, it was reported that 907 tonnes of ore grading 5.4 grams per tonne gold with other commodities was shipped to the HB mill (082FSW004) of David Minerals Ltd.

The Velvet and Portland Crown-granted claims and several others held by record lie on the northwest slope of Mount Sophia at about 1097 metres elevation. The mine is about 13 kilometres directly southwest of Rossland and 2 kilometres north of the International Boundary.

In April 1896 J. Cromie located the Portland claim and in September of the same year O. Geldness located the Velvet. The two claims were developed separately until 1904. The Velvet claim was acquired in 1897 by Velvet Mines Ltd. and they carried on development work until Velvet-Portland Mines Ltd. was formed in 1904 to acquire both properties. The mine was operated intermittently by the company or by leasers until it was closed in 1916. Granby Consolidated Mining, Smelting & Producing Co. examined the workings in 1918 and subsequently relinquished their option.

Rossland-Velvet Mines Ltd. took over the property in 1920 and intermittent work was carried on by the company or by leasers until 1928 when the mine closed. Velvet Gold Mining Co. Ltd., formed in the fall of 1932 reopened the mine and operated it intermittently until the fall of 1937.

Velgo Mining Incorporated took over the property in 1938 and later in the year leased it to R. Bielli & Associates who subsequently formed the Velvet Leasing Syndicate; the syndicate name was changed in 1941 to Velvet Gold Leasers. The leasers operated until 1942 when the mine was closed. The mine remained closed until 1952 except for a brief period in 1946 when Velvet Gold-Copper Mines Incorporated acquired the property and leased it to J. Coryell, Jr. A diamond drilling program was carried out at this time consisting of 7 holes totalling 438 metres from No. 8 level and 4 holes totalling 172 metres from the surface.

In 1952 the property was acquired by Messrs. Kenward and Sweet. Leasers began mining operations and in 1953 built a small mill. Mid-West Copper & Uranium Mines Ltd. acquired the property in 1955 and intermittent operations were carried on by the company or by leasers. A new mill was built and put into operation in 1956. In October 1964 the company was reorganized under the name Mid-West Mines Ltd. The property is developed by a vertical shaft serving 6 levels, of which No. 4 and No. 6 are accessible from the surface by adits. A 527-metre long adit on No. 8 level is connected to No. 6 level by a raise. Around 1978, Velvet Exploration Co. Ltd. (formerly Kendal Mining and Exploration Company Limited) acquired the mine. In 1980, they carried out 914.4 metres of drilling of which 244 metres was diamond drilling, the rest was percussion. In August 1982 it was reported that 1,000 tons grading 5.48 grams per tonne gold and other commodities were shipped to the H.B. mill of David Minerals Ltd. in Salmo.

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- EMPR BC METAL MM00706
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- EMPR EXPL 1978-E52
- EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
- EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16; 1991-17
- EMR MP CORPFILE (Velvet Gold Mining Co. of Seattle Inc.; Mid-West Mines Ltd.; Velvet Exploration Co. Ltd.)
- GSC EC GEOL #17, p. 98; #20, pp. 288,289
- GSC MAP 1090A; 1091A; *1504A
- GSC MEM 77, pp. 78,90,154-158; 308, p. 181
- GSC P 79-26; *87-2, pp. 13-20
- CANMET IR 617 #185, pp. 8-12 (1923)

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1361
REPORT: RGEN0100

BIBLIOGRAPHY

GCNL #67,#197,#211,#230, 1981; #53,#99,#150, 1982; #134, 1983
N MINER Nov.20, 1980; Apr.30,Oct.8,Dec.3, 1981

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/22

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW163**

NATIONAL MINERAL INVENTORY:

NAME(S): **LORD ROBERTS**, BADDEN POWELL, SIR DOUGLAS HAIG,
ROY

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 12 20 N
LONGITUDE: 117 46 44 W
ELEVATION: 1630 Metres

NORTHING: 5450599
EASTING: 443265

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 13.0 kilometres north of Trail on the rounded summit of the divide between Murphy and Sullivan creeks. (Not to be confused with the Lord Roberts (L. 12606) of the Union mine 082FSW164).

COMMODITIES: Magnetite Iron Copper Silver Bismuth

MINERALS

SIGNIFICANT: Magnetite Pyrrhotite Pyrite Chalcopyrite
COMMENTS: Possible bismuthinite.
ASSOCIATED: Hornblende Feldspar Quartz
ALTERATION: Garnet Epidote Feldspar
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated
CLASSIFICATION: Igneous-contact Skarn Industrial Min.
TYPE: K03 Fe skarn K01 Cu skarn
DIMENSION: 10 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Massive magnetite is up to 10 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Pennsylvan.-Permian Jurassic	Undefined Group	Mount Roberts	Nelson Intrusions

LITHOLOGY: Siltstone
Quartzite
Limestone
Slate
Pebble Conglomerate
Greywacke
Granodiorite
Quartz Diorite
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1920
SAMPLE TYPE: Rock
COMMODITY GRADE
Iron 54.0000 Per cent

COMMENTS: A sample of the best grade of magnetite assayed 54 per cent iron and 2.69 per cent sulphur.

REFERENCE: Minister of Mines Annual Report 1920.

CAPSULE GEOLOGY

On the Lord Roberts prospect a number of shallow open cuts have exposed a body of magnetite which varies in grade and apparently follows the somewhat irregular contact between rocks of the Middle to Late Jurassic Nelson Intrusions and sediments of the Pennsylvanian to Permian Mount Roberts Formation. The Mount Roberts Formation rocks consist of interbedded siltstone, quartzite, greywacke, slate, pebble conglomerate and limestone. They are intruded by a stock comprised of granodiorite to quartz diorite.

The massive blue-grey magnetite (occurring on the Lord Roberts

CAPSULE GEOLOGY

claim) ranges up to about 10 metres in width and hosts disseminated pyrite, pyrrhotite and chalcopyrite. In 1920, a sample of the best grade of magnetite assayed: iron, 54 per cent; phosphorus, nil; and sulphur, 2.69 per cent (Minister of Mines Annual Report 1920, page 137). A sample of the magnetite with disseminated chalcopyrite and pyrrhotite was assayed for copper, and gave negative results. Hornblende, epidote, garnet, feldspar and quartz were detected in the bluish magnetite. Magnetite and pyrite are abundant near the footwall and pyrrhotite and chalcopyrite near the hanging wall. In the lowest shaft, exposed magnetite hosts pyrrhotite, pyrite, bismuthinite(?) and chalcopyrite in a quartz-hornblende-feldspar gangue.

In 1924, 7 tonnes of ore were shipped which produced 187 grams of silver and 22 kilograms of copper.

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1518; 1091A; *1504A
GSC MEM 77, pp. 158,159; 308, pp. 176-178
GSC OF 1195
GSC P 79-26
GSC SUM RPT *1906, p. 62
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/01/31

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

shear zone. Small tonnages were shipped in 1937, 1946, and 1952 for a total of 31.74 tonnes containing approximately 187 grams gold, 37.9 kilograms silver, 4.8 kilograms lead, and 2558 kilograms zinc.

In 1967, Thorpe examined the mineralogy of the outer zone deposits in the Rossland area. The Union mine is considered part of the outer zone of mineralization and hosts arsenopyrite, pyrite, sphalerite and galena. Additional minerals in this deposit include boulangerite, ruby silver and native bismuth.

In 1983, samples were collected from the old Union workings. A sample of quartzite hosting disseminated galena was taken from pyritic mineralization along a north trending carbonaceous shear that contains epidote and rich quartz veining. The sample assayed 3.22 grams per tonne gold, 1310.0 grams per tonne silver, 6.0 per cent lead, 13.2 per cent zinc, and 0.11 per cent copper (Assessment Report 11618).

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EMPR BC METAL MM00704
EMPR BULL 74
EMPR EXPL *1983-63; *1986-C51
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1518; 1090A; 1091A; 1504A
GSC MEM 77; 308, pp. 120,132
GSC OF 1195
GSC P 79-26
IPDM May/June 1984
*Thorpe, R.I. (1967) Controls of Hypogene Sulphide Zoning, Rossland,
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/20

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW165**

NATIONAL MINERAL INVENTORY:

NAME(S): **NEST EGG (L.1048)**

MINING DIVISION: Trail Creek

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 01 N
LONGITUDE: 117 48 10 W
ELEVATION: 945 Metres

NORTHING: 5435208
EASTING: 441362

LOCATION ACCURACY: Within 500M

COMMENTS: Located south of the town of Rossland on the lower eastern slopes of Deer Park Hill.

COMMODITIES: Gold Copper Silver

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite Arsenopyrite Hematite

Magnetite

ASSOCIATED: Quartz Carbonate
ALTERATION: Epidote Chlorite Pyrite Apatite Magnetite
 Hematite
 Sphene

ALTERATION TYPE: Propylitic
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: Monzonite dated March 1991 (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Nest Egg showing is considered to be Rossland-type mineralization, with sulphides infilling well-defined fractures and faults in the Early Jurassic Rossland monzonite. The host rock is comprised of a biotite-hornblende-augite monzonite stock which is medium-grained, grey to green in colour and hosts magnetite, apatite, some sphene with chlorite, epidote, pyrite and pyrrhotite.

The showing is a vein which strikes east-west and hosts pyrite, pyrrhotite and chalcopyrite with quartz-carbonate gangue. Over 72 tonnes of ore containing values in copper and gold were shipped from the Nest Egg in 1907, 1908 and 1934. Values in silver are also reported.

Samples taken as part of Ph.D. thesis were reported to contain only arsenopyrite, hematite, pyrite and appreciable magnetite (Thorpe, 1967, pages 18 and 32).

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EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1518; 1504A
GSC MEM 77

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1367
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR BULL 109

DATE CODED: 1987/09/16
DATE REVISED: 1991/06/18

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW166**

NATIONAL MINERAL INVENTORY:

NAME(S): **VENUS (L.4293)**, JUNO (L.3161)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 27 17 N
LONGITUDE: 117 19 50 W
ELEVATION: 1670 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Near the centre of the Venus - Juno claims boundary (Assessment Report 13118).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5478060
EASTING: 476043

COMMODITIES: Gold Silver Lead Copper Zinc

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Faulted Sheared
DIMENSION: 200 x 100 Metres
COMMENTS: The Juno vein, at right angles to the Venus vein.
STRIKE/DIP: 060/50N
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Schistose Volcanic
Augite Basalt Flow
Flow Breccia
Granodiorite
Basic Dike
Sub Volcanic Intrusive

HOSTROCK COMMENTS: Unit Je4 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE: Greenschist

CAPSULE GEOLOGY

The Venus and Juno mines are located 4.4 kilometres southwest of Nelson. The two mines combined produced 5411 tonnes in the early 1900's and again in the 1930's. All workings, except the Juno adit, are caved in.

The area is underlain by augite basalt flows, flow breccias and subvolcanic intrusions of the Lower Jurassic Elise Formation (unit Je4), Rossland Group. These have been intruded by granodiorite of the Middle to Late Jurassic Nelson Intrusions. Veins, and stringers up to 1 metre wide, occupy shear zones in schistose volcanics and granodiorite.

The Venus vein strikes 320 to 335 degrees, dips 20 to 50 degrees north and is hosted in both volcanic rocks and granodiorite. The vein, associated with a basic dyke in the lowest adit, has not been traced beyond a fault or downdip from the lowest workings. The vein closely follows the granite-schistose volcanics contact.

The Juno vein, hosted in schistose volcanics, strikes 060 degrees and dips 55 to 60 degrees north, almost at right angles to the Venus vein. The vein was not explored for more than 200 metres on strike or 100 metres downdip.

The veins comprise quartz mineralized with pyrite and minor galena and sphalerite. The veins vary from a few centimetres to over 1 metre in width and locally occur as a number of quartz stringers in sheared host rock. The records indicate the veins tend to be less definite away from the granite contact and the schists become more faulted and brecciated. The two veins should intersect but the junction has not been located in any of the workings.

CAPSULE GEOLOGY

Production records indicate an average grade of 19.8 grams per tonne gold and 17.7 grams per tonne silver, with minor copper and lead reported.

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/28

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW167**

NATIONAL MINERAL INVENTORY:

NAME(S): **SDR, GEM (L.984), TIGRE,
R. LEE (L.1187), MAMOTH (L.985)**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 53 N
LONGITUDE: 117 46 04 W
ELEVATION: 944 Metres

NORTHING: 5434935
EASTING: 443916

LOCATION ACCURACY: Within 500M

COMMENTS: Located approximately 2.7 kilometres east of Rossland on the west side of Tiger Creek on the lower slopes of Baldy Mountain.

COMMODITIES: Gold Copper Magnetite Zinc Silver

MINERALS

SIGNIFICANT: Magnetite Arsenopyrite Pyrite Pyrrhotite Chalcopyrite
ASSOCIATED: Quartz Epidote
ALTERATION: Epidote Magnetite Calcite Hornblende Garnet
 Muscovite Graphite Silica
ALTERATION TYPE: Skarn Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Podiform Vein
CLASSIFICATION: Skarn Igneous-contact
TYPE: K04 Au skarn K03 Fe skarn
 K01 Cu skarn I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Argillaceous Siltstone
Monzonite
Volcanic Rock

HOSTROCK COMMENTS: Monzonite dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE: Hornfels

CAPSULE GEOLOGY

The SDR showings are located just south of the contact between the Lower Jurassic Rossland Group (Elise Formation) volcanics and the Early Jurassic Rossland monzonite stock. The Elise Formation in this area has recently been mapped as argillaceous siltstone (Unit Je10a, Open File 1991-2).

A zone about 150 metres by 150 metres contains rocks that have been contact metamorphosed and host abundant magnetite and epidote. A sample taken in 1947 across 46 centimetres of "magnetite vein" assayed 1.37 grams per tonne gold, 0.27 per cent zinc and trace silver and lead (Assessment Report 24, Sheet 2). In 1981, a grab sample taken from the highly altered rock assayed 1.03 grams per tonne gold, 1.03 grams per tonne silver, 0.16 per cent copper, 0.01 per cent lead and less than 0.01 per cent zinc (Assessment Report 9827). Associated with the contact zone is a highly siliceous zone which hosts quartz veinlets with chalcopyrite and arsenopyrite.

In 1988, the zone was trenched in an east direction for about 75 metres. Within the trenched area, the mineralization consists of a central core of massive arsenopyrite, flanked by a much broader zone of massive magnetite, pyrite, pyrrhotite and minor chalcopyrite. Alteration minerals observed here were epidote, calcite, hornblende, garnet, muscovite, and graphite. One trench sample site exhibiting strong silicification assayed 17.62 grams per tonne gold across 2 metres.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1371
REPORT: RGEN0100

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DATE CODED: 1987/09/18
DATE REVISED: 1991/04/15

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 082FSW167

CAPSULE GEOLOGY

kilometres southwest of Nelson. The vein was initially discovered in 1896.

The area is underlain by schistose augite basalt flows and flow breccias of the Lower Jurassic Elise Formation (unit Je4) of the Rossland Group, these are in contact with a granodiorite stock of the Middle to Late Jurassic Nelson Intrusions and have been intruded by feldspar porphyry of the Jurassic Silver King Intrusions.

The Athabasca vein strikes at 045 degrees with a 30 to 50 degree northwest dip. The vein is hosted within granodiorite and tends to flatten as it traverses the schistose volcanics to the south. The vein comprises quartz gangue mineralized with pyrite, some galena, sphalerite and free gold. The gold occurs as 80 per cent free gold and 20 per cent is associated with sphalerite. The vein is a few centimetres to about 1.5 metres wide, averaging about 0.3 metres.

The workings were developed where the vein crosses the granodiorite-volcanic fault contact. Pervasive shearing and faulting have offset and displaced portions of the vein. Scheelite occurs near the lithologic contact.

An enrichment of metal values occurs within the schistose volcanics at the granodiorite contact. The flatter sections of the vein, in the schist, were productive but here the vein is highly faulted and folded with dykes common on the planes of the normal faults.

A weighted average of 27 samples taken in 1988 was 22.29 grams per tonne gold (Assessment Report 17184). Up to 18,144 tonnes of material grading 8.579 grams per tonne gold may exist at the old mill site (Assessment Report 17184).

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DATE CODED: 1985/07/24
DATE REVISED: 1991/03/25

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW169**

NATIONAL MINERAL INVENTORY:

NAME(S): **CALIFORNIA (L.1677)**, DEADWOOD (L.2232), UNION (L.8324),
CABIN, EXCHEQUER (L.391), CREEK,
HILLSIDE (L.2238), CLIFF FR. (L.15029), CLEOPATRA (L.387),
CAL 3-6, CAL 8

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 27 13 N
LONGITUDE: 117 17 47 W
ELEVATION: 1160 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 1677 (NTS Map 082F06).

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5477926

EASTING: 478519

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Gold Galena Sphalerite Chalcopyrite
COMMENTS: Only minor amounts of base metal sulphides. Possibly tetrahedrite.
ASSOCIATED: Quartz
ALTERATION: Carbonate Pyrite
ALTERATION TYPE: Carbonate Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
SHAPE: Irregular
MODIFIER: Faulted Sheared
DIMENSION: 30 x 1 Metres STRIKE/DIP: 090/47S TREND/PLUNGE:
COMMENTS: The shear zone is 30 metres wide and hosts a vein up to 1 metre wide.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions
Jurassic			Silver King Porphyry

LITHOLOGY: Augite Basalt
Tuff
Altered Volcanic Rock
Granodiorite
Quartz Monzonite
Flow Breccia
Plagioclase Porphyry

HOSTROCK COMMENTS: Unit Je1 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
Plutonic Rocks
RELATIONSHIP: Pre-mineralization
GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Channel
COMMODITY Gold GRADE 73.0500 Grams per tonne
COMMENTS: Sample (CAFS-2) of California veins from No. 2 level.
REFERENCE: Property File - Christina Explorations Ltd., Prospectus, May 12, 1988.

ORE ZONE: CALIFORNIA REPORT ON: Y
CATEGORY: Inferred YEAR: 1982
QUANTITY: 36000 Tonnes
COMMODITY Gold GRADE 29.1400 Grams per tonne
COMMENTS: At the west end of the No. 3 level. A potential tonnage of an ore
block 91 metres long over 1 metre width.
REFERENCE: Assessment Report 11027.

CAPSULE GEOLOGY

The California deposit is located 4 kilometres south of Nelson. The vein has been developed on 3 levels by 650 metres of drifts, producing 1,462 tonnes from 1910 to 1949.

The area is underlain by schistose volcanics comprising augite basalt flows and flow breccias of the Lower Jurassic Elise Formation, Rossland Group. These have been intruded by plagioclase porphyry of the Jurassic Silver King Intrusions and granodiorite and quartz monzonite of the Middle to Late Jurassic Nelson Intrusions.

The California occurrence comprises the California vein, the Deadwood vein, the Union vein, the Creek showing, the Cabin vein and the Exchequer vein.

The California vein is hosted in andesite near the granodiorite contact in a shear zone which strikes east and dips 45 to 50 degrees south. The shear zone is up to 30 metres wide and hosts two parallel quartz veins with graphitic andesite between them. The vein on the hanging wall, 0.5 to 1.0 metre wide, contains the best sulphide mineralization and the footwall vein, rarely more than 0.3 metre wide, hosts higher gold values. The veins touch or can be separated by up to 2 metres of altered rock. Mineralization consists of quartz gangue containing significant pyrite with some galena, sphalerite, and free gold. The quartz veins are strongly sheared with graphitic material on fracture and shear planes. The contacts with the country rocks are heavily slickensided. Some enrichment of metal values was observed where normal faults crosscut the vein-shear zone. Faulting, with movement of up to 1.2 metres, has been observed in the workings. A channel sample taken (CAFS-2) from level No. 2, in 1987, across parallel well mineralized quartz veins, 5 to 15 centimetres wide, and hosting sphalerite, chalcopyrite and possibly tetrahedrite in narrow bands and as patches or disseminated grains assayed 73.05 grams per tonne gold (Property File - Christina Explorations Ltd., Prospectus, May 12, 1988). An ore block, 91 metres long grading 29.14 grams per tonne gold over a 1 metre width, is believed to exist at the west end of the No. 3 level. A potential tonnage of 36,000 tonnes has been calculated for this zone (Assessment Report 11027).

The parallel Deadwood vein, which outcrops to the southeast of the California vein, comprises a zone of numerous quartz stringers and veinlets hosted in a shear zone. The zone is approximately 75 metres wide in pyritized and carbonate altered tuffaceous volcanics. Reports indicate significant but erratic gold values were present.

The Union vein, several hundred metres north of California vein, is hosted in granodiorite. The vein dips at 15 degrees toward the volcanic contact and appears to be a tension feature. The vein, 0.3 to 0.8 metre wide, consists of white quartz hosting sparsely disseminated pyrite and sphalerite, similar to the California vein. Samples from the stope area have assayed up to 13 grams per tonne gold and 222.82 grams per tonne silver over a 0.3 metre width (Property File - Christina Explorations Ltd., Prospectus, May 12, 1988). Samples taken in 1987 assayed between 0.41 to 4.5 grams per tonne gold with minor silver values (Property File - Christina Explorations Ltd., Prospectus, May 12, 1988).

The Cabin vein, Exchequer vein and Creek showing occur roughly along strike of the California vein. Sampling of the Cabin vein, 300 metres east of the California vein, assayed 8.98 to 26.43 grams per tonne gold across 1 metre (Property File - Christina Explorations Ltd., Prospectus, May 12, 1988). Sampling of the Exchequer vein, 50 metres west of workings, assayed up to 53.58 grams per tonne gold (1988). The Creek showing, 400 metres east of the California vein, assayed 2.88 grams per tonne gold and 375.02 grams per tonne silver across 1.3 metres (Assessment Report 11027).

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Placer Dome File
EMPR BULL 109

DATE CODED: 1985/07/24
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REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW170**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHAMROCK (L.2234)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 26 50 N
LONGITUDE: 117 18 59 W
ELEVATION: 1300 Metres

NORTHING: 5477221
EASTING: 477066

LOCATION ACCURACY: Within 1 KM

COMMENTS: The exact location, other than Lot 2234, is uncertain, there is no data available (Open File 1989-11).

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Unknown
COMMENTS: No information available.
ASSOCIATED: Unknown
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>
Lower Jurassic Jurassic	Rossland	Elise	Silver King Porphyry

LITHOLOGY: Plagioclase Porphyry
Augite Basalt Flow
Flow Breccia
Sub Volcanic Intrusive

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Shamrock occurrence is located approximately 5 kilometres southwest of Nelson. Minor production has been reported for this claim.

The area is underlain by augite basalt flows, breccia flows and subvolcanic intrusions of the Lower Jurassic Elise Formation, Rossland Group. These have been intruded by plagioclase porphyry of the Late (?) to Middle Jurassic Silver King Porphyry.

No geological description is available but a total of 7.7 tonnes of ore grade material was shipped in 1937 and 1948, which yielded some silver, lead, zinc, and minor gold. This occurrence is likely similar in setting to the Silver King deposit (082FSW176).

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ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/28

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW171**

NATIONAL MINERAL INVENTORY:

NAME(S): **IRENE (L.4151)**, GREAT WESTERN, ABERDEEN

STATUS: Past Producer Open Pit

MINING DIVISION: Nelson

REGIONS: British Columbia

UTM ZONE: 11 (NAD 83)

NTS MAP: 082F06W

BC MAP:

LATITUDE: 49 26 18 N

NORTHING: 5476229

LONGITUDE: 117 18 09 W

EASTING: 478069

ELEVATION: 1650 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Lot 4151 (NTS Map 082F06W).

COMMODITIES: Gold

Silver

MINERALS

SIGNIFICANT: Unknown

COMMENTS: No information available.

ASSOCIATED: Unknown

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

COMMENTS: No descriptions available.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Silver King Porphyry

LITHOLOGY: Plagioclase Porphyry
Augite Basalt Flow
Flow Breccia
Sub Volcanic Intrusive

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Irene occurrence is located 5.5 kilometres south of Nelson. Minor production is recorded from this claim. The claim is now part of the Great Western group claims (082FSW333).

The area is underlain by augite basalt flows, breccia flows and subvolcanic intrusions of the Lower Jurassic Elise Formation, Rossland Group. These have been intruded by plagioclase porphyry of the Late (?) to Middle Jurassic Silver King Porphyry. Shearing and metamorphism is common in the area. Regionally, schists are host to northwest trending shears, parallel to foliation, which host quartz veins with sulphides.

No geological description of the occurrence is available, though it is likely similar to the Silver King occurrence (082FSW176).

It is recorded that 15 tonnes of ore material was shipped in 1939 which produced 274 grams of gold and 377 grams of silver. In 1945, trenching and surface stripping was done on "mineralized shears". No other work is recorded.

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EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 52-13A; 1090A
GSC MEM 308
GSC OF 1195

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1380
REPORT: RGEN0100

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DATE CODED: 1985/07/24
DATE REVISED: 1991/05/28

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW171**

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EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 52-13A; 1090A; 1091A
GSC MEM 308
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GSC P 52-13
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PR REL Sultan Minerals Inc., September 25, 2002

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/28

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW173**

NATIONAL MINERAL INVENTORY:

NAME(S): **VICTORIA-JESSIE**, VICTORIA (L.248), JESSIE (L.686),
JESSIE VICTORIA, VICTORIA-JESSE, JESSE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 25 44 N
LONGITUDE: 117 18 24 W
ELEVATION: 1646 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Approximate location of main working on Lot 248 (Minister of Mines
Annual Report 1932 page A182).

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5475180
EASTING: 477763

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Unknown
COMMENTS: No data is available, common sulphides in area are pyrite, galena and
chalcopyrite.
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
SHAPE: Irregular
MODIFIER: Sheared

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic Jurassic	Rossland	Elise	Silver King Porphyry

LITHOLOGY: Schist
Augite Basalt Flow
Flow Breccia
Plagioclase Porphyry
Schistose Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE: Greenschist

CAPSULE GEOLOGY

The Victoria-Jessie occurrence is located on Toad Mountain, 12.8 kilometres south of Nelson. Production is recorded from this property, Crown granted in 1894-95, in 1907 and again in the 1940's.

The area is underlain by sheared, schistose augite basalt flows, breccia flows and subvolcanic intrusions of the Lower Jurassic Elise Formation, Rossland Group. These have been intruded by plagioclase porphyry of the Late (?) to Middle Jurassic Silver King Porphyry. Shearing (Silver King shear) and metamorphism is prevalent in the area. Regionally, schists are host to northwest trending shears, parallel to foliation, which host quartz veins with sulphides.

A drift exposes a wide zone of alternating schist with quartz stringers and lenses in northwest trending shears or east-west cross fractures. Mineralization comprises iron sulphides, in this area commonly pyrite, chalcopyrite, and galena, which also occur in the host rock. The mineralized zones follow zones of shearing and are conformable with the host rock which strikes 115 degrees and dips 50 degrees south.

Production totalled 3255 tonnes of material which yielded 3.79 kilograms of gold, 94.12 kilograms of silver and 83,577 kilograms of copper.

No other information is available.

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EMPR ASS RPT 8614, 12611, 14586, 17505
EMPR BC METAL MM01086

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A; 1091A
GSC MEM 308
GSC OF 1195
GSC P 52-13
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/28

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW174**

NATIONAL MINERAL INVENTORY:

NAME(S): **STARLIGHT (L.684)**, GREAT WESTERN GROUP

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 25 55 N
LONGITUDE: 117 18 41 W
ELEVATION: 1661 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5475521
EASTING: 477422

LOCATION ACCURACY: Within 500M

COMMENTS: Adit on Lot 684 (Minister of Mines Annual Report 1932 page A183).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Gold

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Regular

MODIFIER: Sheared

DIMENSION: 1 Metres

COMMENTS: Vein is up to 1.53 metres wide.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Silver King Porphyry

LITHOLOGY: Schist
Augite Basalt Flow
Flow Breccia
Sub Volcanic Intrusive
Plagioclase Porphyry
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

Plutonic Rocks
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Greenschist

CAPSULE GEOLOGY

The Starlight occurrence is located on Toad Mountain, about 12 kilometres south of Nelson. Minor production is recorded for this claim in 1937 (the 1981 figures are questionable). The claim adjoins the Victoria-Jessie property (082FSW173) to the south.

The area is underlain by sheared schistose augite basalt flows, breccia flows and subvolcanic intrusions of the Lower Jurassic Elise Formation (unit Jel and Je4, Open File 1989-11), Rossland Group. These are intruded by plagioclase porphyry of the Late (?) to Middle Jurassic Silver King Porphyry. Shearing (Silver King shear) and metamorphism is prevalent in the area. Regionally, schists are host to northwest trending shears, parallel to foliation, which host quartz veins with sulphides.

A quartz vein up to 1.53 metres wide, within schists and volcanics contains disseminated and massive pyrite. Locally the zone is characterized by numerous quartz stringers and lenses.

The Starlight vein produced 10.8 tonnes which yielded 583 grams of gold, 2936 grams of silver and 200 kilograms of copper. Free gold is contained in the vein material.

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EMPR BC METAL MM01077
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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1386
REPORT: RGEN0100

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PR REL Sultan Minerals Inc., September 25, 2002
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious
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deposits of the Lower Jurassic Rossland Group, southeastern
British Columbia; abstract in Twelfth District 6 Meeting, Canadian
Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/28

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW174**

MINFILE NUMBER: **082FSW175**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAYLIGHT-BERLIN**, DAYLIGHT (L.907), BERLIN (L.3251)

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 082F06W
 BC MAP:
 LATITUDE: 49 25 30 N
 LONGITUDE: 117 17 44 W
 ELEVATION: 1780 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Centre of Daylight claim (NTS Map 082F06).

Underground
 MINING DIVISION: Nelson
 UTM ZONE: 11 (NAD 83)
 NORTHING: 5474745
 EASTING: 478567

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Tetrahedrite Pyrrhotite
 ASSOCIATED: Quartz Carbonate Tourmaline Epidote
 ALTERATION: Chlorite Tourmaline Epidote Silica
 ALTERATION TYPE: Chloritic Tourmalin'z'n Epidote Silicific'n Oxidation
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear Concordant
 CLASSIFICATION: Hydrothermal Epigenetic
 SHAPE: Regular
 MODIFIER: Sheared
 DIMENSION:
 COMMENTS: Veins and lenses are 0.10 to 0.25 metres wide.
 STRIKE/DIP: 305/50S
 TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Elise	Silver King Porphyry
Jurassic			

LITHOLOGY: Sericite Schist
 Greenstone
 Schistose Volcanic Rock
 Plagioclase Porphyry
 Augite Basalt Flow
 Flow Breccia
 Sub Volcanic Intrusive

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional
 Plutonic Rocks
 RELATIONSHIP:
 PHYSIOGRAPHIC AREA: Selkirk Mountains
 GRADE: Greenschist

CAPSULE GEOLOGY

The Daylight-Berlin showing is located 14.4 kilometres south of Nelson, just northeast of the Silver King mine (082FSW176). The claims were explored by shafts, adits and several pits or trenches at the turn of century. Production commenced in 1937, when the old workings were rehabilitated, and continued intermittently until 1949.

The area is underlain by sheared and highly schistose augite basalt flows, breccia flows and subvolcanic intrusions of the Lower Jurassic Elise Formation (unit Je1 and Je4), Rossland Group (Open File 1989-11). These have been intruded by plagioclase porphyry of the Late (?) to Middle Jurassic Silver King Porphyry. Shearing (Silver King shear) and metamorphism is prevalent in the area. Regionally, schists are host to northwest trending shears, parallel to foliation, which host quartz veins with sulphides.

Sericite schist and foliated greenstone host a number of quartz-carbonate veins and lenses which contain chlorite, sericite, epidote and a few needles of tourmaline. These generally follow the foliation which is roughly parallel to the orientation of the schists, striking 305 degrees and dipping 45 to 55 degrees south. Small masses of chalcopyrite, pyrite, and/or tetrahedrite are commonly found in quartz or intensely silicified schists. Shearing, in zones up to 0.91 metre wide, strikes 340 degrees, dips 45 degrees west and hosts small lenses of rusty quartz carbonate material. Veins are 0.10 to 0.25 metre wide.

Ore material consisted of either quartz vein material or highly silicified schists with finely disseminated pyrite and chalcopyrite.

CAPSULE GEOLOGY

Traces of tetrahedrite and pyrrhotite are recorded. Microscopic studies showed that some of the pyrite contains minute inclusions of pyrrhotite and the gold was observed in the form of grains and stringers in gangue near pyrite and at the contact of pyrite with gangue.

Production is recorded as totalling 327 tonnes with a grade of 27 grams per tonne gold and 15 grams per tonne silver. Also recovered were, 70 kilograms of lead and 68 kilograms of zinc.

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EMPR BC METAL MM00983
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/30

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

silver, 0.5 gram per tonne gold and 3.2 per cent copper.

First discovered by the Hall brothers in 1886, the Silver King mine produced incredibly rich silver-copper ore and gained fame in Canada, U.S.A. and Britain. In 1893 the Halls sold out to British interests who formed Hall Mines Co. The company constructed a smelter in Nelson and built a tramline to the Silver King. In 1900 the mine closed in response to lower silver prices, the new American import tariffs on metals, and the inability to locate more high grade ore with the existing exploration technology. Cominco acquired the property but their attempt to explore and re-open the mine was thwarted by World War I. Production from 1889 to 1958 totalled 202,049 tonnes yielding 138,214,612 grams of silver, 8,896 grams of gold, 6,789,739 kilograms of copper, 15,234 kilograms of lead and 4,071 kilograms of zinc.

The mine was dormant until 1965 when a Vancouver company began an exploration program. Surface drilling and underground sampling discovered a modest tonnage of proven and probable ore. The property was examined in 1973 with geophysics and geochemistry. Three anomalies were discovered, some indicating buried mineralization with similar orientation to the original orebodies. Exploration occurred in 1983 and resource calculations were reported.

Amulet Resources Ltd. was incorporated in 1998, optioned the property and plan drilling.

The property is located at about 1676 metres elevation on Toad Mountains 6.4 kilometres south of Nelson.

The showings were discovered by the Hall Brothers in the fall of 1886 while prospecting for placer gold. Three claims were staked, the Kootenay Bonanza, Silver Kings and American Flag (Lots 140-142, respectively), and these were Crown-granted in 1890. Development work was carried out under the name "Kootenay Bonanza Co.". The first high-grade ore was shipped in 1889.

The Hall Mines Limited, of London, England, purchased the property in 1893. A mine development program was begun and a 7.2 kilometre tramway was built to Nelson, where the company opened a 100 ton-per-day smelter in January 1896. Smelter capacity was increased to 300 tons-per-day in 1897. The company was reorganized in 1900 under the name Hall Mining and Smelting Company, Limited. The company shut down the mining operation in 1902 and subsequently leased the mine to a former company superintendent) M.S. Davys, who resumed mining operations. In 1904 the company resumed work under a partnership arrangement with Mr. Davys; the partnership terminated in 1906. Both mine and smelter closed in September 1907.

The property was leased in 1908 to the Kootenay Development Syndicate, Limited, of London, England, with M.S. Davys as Managing Director. The mine closed in June 1910. To that date the mine had been developed by opencuts, four adits (Nos. 1, 3, 4, and 5), with a main shaft from the level of No. 5 to the 10th level, giving a total vertical depth on the lode of 283 metres. From No. 8 level to the surface the several levels are connected by stopes and raises. The main lode had been stoped from the surface to the sill of No. 5 level, and the south lode from No. 5 to the level of No. 8.

The Dandy claim, adjoining the Silver King group on the northwest, was staked in about 1887 and Crown-granted to Messrs. Fox, Kelly, and Cook in 1891; the Crown-grant was listed, apparently in error, as Lot 141, same as the Silver King. Development work to 1893 included a 12-metre shaft see and a 5-metre long adit. Owner A.H. Kelly reportedly shipped 600 tons of ore in 1899. The Dandy and Ollie Consolidated Mines) Limited, was incorporated in 1903 but no work was reported.

In the Fall of 1910 (Pacific coast interests) through R.S. Lennie, merged some 40 claims on Toad Mountain, formerly held by Hall Mining, The Dandy and Ollie Consolidated Mines, Starlight Mines, Limited Kootenay Development Syndicate, Limited, and by several individuals. Kootenay Bonanza Mines, Limited, was incorporated in January 1912 to hold the property.

The Consolidated Mining and Smelting Company of Canada (Limited) purchased a controlling interest in the property and Silver King Mines Limited was incorporated in December 1912 as the operating company. The Dandy adit was extended some 732 metres to intersect the Silver King shaft 12 metres above No. 8 level; other development work and about 1524 metres of diamond drilling was carried out. Development work was suspended in the Fall of 1914 but resumed in 1916 under contract. Small scale development work and diamond drilling continued until October 1919 when the mine closed. The Silver King Mines, Limited charter was surrendered in 1927.

Lessees carried out small scale intermittent mining operations in 1936, 1946 to 1949, 1956, and 1958.

Now Cronin Babine Mines Limited, by an agreement of February 1965 with The Consolidated Mining and Smelting Company of Canada

CAPSULE GEOLOGY

Limited (changed to Cominco Ltd. in 1966), acquired an option to earn a 75 per cent interest in the property through an exploration expenditure of 9200,000. A private company, Silver King Mines Ltd., was incorporated in 1967 to hold the 24 Crown-grant and 6 recorded claims.

Work by Now Cronin during 1965-1967 included surface diamond drilling totalling 3715 metres in more than 54 holes. This work indicated proven reserves of 82,400 tons averaging 291.4 grams per tonne silver, 2.1 per cent copper, and 1.0 per cent lead.

The company name (New Cronin) was changed in 1973 to Sproatt Silver Mines Ltd. The option was exercised in 1973 and the claims transferred to Silver King Mines Ltd. Work during the year included a time domain induced potential survey over 11 line-miles and a geochemical soil survey comprising 200 samples. In past work diamond drilling has established a proven 82,700 tons averaging 294.8 grams per tonne silver, 0.9 per cent lead, and 2.0 per cent copper (Sproatt Silver Mines Ltd. Statement of Material Facts, Nov. 7, 1975).

The company name (Sproatt) was changed in 1977 to Hecate Gold Corp. In June 1982 the company was amalgamated with Host Ventures Ltd. under the latter name. Work in 1983, including trenching, diamond drilling 566 metres in 10 holes and dump sampling was financed by the company, thereby increasing its interest in Silver King Mines Ltd to 90 per cent (Cominco Ltd.). The company name (Host Ventures) was changed in 1984 to Hot Resources Ltd, and in 1985 to Inter-Globe Resources Ltd.

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- EMPR ASS RPT *4701, *12611
- EMPR BC METAL MM01068
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- EMPR EXPL 1983-72
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DATE CODED: 1985/07/24
DATE REVISED: 1991/03/11

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW177**

NATIONAL MINERAL INVENTORY:

NAME(S): **REFERENDUM (L.4387)**, GOLDEN CROSS (L.4388), KATIE (L.4386),
STAMP

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 25 37 N
LONGITUDE: 117 23 29 W
ELEVATION: 1692 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 4387.

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5474993
EASTING: 471618

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Unknown
COMMENTS: Similar local showings characteristically host pyrite and traces of
base metal sulphides.
ASSOCIATED: Quartz Calcite Tourmaline Ilmenite Ankerite
COMMENTS: No documentation for reported presence of ilmenite, tourmaline, and
ankerite.
ALTERATION: Chlorite Sericite Fuchsite
ALTERATION TYPE: Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
SHAPE: Tabular
MODIFIER: Sheared
DIMENSION:
COMMENTS: Vein is 0.35 to 0.60 metre wide.
STRIKE/DIP: 305/85S
TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Andesite
Agglomerate
Tuff
Schist
Syenite
Lamprophyre Dike
Conglomerate
Basalt
Sericite Schist
Chlorite Schist

HOSTROCK COMMENTS: Units Je8l and Je8x with a sliver of unit Je4 to the west,
Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
Plutonic Rocks
RELATIONSHIP:
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Gold
GRADE: 0.0700 Grams per tonne
COMMENTS: Across 0.35 metres of the Referendum vein.
REFERENCE: Assessment Report 10239.

CAPSULE GEOLOGY

The Referendum workings are located approximately 11 kilometres southwest of Nelson. The claim was located in 1900 and minor gold production came from a shallow shaft. The Tec Gold showing (082FSW324) is just to the southeast. The veins are hosted by andesites of the Lower Jurassic Rossland

CAPSULE GEOLOGY

Group Elise Formation. In the Referendum mine area, zones of alternating sedimentary, metamorphic and volcanic rocks are present. The rocks include agglomerates, conglomerates with boudinage texture, tuffs and crystal tuffs with metamorphic rocks comprised of sericite schist and chlorite schist. The volcanic rocks in the mine area are andesites and basalts intruded by lamprophyre dykes which host tension veins with tourmaline and ilmenite. Some tension veins are quartz-calcite filled, others only host quartz. To the southeast of the mine area, an Eocene Coryell syenite intrudes the Rossland Group rocks. Just to the west, a stock of the Middle to Late Jurassic Nelson Intrusions is present.

The showing consists of a quartz vein about 0.35 to 0.60 metre wide, striking 305 degrees with a steep to vertical dip. No sulphides are documented but a gouge-like, black material forms a thin veneer on shear partings and often fills fractures. The main vein has abundant massive, fine-grained tourmaline. As well, the small tension veins which join the main vein also host tourmaline. A chip sample taken across 0.35 metre of the quartz vein in 1981 assayed 0.07 gram per tonne gold (Assessment Report 10239).

Gold was reportedly recovered in the early 1900's and gold and silver values were recovered from about 181.4 tonnes mined in 1984-85. Between 1983 and 1985, 159 tonnes of ore were milled and produced 573 grams gold, 1839 grams silver, 190 kilograms lead, and 229 kilograms zinc.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A; 1091A
GSC MEM 308, p. 155
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GSC P 52-13
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/12

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW178**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTHERN LIGHT**, COPPER SCROLL, COPPER BELL

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 24 45 N
LONGITUDE: 117 22 08 W
ELEVATION: 1600 Metres

NORTHING: 5473379
EASTING: 473242

LOCATION ACCURACY: Within 1 KM

COMMENTS: Situated near a small tributary of Fortynine Creek about 2.4 kilometres from the Gold Hill (082FSW092) showing (Minister of Mines Annual Report 1928, page 323).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Iron oxides and copper carbonates.
ASSOCIATED: Quartz
ALTERATION: Unknown
COMMENTS: Oxides and copper carbonates.
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
SHAPE: Tabular

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Schistose Volcanic Rock
Schist
Lapilli Tuff
Tuff
Augite Porphyry
Volcanic Flow
Andesite
Argillaceous Quartzite

HOSTROCK COMMENTS: Units Je8l and Je4 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
COMMENTS: Island arc alkaline volcanics.

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Northern Light showing is located near a small tributary of Fortynine Creek, 10.5 kilometres southwest of Nelson. Minor production is recorded for the claim in 1907.

The area is underlain by schistose volcanics comprising tuffs, lapilli tuff (unit Je8l, Open File 1989-11), basalt flows and flow breccias (unit Je4) of the Lower Jurassic Elise Formation (Rossland Group). These have been intruded by granodiorite and quartz monzonite of the Middle to Late Jurassic Nelson Intrusions.

The occurrence has been described, along with the Gold Hill (082FSW092) and Gold King (082FSW181), as "fissure filled lodes containing gangue minerals, mainly quartz and maybe some carbonates with little or no disseminated sulphides in wallrock... where host rocks are massive andesite and augite porphyry or brittle argillaceous quartzite" (Geological Survey of Canada Memoir 308).

The workings, consisting of a tunnel, a shallow shaft and open cuts, are between 1525 and 1600 metres elevation. The upper workings expose a quartz vein 0.6 to 1.2 metres wide hosted in schist and mineralized with "iron oxides" and "copper carbonate stains".

A sample from the shaft dump assayed 30.51 grams per tonne gold, 34.28 grams per tonne silver and 0.16 per cent copper (Minister of Mines Annual Report 1928, page 323).

Insufficient work has been done to evaluate the potential of the vein. Production totalling 31 tonnes is reported for 1907, yielding

CAPSULE GEOLOGY

62 grams of gold, 1835 grams of silver and 124 kilograms of copper.

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GSC OF 1195
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/30

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Formation and volcanic rocks of the Elise Formation, both of the Lower Jurassic Rossland Group. These have been intruded by Middle to Late Jurassic Nelson Intrusions. The Red Mountain fault crosscuts the area. Lithologies consist of argillite, siltstone, andesite tuff, lapilli tuff, granodiorite and quartz monzonite.

North striking quartz veins, up to 1 metre wide, crosscut granodiorite and tuff. Mineralization consists of pods and disseminations of pyrite, galena, sphalerite, chalcopyrite and, locally in the main vein, visible gold. Veins in the vicinity of the main workings are often associated with a limonite cap which is reported to contain visible gold. Gold values are apparently related to pyrite content. Quartz filled fractures in aplite dykes also carry small amounts of sulphides. The pockets, or lenses, of sulphides in the vein are typically highly oxidized in the exposures near surface. Breccia occurs in the footwall of the ore shoot that was mined. The Red Mountain fault occurs immediately to the west of, or in, the workings.

Production totals 104 tonnes of hand selected ore yielding 3951 grams of gold, 4385 grams of silver, 2028 kilograms lead and 1082 kilograms zinc. Chip sampling indicates values of up to 6 grams per tonne gold, locally, and samples taken in the area have assayed up to 2.16 per cent copper (Assessment Report 18188).

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EMPR ASS RPT 11782, 13488, 15277, *18188, 19357, 20131, 21730, 22568, 24843
EMPR BC METAL MM01005
EMPR BULL 41
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EMPR INDEX 3-198, 215; 4-125
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WWW <http://www.infomine.com/>
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Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/11

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW180**

NATIONAL MINERAL INVENTORY:

NAME(S): **CELTIC QUEEN (L.987)**, TRILBY (L.1626), SDR,
TIGRE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 39 N
LONGITUDE: 117 46 36 W
ELEVATION: 1005 Metres

NORTHING: 5434509
EASTING: 443262

LOCATION ACCURACY: Within 500M

COMMENTS: The workings are located at the eastern boundary of the Celtic Queen Crown grant (Lot 987) and on the western part of the lapsed Trilby Crown grant (Lot 1626) (Assessment Report 24).

COMMODITIES: Gold Silver Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Pyrite Pyrrhotite Arsenopyrite Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 1 Metres
COMMENTS: The vein is up to 1.2 metres wide.

STRIKE/DIP: 090/85N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Volcanic Conglomerate
Breccia
Sandstone
Monzonite

HOSTROCK COMMENTS: The monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE:

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 13.7100 Grams per tonne
Gold 4.8000 Grams per tonne
Lead 0.0600 Per cent
Zinc 7.2000 Per cent

COMMENTS: From a 1.2 metre sample.
REFERENCE: Assessment Report 18310, page 14.

CAPSULE GEOLOGY

The section of the Celtic Queen and Trilby claims where the showings are located are underlain by green volcanic conglomerate, breccia and sandstone of the Lower Jurassic Elise Formation (Rossland Group) (Assessment Report 16751, Map 2). Within about 50 metres to the north is the contact with the Early Jurassic Rossland monzonite, an east trending stock with a wide thermal aureole and, locally, a gradational contact with the country rocks.

An east trending fissure carrying mixed sulphides is exposed in a shaft and a number of cuts for a length of up to 60 metres. At the surface the vein is from 0.3 to 0.6 metres wide but widens to 1.2

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1400
REPORT: RGEN0100

CAPSULE GEOLOGY

metres in the shaft. The vein dips 85 degrees to the north and consists of quartz with sphalerite, pyrite, pyrrhotite, arsenopyrite and galena. A sample taken across 1.2 metres assayed 4.80 grams per tonne gold, 13.71 grams per tonne silver, 0.06 per cent lead and 7.2 per cent zinc (Assessment Report 18310, page 14).

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EMPR BULL 109

DATE CODED: 1987/09/18
DATE REVISED: 1991/04/15

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW181**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD KING (L.12411)**, HONKY TONK SOUTH, HONKY TONK (L.3157),
H.B., K & S

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 23 03 N
LONGITUDE: 117 17 48 W
ELEVATION: 1170 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Workings occur on the south side of Hall Creek (Assessment Report 12992).

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5470206
EASTING: 478468

COMMODITIES: Gold Copper Silver

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Gold Bornite
Tetrahedrite
COMMENTS: Minor bornite and tetrahedrite only.
ASSOCIATED: Quartz Calcite
COMMENTS: Minor carbonate only.
ALTERATION: Epidote Silica Chlorite
ALTERATION TYPE: Epidote Silicific'n Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
SHAPE: Irregular
MODIFIER: Faulted Sheared STRIKE/DIP: 030/80W TREND/PLUNGE:
DIMENSION:
COMMENTS: Quartz veins and stringers.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Basalt
Augite Porphyry
Agglomerate
Flow Breccia
Granite
Tuff
Porphyry Dike

HOSTROCK COMMENTS: Unit Je1 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PLUTONIC ROCKS RELATIONSHIP: Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE:

CAPSULE GEOLOGY

The Gold King occurrence is located on the south side of Hall Creek, 11 kilometres south-southwest of Nelson. The occurrence is exposed in an old tunnel. Similar mineralization occurs to the north at the Independence showing (082FSW372).

The area is underlain by volcanic rocks of the Lower Jurassic Elise Formation (unit Je1, Open File 1989-11), Rossland Group which have been intruded by granite of the Middle to Late Jurassic Nelson Intrusions. The volcanics consists of dark green augite porphyry, porphyry flow breccias, agglomerates, minor crystalline tuffs and porphyry dykes.

Sheared quartz veins and stringers, from 0.01 to 1.5 metres wide and 2 to 50 metres long, strike 030 degrees and dip 80 degrees northwest. Vein emplacement appears to be controlled by two major trends (northwest and northeast) of joints, faults and shears. Pyrite is the major ore mineral with lesser amounts of pyrrhotite, chalcopyrite, bornite, tetrahedrite and free gold. Gangue minerals are usually quartz with minor carbonate, epidote and chlorite. Locally, the wall rocks may carry disseminated pyrite which also contain gold values. Pyrite is more abundant than pyrrhotite.

CAPSULE GEOLOGY

Select grab samples taken in 1984 from trench HTS14 containing up to 5 per cent by volume pyrite and chalcopyrite assayed up to 6.86 grams per tonne gold, 41.14 grams per tonne silver and 1.36 per cent copper (Assessment Report 12992).

A total of 7 tonnes of ore has been mined from the workings from 1931 to 1940 producing 341 grams of gold, 621 grams of silver and 51 kilograms of copper.

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EMPR BC METAL MM01002
EMPR BULL 1, p. 97, 41
EMPR EXPL 1983-69; 1984-52
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/08

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW182**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEAR (L.14714)**, BEAR 1, HALL CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 22 42 N
LONGITUDE: 117 17 32 W
ELEVATION: 1495 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5469556
EASTING: 478788

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of Lot 14714 (Assessment Report 16847).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Gold Malachite
ASSOCIATED: Quartz
ALTERATION: Silica Clay Malachite
ALTERATION TYPE: Silicific'n Argillic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Breccia
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
SHAPE: Regular
MODIFIER: Sheared
COMMENTS: Vein in adit is up to 25 centimetres wide. Mineralization occurs in fractured, crushed and sheared rocks.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Nelson Intrusions
Jurassic			

LITHOLOGY: Augite Porphyry
Porphyry Granite Dike
Flow Breccia
Basalt Flow
Agglomerate
Granodiorite

HOSTROCK COMMENTS: Unit Je1 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
Plutonic Rocks
RELATIONSHIP:
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Gold 35.0000 Grams per tonne
COMMENTS: Crushed quartzose material from a rusty fracture.
REFERENCE: Assessment Report 16847.

CAPSULE GEOLOGY

The Bear occurrence is located on the south side of Hall Creek, 12 kilometres due south of Nelson. The deposit was worked from 1937 to 1942. The Fern mine (082FSW183) adjoins the claims to the east. The area is underlain by augite basalt flows and flow breccias of the Lower Jurassic Elise Formation (Unit Je1, Open File 1989-11), Rossland Group intruded by granodiorite and quartz monzonite of the Middle to Late Jurassic Nelson Intrusions and a dark, fine-grained dyke with light feldspar phenocrysts. The dyke is host to numerous east trending joints and fractures. Fractures and zones of crushed wallrock are host to quartz with pyrite. Minor malachite and abundant pyrite stringers and blebs occur in quartzose crushed rocks. The wallrock adjacent to quartz stringers is oxidized and argillically altered. The Bear workings are developed at the contact between augite

CAPSULE GEOLOGY

porphyry and a porphyritic granite dyke (?). The vein in the adit is up to 25 centimetres wide, pinches out to 10 centimetres and contains free gold. At surface the ore is rusty and decomposed but also hosts free gold.

The highest assay from a sampling program in 1987 was from a rusty fracture in an open cut, 10 metres east of the adit entrance. The oxidized, argillically altered and crushed quartzose material assayed 35 grams per tonne gold (Assessment Report 16847).

The deposit produced 114 tonnes of material which yielded 4,167 grams of gold and 1,897 grams of silver.

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1942-27,61
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EMPR BC METAL MM00959
EMPR BULL 41
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
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Annual Meeting, Vancouver, B.C., p. A3
Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral
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British Columbia; abstract in Twelfth District 6 Meeting, Canadian
Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/03

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW183**

NATIONAL MINERAL INVENTORY: 082F6 Au5

NAME(S): **FERN (L374)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 22 42 N
LONGITUDE: 117 17 04 W
ELEVATION: 1647 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5469554
EASTING: 479353

LOCATION ACCURACY: Within 500M

COMMENTS: Location of #3 tunnel and portal (Assessment Report 17662)

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Arsenopyrite Gold

Bornite

ASSOCIATED: Quartz Siderite

ALTERATION: Unknown

COMMENTS: Ore contained substantial oxidized material.

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear

CLASSIFICATION: Hydrothermal Epigenetic

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

SHAPE: Regular

MODIFIER: Faulted

Sheared

DIMENSION: 2

Metres

STRIKE/DIP: 010/60W

TREND/PLUNGE:

COMMENTS: The Fern vein, up to 2.4 metres wide, strikes 305 to 075 degrees and dips 60 degrees west.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Augite Porphyry
Granite Porphyry Dike
Granite
Flow
Breccia
Sub Volcanic Intrusive
Lamprophyre Dike

HOSTROCK COMMENTS: Unit Je1 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Greenschist

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1936

SAMPLE TYPE: Grab

COMMODITY

GRADE

Gold

9.6000

Grams per tonne

COMMENTS: Highest assay from four samples of vein B.

REFERENCE: Geological Survey of Canada Memoir 191.

CAPSULE GEOLOGY

This property is located at 1524 metres elevation on the south side of Hall Creek, 11.2 kilometres south of Nelson.

The ground was staked by a Captain Duncan in about 1894. Five claims, the Fern (Lot 374), Eureka, Hidden Treasure, Chiccoia, and Foothill, were bonded to Frank Fletcher in about 1895; the Fern claim was Crown-granted in 1896.

The Fern Gold Mining and Milling Company Limited Liability was formed in 1897 to explore and develop the property. A 10 stamp mill was erected that same year and the mine and mill operated until the latter part of 1900. Lessee E. Rammelmeyer worked the mine

CAPSULE GEOLOGY

intermittently from 1902 until about 1908. Other small scale, intermittent, leasee operations were carried on until 1927.

The Gold Fern Syndicate was formed by Buffalo and Toronto interests in 1933 to lease and operate the mine. Development work began in 1934. The syndicate formed Gold Fern Mines Limited in 1935 and the company continued exploration and development work into 1937 when all activity ceased. The property was acquired by C.E. and L.R. Hawley, of Spokane, in about 1939 and lessees worked in the mine until 1943.

Work on the property was resumed in 1945 by Harold Lakes and Associates, who obtained an option on the mine. A diamond drilling program was begun and succeeded in finding the extension of the vein south of the fault which bounded the area stoped in the first mining operation. A new company, Fern Mine, Limited, was formed in March 1946 to develop and operate the property. The company was financed by Premier Border Gold Mining Company, Limited and Quatsino Copper-Gold Mines Limited. A crosscut adit was collared 30 metres below the outcrop of the vein extension and the vein was drifted on for 142 metres. Values of interest were found in the first 16 metres from the fault and again at 86 to 119 metres from it but the widths represented were too narrow for company operation.

The original mining operation was carried on in 4 adits between elevations of 1536 and 1478 metres, and includes some 427 metres of drifts and 78 metres of crosscuts. In 1934 a crosscut adit was started 244 metres below No. 4 level and driven 49 metres before work was suspended. No. 5 level is a crosscut, driven 15 metres of the estimated 30 metres required to reach the "B" vein. The 7th adit, began in 1946, was driven a total of 167 metres.

Weland Mining Ltd. acquired the property in 1965 and began a program of surface exploration and underground diamond drilling.

The Fern mine is located on Hall Creek, 14.4 kilometres south of Nelson. The deposit was located in 1896. The majority of the production was from 1897 to 1904 and from 1904 to 1942 production was intermittent.

The area is underlain by sheared volcanics, comprising augite basalt flows, flow breccias and subvolcanic intrusions (Unit J_{el}, Open File 1989-11) of the Lower Jurassic Elise Formation, Rossland Group. These have been intruded by granitic Middle To Late Jurassic Nelson Intrusions.

The Fern vein, hosted in augite porphyry is well defined, sinuous and strikes 305 to 075 degrees with a 60 degree west dip. This orientation is generally conformable with the Silver King shear zone. Locally, it follows a granite porphyry dyke and varies from a few centimetres up to 2 metres in width. The mined portions of the vein were up to 1 metre wide and high grade streaks were up to 0.30 metre wide. Quartz with crushed rock and minor siderite is the gangue for pyrite, chalcopyrite, bornite, pyrrhotite and free gold. Pyrite, by far, is the dominant sulphide. Arsenopyrite is a minor constituent of some quartz veins. The vein is cut off by a fault containing a lamprophyre dyke which strikes northwest and dips 75 degrees north. The ore contained substantial oxidized material.

The records indicate that better grades of precious metals were obtained from areas of the vein which were within or associated with the older, granite porphyry dyke. The vein is later than the dyke. An extension to the vein was found 1945 and 1946 but results were disappointing.

Numerous other veins occur in the area, but vein B and vein P 1 are the only ones with good values, up to 9.6 grams per tonne gold (Geological Survey of Canada Memoir 191, page 52).

The mine produced 11,277 tonnes yielding 196,448 grams of gold and 16,515 grams of silver.

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EMPR ASS RPT 12984, 12992, 13534, 14010, 17662
EMPR BC METAL MM00995
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EMPR OF 1988-1; *1989-11; 1991-16
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/30

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW184**

NATIONAL MINERAL INVENTORY:

NAME(S): **CANADIAN BELLE (L.4783)**, SAFEGUARD, UNION JACK,
ERIN, YANKEE BOY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 22 01 N
LONGITUDE: 117 15 47 W
ELEVATION: 1524 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 4783 (NTS Map 082F06).

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5468282
EASTING: 480901

COMMODITIES: Gold Silver Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Massive Shear
CLASSIFICATION: Hydrothermal
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
SHAPE: Irregular
MODIFIER: Faulted Sheared
DIMENSION: 2 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Quartz filled faults and fractures, of variable orientation, are up to 1.8 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Jurassic	Rossland	Hall	Nelson Intrusions

LITHOLOGY: Argillite
Granite
Gouge
Diorite Porphyry
Siltstone
Sandstone
Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

Plutonic Rocks
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE: Greenschist

CAPSULE GEOLOGY

The Canadian Belle occurrence is located 1.2 kilometres south of Hall Creek, on the east side of Keno Creek, 13 kilometres south of Nelson. The claims were Crown granted in 1901 and minor production is recorded for 1939 and 1940.

The area is underlain by siltstone, sandstone, conglomerate and argillite of the Lower Jurassic Hall Formation (Rossland Group). These are intruded by diorite porphyry and granite of the Middle to Late Jurassic Nelson Intrusions.

Black argillites are host to numerous faults and fractures of variable orientation. Granite intrudes the stratigraphy south of the showing and locally the sediments are cut by "tongues" of diorite porphyry. Faults and fractures vary from 1 centimetre to 1.8 metres in width with locally developed gouge zones. Quartz and sulphides have been emplaced at a late stage and locally heal some of the fracture zones. Most prospecting has been done on fractures/shears with a general northeast trend and some mineralized east-west trending structures. Old workings appear concentrated on a number of closely spaced parallel breaks. The mineralization occurs near the southern limit of the Silver King shear.

Quartz veining in the structural breaks is host to massive (locally, up to 0.20 metres wide) and disseminated arsenopyrite, pyrite, pyrrhotite, and chalcopyrite. Arsenopyrite is dominant and has microfractures which are healed by pyrite and chalcopyrite. Pyrrhotite occurs as minute inclusions in the arsenopyrite and grains of free gold less than 1.5 microns in diameter are hosted by

CAPSULE GEOLOGY

arsenopyrite without any obvious relationship to grain boundaries or fractures.

Production totals 24 tonnes, yielding 840 grams of gold, 280 grams of silver and 23 kilograms of copper.

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EMPR OF 1988-1; *1989-11; 1991-16
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GSC P 52-13
GCNL #200, 1985
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/30

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW185**

NATIONAL MINERAL INVENTORY: 082F6 Au8

NAME(S): **GOLDEN AGE** GOLDEN AGE 2

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 23 26 N
LONGITUDE: 117 13 18 W
ELEVATION: 945 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5470897
EASTING: 483914

LOCATION ACCURACY: Within 500M

COMMENTS: Workings (Assessment Report 17464).

COMMODITIES: Gold Silver Copper Lead Zinc
 Tungsten

MINERALS

SIGNIFICANT: Pyrite Arsenopyrite Chalcopyrite Sphalerite Galena

 Tetrahedrite Scheelite
ASSOCIATED: Quartz Calcite Ankerite Sericite Tourmaline

COMMENTS: Minor tourmaline in quartz.

ALTERATION: Silica Malachite Sericite

ALTERATION TYPE: Silicific'n Oxidation Sericitic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear Disseminated Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L01 Subvolcanic Cu-Ag-Au (As-Sb)

SHAPE: Irregular

MODIFIER: Sheared Faulted

DIMENSION: 30 x 1 Metres STRIKE/DIP: 320/70S

TREND/PLUNGE:

COMMENTS: Strike is variable from 310 degrees to 330 degrees northwest and dip varies 60 degrees to 80 degrees southwest. Zones are up to 30 metres long and 1 metre wide.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Rosslund Elise

LITHOLOGY: Augite Porphyry
Andesite
Andesite Lapilli Tuff
Augite Porphyry Basalt
Schistose Greenstone
Lamprophyre Dike
Flow Breccia
Tuffaceous Siltstone
Mafic Tuff
Tuffaceous Conglomerate

HOSTROCK COMMENTS: Units Je8l, 4, 10, 7F and 11b of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1988

SAMPLE TYPE: Channel

COMMODITY GRADE
Gold 2.6000 Grams per tonne

COMMENTS: Across 1 metre of highly sheared, sericitized and siliceous andesite (AGE-88-010).

REFERENCE: Assessment Report 17464.

CAPSULE GEOLOGY

The property is located on the west side of the Salmo River 11.2 kilometres south of Nelson. The Euphrates property lies the east side of the river directly across from the Golden Age.

The discovery of gold-quartz float on the lower slope of the mountain led to intensive prospecting of the area by E. and S.

CAPSULE GEOLOGY

Terzian, and the staking of 9 claims in 1922. Trenching and several short adits led to the discovery of the vein in place. The owners incorporated The Golden Age Mining Company, Limited, in August 1923. The company installed a 20-stamp mill, which was used very little as there was no ore available. In 1927-28 the mill operated occasionally on ore from the Euphrates property. The mill was destroyed by fire in 1929. Some development work was done in 1924 by Carl Anderson, of Spokane, under a lease agreement. Small shipments were reported by the owners in 1931 and 1940.

Trimetals Mining, Inc., of Spokane, Washington, acquired the property in 1941 and during 1941-42 carried out underground development work and diamond drilling. Some ore is milled at the Euphrates mill before work ceased in April 1942. Further development work was done by the company in 1945-46 and a small amount of ore was shipped at that time; work ceased in October 1946.

The workings at that time included 3 adits. The lower, 15 metres below the road, consisted of a 40-metre drift and a 6-metre crosscut; the main (middle) adit, at road level, consisted of 440 metres of drift, and 3 short crosscuts to the west; the upper adit, 27 metres above the main adit, consisted of a 53-metre long drift.

Foremost Construction Ltd. shipped 62 tons of crude ore from the property in 1963.

Nelway Mines Ltd. held the property in 1966 as the T.P.M. and J groups of 26 recorded claims. During 1966-67 the company carried out stripping, sampling, and 61 metres of diamond drilling in 3 holes.

Robert Mines Ltd., incorporated May 1969, acquired the T.P.M. I and 2 claims. These claims, and adjacent ground, were restaked as the PIA 1-10 claims. The company also acquired the Euphrates property. During 1971 the main adit, on PIA 7 claim, was reopened and extended 11 metres, and geochemical, magnetic, electromagnetic, and self potential surveys were carried out. During 1972-73 diamond drilling in 2 holes totalling 34 metres on the PIA 7 claim, and trenching and stripping on PIA 3 claim were carried out.

The Golden Age deposit is located 13 kilometres south of Nelson on the Salmo River. The vein system was discovered in 1922 and it has been developed by 3 adit levels with the center or #2 adit still accessible. There was more than 500 metres of drifting and limited stoping.

The area is underlain by highly schistose volcanics of the Lower Jurassic Elise Formation, Rossland Group. The volcanics comprise andesite, andesite lapilli tuff (unit Je81), augite porphyry basalt and flow breccias (unit Je4), tuffaceous siltstone and sandstone (unit Je10), mafic tuff (unit Je7f) and tuffaceous conglomerate (unit Je11b) (Open File 1989-11). The volcanics have been intruded by lamprophyre dykes.

The workings followed a fault/vein structure striking between 310 and 325 degrees and dipping 60 to 80 degrees south. Mineralization occurs in bulbous quartz sulphide lenses along a fault trace. Shearing is common in both the hanging wall and footwall. Shearing and silicification are discontinuous and apparently en echelon. Sheared and mineralized sections are often bounded by dykes and/or faults. Fault gouge is common and the attitude of the faults is variable. Some of the faulting is post-mineralization. The mineralized shear is closely associated with mafic dykes and is similar to the Euphrates (082FSW186) showing to the southeast. The quartz stringers often exhibit boudinage and drag fold structures.

Mineralization consists of one or more poorly defined shear zones with discontinuous stringers, veinlets and knots of quartz. These quartzose zones are up to 1 metre wide by 1 to 30 metres long and appear to be better developed in the arcuate or curvilinear sections of the shears. The quartz zones host pyrite, chalcopyrite, arsenopyrite, minor galena and sphalerite, scheelite, tetrahedrite and malachite associated with chalcopyrite. Gangue consists of calcite, ankerite and sericite. Minor tourmaline is observed associated with the quartz. Metallurgical studies have determined that 40 per cent of the gold and silver occur as locked particles with pyrite (Assessment Report 17464).

A suite of 20 channel samples along a strike length of 107 metres indicated grades in the order of 7.2 grams gold, 28 grams silver and 0.29 per cent copper (Assessment Report 3304). A grab sample of quartz material yielded 0.35 per cent tungsten (Assessment Report 13682). In 1988, a channel sample across 1 metre of highly sheared, sericitized and siliceous andesite from the main adit (AGE-88-010) assayed 2.6 grams per tonne gold (Assessment Report 17464). The 155 tonnes produced was primarily for testing purposes.

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1412
REPORT: RGEN0100

BIBLIOGRAPHY

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EMR MP CORPFILE (The Golden Age Mining Company Ltd.; Nelway Mines
Ltd.; Robert Mines Ltd.)
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GSC MEM *191, p. 58; 308, p. 156
GSC OF 1195
GSC P 51-4
GCNL #12,#23, 1984
WWW <http://www.infomine.com/>
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/14

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Lillian, Pasadena, and Minto were staked. An additional 16 claims staked in 1927 included the old Lost Cabin showings. The owners incorporated The Euphrates Mining Company, Limited, in April 1928. Portland, Oregon, interests acquired an option on a controlling interest in the company and development work was carried out in several adits. Small amounts of ore were put through the 10-stamp mill on the Golden Age property in 1927 and 1929; the mill was destroyed by fire later in 1929. An aerial tram to the Ell-Tee adit at 1203 metres elevation was installed in 1930 and a small amount of ore was shipped in 1931. The Portland interests gave up their option in the fall of 1931.

Work resumed in August 1933 when an option on a controlling interest in Euphrates Mining was acquired by the Spokane-Idaho Copper Company, of Spokane, Washington. The company extended the lower Ell-Tee adit and carried out some diamond drilling. Work was suspended in the summer of 1934.

The Euphrates Mining Company resumed work on the property and in 1936 some 381 metres of drifting and 228.6 metres of cross cutting was carried out. The workings at that time included, on the Ell-Tee vein, an upper adit 53 metres long, and a lower adit about 610 metres long. From the lower adit crosscuts were driven 73 metres to the northeast towards the Minto vein, and for 91 metres in search of the Lost Cabin vein. A crosscut was also driven 229 metres to the Nickel Plate vein, which was drifted on for 427 metres. The Minto workings included 2 adits, an upper driven 37 metres, and a lower about 175 metres in length. On the Nickel Plate vein, which was a new discovery, trenching was done in 1935 and 1936.

General Lee Mining & Milling Co., Inc., of Seattle, carried out 610 metres of underground diamond drilling on the property in 1938. In 1940 the Gold-Silver-Tungsten Mining & Milling Co., of Seattle, hold the property. A 100 ton-per-day mill, from the Ottawa mine in the Slocan, was installed, and the tramline rebuilt. The mill operated for a short period in 1941, milling a small amount of ore from the Nickel Plate and Minto veins.

A small amount of crude ore was shipped in 1960 by L. Soukeroff and B. Logan.

Robert Mines Ltd., incorporated May 1969, acquired the A 1-8 claims covering the Euphrates property; the Golden Age property was also acquired. In 1970 a geochemical soil survey (197 samples) was carried out on the A group. Geochemical, magnetic, electromagnetic, and self potential surveys were carried out in 1971. During 1972-73 geological mapping, stripping, and 93 metres of diamond drilling in 4 holes was done on the A 2-A 4 claims.

The Euphrates deposit is located 12 kilometres south of Nelson. The area was initially explored in the late 1800's. Highly schistose, augite porphyry volcanics of the Lower Jurassic Elise Formation (Units Jel0 and Jel1b, Open File 1989-11), Rossland Group contain a number of vein deposits either conformable to or crosscutting the regional foliation trend of 320 degrees with dips of 70 to 80 degrees southwest. The deposit is at the southern end of the Silver King shear zone, a wide regional zone of intense deformation. The occurrence consists of the El Tee, Minto and Nickel Plate adits at about 1161 metres elevation and the Lost Cabin adit at about 1464 metres. The El Tee vein roughly parallels the regional foliation trend at surface but dips 70 degrees northeast. The vein is narrow, maximum width about 0.15 metre, and has sharp, unsheared contacts with the host rocks. Near surface it is oxidized to shallow depths and carries significant free gold. The Lost Cabin and Minto veins, northeast of the El Tee, are controlled by poorly defined shears. These shears are about 8 and 4 metres wide respectively and roughly parallel the regional schistosity. They contain narrow stringers and lenses of quartz within sheared, chloritized volcanics with minor sulphides in the wallrocks. The Nickel Plate "vein" is a shear controlled, felsic dyke about 4 metres thick which carries less than 1 gram gold on average and generally parallels the orientation of the Minto and Lost Cabin veins. The vein systems in general host a gangue of quartz plus or minus carbonate and chlorite with galena, sphalerite, pyrite, arsenopyrite, chalcopyrite, native gold and native silver in decreasing order of abundance. Between 1928 to 1941 about 272 tonnes were mined, mainly from the El Tee vein, which contained approximately 48 grams per tonne gold, 251.6 grams per tonne silver, 2.77 per cent lead and 1.7 per cent zinc. The system is similar to, and may be a strike extension of, the Golden Age deposit (082FSW185) to the northwest, across the Salmo River. Minor scheelite was reported and a tongue (sill?) of granite of the Middle to Late Jurassic Nelson Intrusions outcrops about 250 metres southwest of the showing.

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EMPR ASS RPT *2598, 3719, 5721, 6139, 6476, *14353, *15507, *18559
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GSC P 52-13
CANMET IR 72-34 (1972); 73-50 (1973)
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/13

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW187**

NATIONAL MINERAL INVENTORY:

NAME(S): **SECOND RELIEF (L.2463)**, NO. 1 VEIN, IDA D (L.2462),
BIG BUMP (L.2464), RELIEF FR. (L.2469), ERIE 1-5,
STAR SHINE (L.2466), GRAND UNION (L.2467)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 19 20 N
LONGITUDE: 117 23 48 W
ELEVATION: 1115 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Abandoned workings on Lot 2464 (NTS Map 082F/06).

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5463352
EASTING: 471174

COMMODITIES: Gold Molybdenum Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Molybdenite
COMMENTS: Only minor or traces of molybdenite reported.
ASSOCIATED: Quartz Magnetite Garnet Epidote
ALTERATION: Garnet Epidote Magnetite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive Shear
CLASSIFICATION: Skarn Hydrothermal Epigenetic
TYPE: K04 Au skarn K01 Cu skarn
K05 W skarn
SHAPE: Tabular
MODIFIER: Faulted Fractured
DIMENSION: 400 x 300 x 3 Metres STRIKE/DIP: 050/83N TREND/PLUNGE:
COMMENTS: The Second Relief or No. 1 vein has a strike length of 300 metres, has
been mined to a depth of 400 metres and is 0.2 to 3.5 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic	Rossland	Archibald	
Jurassic			Nelson Intrusions

LITHOLOGY: Greenstone
Argillaceous Quartzite
Lapilli Tuff
Fragmental Volcanic
Augite Porphyry Andesite
Granodiorite
Dioritic Dike
Granite Porphyry Dike
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Second Relief mine is located in a mountain valley 20 kilometres northwest of Salmo. The deposit was brought into production in 1902, was mined until 1919, resumed in 1928 and produced until 1941. This is the third largest gold-enriched skarn producer in the province. The main vein has been opened on 11 levels.

The area is underlain by lapilli tuff (Unit Je81, Open File 1989-11) and augite porphyry volcanics of the Elise Formation and siltstone, sandstone, argillite and quartzite of the Archibald Formation both of the Lower Jurassic Rossland Group. These occur as a roof pendant within granodiorite of the Bonnington pluton of the Middle to Late Jurassic Nelson Intrusions. The deposit occurs on the west limb of the Erie Creek anticline along the Red Mountain fault.

The Second Relief mine comprises at least eight subparallel veins striking northeast and dipping steeply northwest in greenstone or argillaceous quartzite. These are the Second Relief or No.1, the No.'s 2 to 5, the Ida D and the Inez and Rand veins (082FSW216). The

CAPSULE GEOLOGY

veins are sheared, quartz poor structures irregularly mineralized with pyrite and/or pyrrhotite plus one or more of magnetite, chalcopyrite, and sphalerite. Some of the veins locally host fine-grained visible gold. Gold and silver bearing veins consist of quartz, pyrite, epidote, garnet and magnetite. Lesser auriferous veins contain massive pyrrhotite and chalcopyrite.

The Second Relief is the main economic vein but the No.'s 2 to 5 parallel veins occur immediately to the southeast within about 100 metres. The Second Relief vein follows the hanging wall contact of an 8 to 12 metre wide diorite porphyry dyke and crosscuts projections of that dyke into the country rock. Where the dyke and vein go from volcanics to sediments the vein tends to follow the general bedding of the sediments but at the same time the precious metal values decrease greatly. The Second Relief or No.1 vein is 0.2 to 3.5 metres wide, has a strike length of 300 metres and has been mined to a depth of 400 metres. The vein strikes 050 degrees and dips 80 to 85 degrees north. The gangue comprises quartz and locally disseminated magnetite, garnet and epidote, indicating the likely presence of skarn alteration associated with the Nelson batholith immediately to the northeast of the occurrence. The vein carries pyrite, pyrrhotite and chalcopyrite with traces of molybdenite reported. The parallel veins were disappointing in their precious metal values.

The No. 2 vein, about 10 to 16 metres southeast of the No. 1 vein, is over 300 metres long and has been exposed by trenching for more than 228 metres. The exposed mineralized portion of the vein is up to 2.4 metres wide. Gold assayed between 0.137 to 34.2 grams per tonne gold across 1 metre or more. This vein is similar to the Second Relief vein and closely parallels it in strike and dip. The vein, hosted by fragmental volcanic rocks, is mineralized with pyrite, pyrrhotite, magnetite, sphalerite, chalcopyrite and, locally, visible fine-grained gold particles. Vein quartz is sparse and the vein is surrounded by a silicification envelope.

The No. 3 vein is a narrow stringer with no obvious mineralization.

The No. 4 vein, 96 metres southeast of the No. 1 vein, has been exposed by open cuts over a length of 15 metres. The quartz vein hosts pyrrhotite with chalcopyrite and a sample across 0.5 metre assayed 12.3 grams per tonne gold (Assessment Report 19839). The hanging wall is greenstone and the footwall is diorite.

The No. 5 vein, 106 metres east of the workings, is mineralized with pyrite and chalcopyrite. In the adit, the vein is 1.5 metres wide. In 1988, 2 samples assayed 0.07 and 26.53 grams per tonne gold respectively (Assessment Report 19839).

The Ida D vein occurs in the central portion of the property, about 150 metres west of the Second Relief vein. Samples from the portal area in 1988 assayed 0.10 to 35.65 grams per tonne gold (Assessment Report 19839). Production from this vein is reported as 34,280 grams of gold.

Sampling of pyritic alteration zones in the central portion of the property assayed 6.2 grams per tonne gold over more than 7 metres (Vancouver Stockwatch, Sept. 12, 1989).

The deposit is classed as a gold-enriched skarn. Production totals 207,023 tonnes which yielded 866,433 grams of silver, 3,117,637 grams of gold, 20,210 kilograms of copper, 1057 kilograms of lead and 147 kilograms of zinc.

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Placer Dome File
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DATE CODED: 1985/07/24
DATE REVISED: 1991/03/13

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/30

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW189**

NATIONAL MINERAL INVENTORY:

NAME(S): **PORTO RICO (L.2385)**, PUERTO RICO, SUNSHINE (L.2389),
LIZZIE B (L.2386), BARBARA (L.2387), ALPHA (L.2388)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 19 03 N
LONGITUDE: 117 19 31 W
ELEVATION: 1828 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Approximate location of workings on Lot 2385 (Assessment Report 7702).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5462803
EASTING: 476360

COMMODITIES: Gold Silver Copper Lead Zinc

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Gold Sphalerite Galena
Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Malachite
COMMENTS: Propylitic alteration minerals are not specified.
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 1 Metres
COMMENTS: The Porto Rico vein averages 0.8 metres in width.
STRIKE/DIP: 105 045/45N
TREND/PLUNGE: Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Jurassic	Rosslund	Elise	Unnamed/Unknown Informal

LITHOLOGY: Augite Porphyry Sill
Plagioclase Augite Porphyritic Intrusive
Andesite
Andesitic Tuff
Basaltic Tuff
Pyroclastic
Breccia

HOSTROCK COMMENTS: Unit Je3 of the Elise Formation (Open File 1989-11). The Middle (?) to Late Jurassic porphyry is informally named the Mammoth Intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Porto Rico (L.2385) occurrence is located on Barrett Creek, 15.5 Kilometres north-northwest of Salmo. Underground development began in 1896 and production is recorded for 1897.

The area is underlain by basaltic to andesitic lapilli tuff and pyroclastics (Unit Je3) of the Lower Jurassic Elise Formation, Rosslund Group (Open File 1989-11). These are intruded by the Late to Middle (?) Jurassic Mammoth Intrusions comprising plagioclase augite porphyritic diorite (?).

The occurrence consists of a quartz-filled fissure that strikes northeast and dips about 45 degrees to the northwest. The host rock is comprised of an augite porphyry sill which intrudes andesitic volcanics. The quartz vein averages about 0.8 metre in width and hosts pyrite, gold, arsenopyrite and very minor galena, sphalerite and chalcopyrite.

In 1899, 3719 tonnes of ore was mined producing 108,083 grams of gold and 31,103 grams of silver. Production from the Porto Rico vein over 13 years, in the period 1897 to 1969, totalled 5740 tonnes which produced 178,470 grams gold, 46,405 grams silver, 138 kilograms lead, 51 kilograms zinc and 322 kilograms copper.

In 1979, mineralization was observed on the Sunshine (Lot 2389) claim. It occurs in an old shaft and consists of a 1.3-metre wide shear zone which strikes east-west and dips 55 degrees north. Pyrite

CAPSULE GEOLOGY

and arsenopyrite occur in a breccia zone that is 0.5 metre wide. The sulphides cement irregular fragments of quartz and altered andesitic wallrock. The shear cuts porphyritic augite andesite which is stratigraphically below the augite porphyry sill in which the main vein on the Porto Rico claim is exposed. The andesitic volcanics show extensive propylitic alteration. Samples assayed 11.65 to 24.34 grams per tonne gold and 3.42 to 3.77 grams per tonne silver (Assessment Report 7702).

Northeast of the main vein, on the Lizzie B (Lot 2386) claim, malachite staining was found in mafic dyke material.

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/31

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW190**

NATIONAL MINERAL INVENTORY:

NAME(S): **SPOTTED HORSE (L.5375)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 19 33 N
LONGITUDE: 117 19 08 W
ELEVATION: 1554 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 5375 (NTS Map 082F06).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5463727
EASTING: 476828

COMMODITIES: Gold Silver Tungsten

MINERALS

SIGNIFICANT: Pyrite Gold
COMMENTS: Tungsten also reported.
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb) I05 Polymetallic veins Ag-Pb-Zn±Au
112 W veins
SHAPE: Irregular
MODIFIER: Sheared
DIMENSION: 1 Metres STRIKE/DIP: 110/57N TREND/PLUNGE: /
COMMENTS: Shear zone hosting veinlets and stringers.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	

LITHOLOGY: Augite Feldspar Porphyritic Sill
Augite Porphyry
Basaltic Lapilli Tuff
Basalt Flow
Flow Breccia

HOSTROCK COMMENTS: Units Je2 and Je4 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Spotted Horse deposit is located on the headwaters of a west flowing tributary of Barrett Creek about 17 kilometres north-northeast of Salmo. Workings comprise an open cut, a short adit and trenches. The workings are just northeast of the Porto Rico mine (082FSW189).

The area is underlain by basaltic lapilli tuff (Je2) and basalt flows and flow breccias (Je4) of the Lower Jurassic Elise Formation, Rossland Group (Open File 1989-11).

The adit exposes quartz and calcite veinlets and stringers in a shear zone, 0.91 to 1.2 metres wide, which generally strikes 110 degrees and dips 55 to 60 degrees north. The 0.15-metre wide quartz vein at the portal pinches out within a short distance. Native gold has been reported from the stringers and tungsten has also been reported from this occurrence. The vein hosts pyrite and gold. The vein is probably a continuation of the Porto Rico (082FSW189) main vein. The host rock is an augite porphyry sill which intrudes the volcanics.

Production from 1901, 1903 and 1937 totalled 47 tonnes which produced 1649 grams of gold and 2083 grams of silver.

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DATE CODED: 1985/07/24
DATE REVISED: 1991/06/03

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW191**

NATIONAL MINERAL INVENTORY:

NAME(S): **COMMODORE (L.14118)**, YMIR COMMODORE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 18 19 N
LONGITUDE: 117 10 33 W
ELEVATION: 1220 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5461408
EASTING: 487218

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Lot 14118 (NTS Map 082F06).

COMMODITIES: Silver

Gold

MINERALS

SIGNIFICANT: Pyrite Tetrahedrite Ruby Silver Pyrrargyrite

COMMENTS: Ruby silver and pyrrargyrite are the same mineral.

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 2 Metres
COMMENTS: Vein.

STRIKE/DIP: 005/80W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Ymir

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Porphyritic Granite
Schist
Argillite
Quartzite
Siltstone
Conglomerate Sandstone

HOSTROCK COMMENTS: Ymir Group sediments occur as pendants within the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Commodore occurrence is located on the south side of Wildhorse Creek, 9.6 kilometres east of Ymir. Workings comprise tunnels, trenching, drifting and drilling.

The area is underlain by porphyritic granite of the Late to Middle Jurassic Nelson Intrusions (Nelson batholith). The Nelson batholith hosts pendants of Lower Jurassic Ymir Group sediments comprising siltstone, sandstone, argillite and conglomerate.

A discontinuous quartz vein and/or veinlets trend generally north and parallel the trend of the schists dipping steeply west. The vein varies from massive quartz up to 2 metres wide to two small, barren quartz veinlets hosted by schists and in part by the granitic intrusive. Locally, massive sulphides are reported but gold and silver values are not economically significant. Ruby silver (pyrrargyrite) has been reported as well as traces of tetrahedrite.

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GSC MEM *94, p. 68; 308, p. 150
GSC OF 1195
GSC P 51-4

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1426
REPORT: RGEN0100

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

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW192**

NATIONAL MINERAL INVENTORY:

NAME(S): **ELISE (L.1310)**, EMA (L.2913), LYTTON (L.2194),
SUMMIT

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 20 44 N
LONGITUDE: 117 09 59 W
ELEVATION: 1350 Metres

UTM ZONE: 11 (NAD 83)

LOCATION ACCURACY: Within 500M

NORTHING: 5465884
EASTING: 487914

COMMENTS: Workings near the eastern boundary of Lot 1310 I(Assessment Report 14406).

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Silver Galena Sphalerite Chalcopyrite

Pyrrhotite

COMMENTS: Trace chalcopyrite.

ASSOCIATED: Quartz

ALTERATION: Silica Malachite

ALTERATION TYPE: Silicific'n Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Tabular

MODIFIER: Sheared

DIMENSION: 700 x 4 Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Sheared quartz veins strike 054 degrees and dip steeply to the north-west. The Summit vein has been traced for 700 metres and is 3 to 4 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Jurassic
Jurassic

GROUP

Ymir

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Argillite
Granite
Phyllite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Elise occurrence is located 8 kilometres northeast of Ymir on the Elise claim Lot 1310. The vein has been investigated by about 150 metres of underground workings.

Argillites and phyllites of the Lower Jurassic Ymir Group are host to northeast trending quartz veins carrying minor amounts of base and precious metals. The sediments strike 330 degrees and dip 70 to 85 degrees north. Granitic dykes of the Middle to Late Jurassic Nelson Intrusions have been noted in the area.

The Elise vein, about 1 metre wide, is hosted in sheared sediments. Mineralization consists of pyrite, minor native silver and lesser amounts of pyrrhotite, galena, sphalerite and trace chalcopyrite. Minor malachite is present as a secondary sulphide. Some silicification of the country rock in the vicinity of the vein-shear zone is reported. The vein strikes 054 degrees and dips steeply northwest.

Surface workings, an adit and a shaft were located in 1896 and 5 tonnes of material were shipped producing 9331 grams of silver.

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1428
REPORT: RGEN0100

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EMPR OF 1988-1; *1989-11; 1991-16
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GSC MEM 94, p. 94; 308, p. 154
GSC OF 1195
GSC P 52-13
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/11

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

mine. The vein, exposed in old workings, pinches and swells from 10 to 25 centimetres in width and strikes at about 260 degrees and dips 70 to 90 degrees north. The vein consists of massive bull quartz containing up to 30 per cent sulphides composed of pyrite and pyrrhotite with minor sphalerite, galena and arsenopyrite.

The vein contains highly variable values in gold ranging from less than 5 grams to over 45 grams per tonne. The records do not indicate the amount of hand cobbing carried out on the mined material to arrive at those final grades. The property, apparently, also produced minor amounts of copper but there is no indication of copper minerals present on the property nor in similar occurrences on adjoining and related properties. The Arizona vein produced about 296 tonnes of ore in total.

A 1985 chip sample of smoky, drusy quartz with dense, limonitic boxworks (J-04) taken from the vein assayed 60 grams per tonne gold (Assessment Report 14555). A geochemistry program in 1985 failed to outline the continuation of the Arizona vein.

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GSC MEM *94, p. 76, Fig. 6; 308, p. 155
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/15

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW194**

NATIONAL MINERAL INVENTORY:

NAME(S): **YMIR BELLE** YMIR BELLE 1-4, YMIR BELLE FR.,
NEW VICTOR (L.2083), EXCELSIOR (L.2085), YMIR,
BELLE

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F06E

UTM ZONE: 11 (NAD 83)

BC MAP:
LATITUDE: 49 20 23 N
LONGITUDE: 117 06 50 W

NORTHING: 5465228
EASTING: 491727

ELEVATION: 1430 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Old shaft at approximately 1430 metres elevation just north of New
Victor, Lot 2083 (Assessment Report 9333).

COMMODITIES: Gold Lead Zinc Silver

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite
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: STRIKE/DIP: 090/65N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Ymir Undefined Formation Nelson Intrusions
Jurassic

LITHOLOGY: Granodiorite
Mica Schist
Quartzite
Lamprophyre Dike

HOSTROCK COMMENTS: Roof pendants of Ymir Group sediments occur within the Nelson batho-
lith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 1.7000 Grams per tonne
Gold 8.9000 Grams per tonne
COMMENTS: Across 0.3 metres of the Ymir Belle vein taken from a small pit 15
metres west of shaft.
REFERENCE: Assessment Report 17985.

CAPSULE GEOLOGY

The Ymir Belle showing is located 10 kilometres northeast of Ymir, in between the Foghorn (082FSW078) and Wilcox (082FSW077) mines. Workings consist of small open cuts and pits and a shaft 44 metres deep.

The area is underlain by granodiorite of the Late to Middle Jurassic Nelson Intrusions (Nelson batholith) which contains roof pendants of mica schist and quartzite of the Lower Jurassic Ymir Group. Quartz veins occur in shear zones and as fissure fillings which trend east to northeast and are crosscut by lamprophyre dykes.

The showing consists of three veins, two of which may be strike extensions of a single vein.

These two veins strike about east and dip 60 to 70 degrees north. The veins are parallel and have an average width of 0.60 to 0.90 metre, but may be up to 1.5 metres in width. The gangue is

CAPSULE GEOLOGY

quartz and decomposed granite with pyrite, galena and sphalerite. Sampling indicates local grades of 8 to 10 grams gold. A chip sample across 1 metre of the New Victor vein, including 0.20 metre of quartz-pyrite vein material, assayed 5.0 grams per tonne gold and 5.2 grams per tonne silver (Assessment Report 17985)

The third vein strikes north, is about 0.40 to 0.45 metre wide and is reported to contain up to 30 grams per tonne gold locally. This vein, the Ymir Belle vein, is exposed in a shaft immediately north of the New Victor Crown Grant. The best assay from a sampling program in 1988 was from a chip sample across 0.3 metres of a small pit 15 metres west of the shaft. This chip sample assayed 8.9 grams per tonne gold and 1.7 grams per tonne silver (Assessment Report 17985).

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EMPR ASS RPT 8408, *9333, 12993, 14555, 13120, *17985, 19281
EMPR BC METAL MM00992
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EMPR GEM 1977-E52
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; 1090A; 1091A; 1144A
GSC MEM *94, p. 89; 191; 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/03

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

metamorphism has bleached the well-indurated hornfels of the Rossland Group which contains pyroxene and garnet. A swarm of Tertiary diorite dykes crosscut both the monzonite and Rossland Group rocks. Also, the Middle Eocene Coryell syenite intrudes the Rossland Group rocks at the eastern part of the claim.

There are three tunnels and several prospect shafts on the claim. Tunnel #1 discloses about 0.5 metres of solid ore comprised mainly of massive magnetite and chalcopyrite. In tunnel #2, mineralization occurs along a fissure or fault contact between the hornfelsed Rossland volcanics and a dioritic dyke. Massive pyrrhotite shows pronounced spheroid weathering. The vein is 0.5 metres wide hosting solid sulphides in quartz gangue. The host rock is crosscut by several Tertiary syenite dykes associated with the Coryell Intrusion. The dykes host minor disseminated chalcopyrite and exhibit porcelaineous-chilled margins. In tunnel #3 the Rossland rocks dip 60 degrees west.

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EMPR BULL *74
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1518; 1504A
GSC MEM *77, pp. 54,130
GSC P 79-26
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EMPR BULL 109

DATE CODED: 1987/09/22
DATE REVISED: 1991/05/16

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW196**

NATIONAL MINERAL INVENTORY:

NAME(S): **PILOT-GOOD HOPE**, GOOD HOPE (L.4382), GOOD HOPE FR. (L.4383),
PILOT, SWISS CHEESE, PENDANT #1,
BALDY 1-3, STANLEY (L.4384), YMIR CREEK

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:
LATITUDE: 49 21 22 N
LONGITUDE: 117 05 52 W
ELEVATION: 1920 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Good Hope workings at the southwest corner of Lot 4382 (Assessment Report 16464).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5467049
EASTING: 492899

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Gold
COMMENTS: Documentation of ore minerals is very poor but similar veins in the area all carry pyrite and galena.
ASSOCIATED: Quartz
ALTERATION: Kaolinite
COMMENTS: Kaolinite is developed within the sheared vein.
ALTERATION TYPE: Argillic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Regular
MODIFIER: Faulted Sheared
DIMENSION: 17 Metres
COMMENTS: Good Hope vein. STRIKE/DIP: 045/50N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Ymir	Unnamed/Unknown Formation	Nelson Intrusions
Jurassic			

LITHOLOGY: Porphyritic Granodiorite
Gneissic Granodiorite
Quartz Biotite Schist
Biotite Schist
Lamprophyre Dike
Breccia

HOSTROCK COMMENTS: Roof pendants of Ymir Group sediments occur within the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 100.0000 Grams per tonne
Gold 123.0000 Grams per tonne
Lead 0.0500 Per cent
Zinc 0.1200 Per cent
COMMENTS: Sample across zone of oxidized vein material from a trench on the Good Hope vein.
REFERENCE: Assessment Report 16464.

CAPSULE GEOLOGY

The Pilot-Good Hope occurrence is located 10 kilometres northeast of Ymir. The workings date to the turn of the century and consist of an adit on Lot 4382 and 13 open cuts and trenches near the adit and on the Baldy #2 claim. The occurrence comprises three

CAPSULE GEOLOGY

veins; the Good Hope, the Pilot and the Swiss Cheese.

The area is underlain by porphyritic and gneissic granodiorite (Nelson batholith) of the Middle to Late Jurassic Nelson Intrusions which host north-northeast trending veins. The veins comprise Lower Jurassic Ymir Group sediments striking 10 to 82 degrees southeast. The sediments have been metamorphosed to quartz-biotite schist and biotite schist.

Several parallel, sheared, quartz veins occur within granodiorite. The veins are highly brecciated and locally contain white kaolinite gouge. The veins are highly variable in width along strike and contain quartz in the wider sections. Lamprophyre dykes crosscut the veins and granitic country rock but are post-mineralization.

The Good Hope adit cuts a quartz vein about 0.30 metre wide. The vein is 0.45 metre wide over a length of 16.8 metres and then it thins. The orientation of the vein, northeast striking and 50 to 55 degrees north dipping, is approximately parallel to the abundant fractures noted in the granodiorite. The vein occupies a fault zone along its entire exposed length as evidenced by gouge or crushed granite in the quartz. The best assay results from sampling in 1987 came from a chip sample taken across a zone of oxidized quartz vein material in a trench. This assay was greater than 100 grams per tonne silver, 123 grams per tonne gold, 0.05 per cent lead and 0.12 per cent zinc (Assessment Report 16464).

The Swiss Cheese workings comprise several short adits and trenches. These expose a 0.20 to 0.40 metre wide quartz vein striking 080 degrees. The vein occurs within a 0.50 metre wide gouge zone near the contact with quartz-biotite schist. The vein hosts pyrite and is intensely oxidized. The highest assay from sampling in 1987 was from a dump sample of quartz with abundant free fine gold, pyrite, zinc staining and intense limonitic staining (Assessment Report 16464).

The Pilot vein lies about 100 metres southeast of the Good Hope veins and is parallel to the Good Hope. The greatest exposed width is about 45 centimetres of quartz with 15 centimetres of fault gouge. Best assays were in the order of 128 grams of gold and 102 grams of silver per tonne but metal values are highly erratic and no significant zone of mineralization has been outlined.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP *51-4A; *175A; 1090A
GSC MEM 94, p. 72; 308, pp. 156,174
GSC OF 1195
GSC P 51-4
GCNL #132, 1980
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/17

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW197**

NATIONAL MINERAL INVENTORY:

NAME(S): **MYRTLE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 57 N
LONGITUDE: 117 12 54 W
ELEVATION: 760 Metres

NORTHING: 5458883
EASTING: 484363

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location within Ymir townsite (Geological Survey of Canada Memoir 191 page 19).

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Regular

MODIFIER: Sheared Fractured

DIMENSION:

STRIKE/DIP: 025/50N

TREND/PLUNGE:

COMMENTS: Vein.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Lower Jurassic
Lower Jurassic

GROUP

Rossland
Ymir

FORMATION

Elise
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Basalt Flow
Flow Breccia
Augite Porphyry
Breccia
Sub Volcanic Intrusive
Sediment/Sedimentary
Mica Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Myrtle occurrence is located within the Ymir townsite. Workings comprise an adit and a shaft.

The area is underlain by basalt flows, flow breccias and subvolcanic intrusions of the Lower Jurassic Elise Formation (Units Je1 and Je4) and sediments of the Lower Jurassic Ymir Group (Open File 1989-11). These are cut by the Mt. Elise shear zone.

A quartz vein, striking 025 degrees and dipping 50 degrees north, occurs in a fault or crush zone. The vein varies from 0.30 to 0.60 metre in width and is locally represented by shattered or brecciated country rock with quartz and mineralized sulphide streaks. Along strike, the zone is filled with well mineralized quartz gangue. Mineralization consists of pyrite, some galena and traces of sphalerite. The sulphides occur as masses and streaks in the vein and in the country rock. The vein is intersected by a lamprophyre dyke and is conformable with schistosity.

It is reported that 25 tonnes of hand sorted material was mined producing 528 grams of gold, 2053 grams of silver, 122 kilograms of lead and 183 kilograms of zinc. Higher assays were reported from grab samples in the adit and shaft.

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1438
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/03

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW198**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEWEY (L.14431)**, JUBILEE (L.3026), DEMPSEY (L.14432),
TYNE (L.14433), BURCH

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 15 45 N
LONGITUDE: 117 11 35 W
ELEVATION: 975 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5456655
EASTING: 485954

LOCATION ACCURACY: Within 500M

COMMENTS: Showing includes several areas of workings. The location is the northern corner of Dewey Crown Grant, Lot 14431 (Geological Survey of Canada Map 1144A).

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au K02 Pb-Zn skarn
SHAPE: Irregular
MODIFIER: Sheared
DIMENSION: 15 x 2 Metres STRIKE/DIP: 040/80N TREND/PLUNGE:
COMMENTS: The vein on the Jubilee claim is up to 2.4 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Ymir	Undefined Formation	Nelson Intrusions
Jurassic			

LITHOLOGY: Limestone
Granite
Argillite
Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca Plutonic Rocks PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

CAPSULE GEOLOGY

The Dewey occurrences are located on the south slope of Jubilee Mountain, about 3 kilometres southeast of Ymir. The property was first explored in 1926.

The area is underlain by granite of the Late to Middle Jurassic Nelson Intrusions and sediments of the Lower Jurassic Ymir Group, comprising argillite, siltstone and limestone.

Northeast trending quartz veins host disseminated pyrite and minor galena and sphalerite. Northeast trending fault zones have been worked in the past but carry only traces of precious metals. Disseminated pyrite, galena and dark sphalerite with occasional chalcopyrite are reported from a 90 to 122 centimetre wide zone of silicified limestone near a granitic contact.

The vein on the Jubilee claim is exposed by 3 open cuts, has been traced for 15 metres and is 0.91 to 2.44 metres wide. The vein strikes 040 degrees and dips 80 degrees north.

In 1949 and 1952, a total of 40 tonnes was produced yielding 156 grams of gold, 4915 grams of silver, 1700 kilograms of lead and 1786 kilograms of zinc.

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EMPR ASS RPT 11753, 12439
EMPR BC METAL MM00985
EMPR BULL 41

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1440
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; 175A; 1090A; 1091A; *1144A
GSC MEM *191, p. 17; 308, pp. 184,192
GSC OF 1195
GSC P 51-4
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/03

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW199**

NATIONAL MINERAL INVENTORY:

NAME(S): **HOWARD (L.12538)**, DURANGO, UNION JACK,
PECK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 14 18 N
LONGITUDE: 117 06 46 W
ELEVATION: 1708 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: The Howard Crown grant (Lot 12538) is on the east side of Active Creek (Geological Survey of Canada Memoir 172, pages 70-73).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5453957
EASTING: 491791

COMMODITIES: Silver Lead Zinc Gold Cadmium
Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated Massive Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Regular
MODIFIER: Folded Faulted
DIMENSION: 2 Metres STRIKE/DIP: 016/45W TREND/PLUNGE:
COMMENTS: Queen A type veins are up to 1.8 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Ordovician	Undefined Group	Active	Nelson Intrusions
Jurassic			

LITHOLOGY: Quartzite
Granodiorite
Argillite
Granite
Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America Plutonic Rocks PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Quartzites and argillites of the Middle Ordovician Active Formation are intruded by granodiorite of the Middle to Late Jurassic Nelson Intrusions. The intrusive-quartzite contact is highly irregular, strikes generally northwest and dips gently in a south direction under the sediments. Lamprophyre dykes typically occur near faults.

Heavy mineralization, consisting of pyrrhotite, pyrite, sphalerite, galena, chalcopyrite and quartz occurs in a fissure vein called the Peck zone which strikes south across the intrusive-quartzite contact and has a west dip. Some visible gold has been observed. There are also two Queen vein (082FSW048) types of sulphide-bearing quartz veins which crosscut the fissure ore. The Queen A type are steeply dipping quartz veins that are from 1.5 to 1.8 metres wide and have associated minor parallel quartz stringers that occur up to a metre away from the vein. There are at least 3 of these large Queen A type veins in the mine area. The Queen B types is more of a fault than a quartz vein but irregular masses of quartz that do occur contain minor sulphides and some precious metal values. These veins branch and dip rapidly while the Queen A types do not.

The Queen vein strikes east-west with a steep south dip. Within the granite it is narrow and hosts some quartz and tourmaline and the granite is silicified. To the west the Queen vein becomes mineralized locally and intersects the Peck zone. Where the Peck zone intersects the granite to the north, mineralization consisting

CAPSULE GEOLOGY

of pyrite, pyrrhotite, sphalerite, and galena dies out and the granite-quartzite contact area is intensely silicified. To the south, the ore becomes massive and is up to 1.25 metres wide with some disseminated sulphides in the wallrocks. The ore zone is cut off to the south by the Queen fissure which exhibits sinistral movement in drag folds in the sulphide ores.

The total Howard mine production indicates grades of 17.15 grams per tonne gold, 85.7 grams per tonne silver and 12 per cent combined lead and zinc. The ore was confined to the zone between the granite-quartzite contact and the fault zone of the Queen fissure. In 10 years between 1937 and 1970 the Howard mine produced 20,091 tonnes of ore, of which 19,216 tonnes were mined in 1938. Recovery of elements from all ore mined, totalled 212,121 grams of gold, 1,613,871 grams of silver, 1,059,009 kilograms of lead, 343,307 kilograms of zinc and 68 kilograms of cadmium.

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EMPR BC METAL MM01016
EMPR BULL 1, p. 108; 3, p. 25
EMPR EXPL 1978-E50
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR GEM 1969-316; 1970-440,480
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GSC MAP 299A; 1090A; 1145A
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GSC OF 1195
GSC P 49-22; 50-19
GSC SUM RPT *1929A, p. 268A
Falconbridge File
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW200**

NATIONAL MINERAL INVENTORY:

NAME(S): **CLUBINE, COMSTOCK, BOULDER CITY,
CLUBINE-COMSTOCK**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:
LATITUDE: 49 14 15 N
LONGITUDE: 117 16 14 W
ELEVATION: 1037 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of lower No. 5 adit on Key Creek.

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5453893
EASTING: 480305

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au I01 Au-quartz veins
SHAPE: Regular
MODIFIER: Sheared Fractured
DIMENSION:
COMMENTS: Shears
STRIKE/DIP: 340/35N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic	Rossland	Hall	
Jurassic			Nelson Intrusions
Cretaceous			Hidden Creek Stock

LITHOLOGY: Augite Porphyry Sill
Argillite
Granite
Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Augite-porphyry of the Elise Formation and argillites of the Hall Formation, both of the Lower Jurassic Rossland Group, contain general northwest trending shear controlled quartz veining and lamprophyre dykes. The veins and dykes are associated with granites of the Middle to Late Jurassic Nelson Intrusions. The quartz veins carry high gold and variable silver values.

The Clubine-Comstock has workings on two major shears striking about 340 degrees and dipping about 35 degrees northeast. The No. 1 level workings are within argillites of the Hall Formation about 60 metres west of the main workings. The quartz vein is sheared and fractured and is more lead-zinc rich with lower gold values than the main workings. The main workings are on a shear zone associated with a lamprophyre dyke. Although both hanging and footwall sides of the dyke are sheared, quartz veining and mineralization appears confined predominantly to the footwall side. Lenses of quartz in the order of 0.5 metres wide with variable amounts and ratios of pyrite, chalcopyrite, galena and minor sphalerite and pyrrhotite are present. It is reported that the best grade and tonnage came from a zone of intersection of the vein with the Main Fault which strikes more to the west and has a steeper dip than the quartz vein.

The age of the veins is not known, they may be associated with the Nelson Intrusives, with the Hidden Creek Stock or with Tertiary deformation which elsewhere shows similar orientations (EMPR Bulletin 109, page 42).

Mine production totalled 3,616 tonnes of ore for the 13 years between 1926 and 1942. About 83 per cent (2,990 tonnes) of the total was mined in 4 years from 1936 to 1939. Recovery of economic minerals included 123,293 grams of gold, 239,463 grams of silver and

CAPSULE GEOLOGY

818 kilograms of zinc.

BIBLIOGRAPHY

EMPR AR 1925-248; 1926-287; 1931-138; 1932-25,159,188; 1933-199,
228; *1934-A26,E14; 1935-A27,E28; *1936-E3; *1937-A38,A41,E27,
E47; 1938-A36,E39; 1939-38,82; 1940-25,67; 1941-26,66; 1942-27,
63; 1946-144; 1958-39
EMPR ASS RPT 10072
EMPR BC METAL MM00969
EMPR BULL 1, p. 99; 3; 20, p. 10; 109
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (Starr, C.C. (1931): Report of Examination of the Boulder
City Group, 6 p.; Sketch of workings on Lower Vein, Boulder City
Group (1"=100'); Location map of Boulder City Group (1"=750');
Starr, C.C. (1949): Report of a Brief Examination of the
Clubine-Comstock Mine, 5 p.)
GSC MAP 299A; 1090A; *1145A
GSC MEM 172, p. 77; 308, p. 156
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/13

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: Y

MINFILE NUMBER: **082FSW201**

NATIONAL MINERAL INVENTORY:

NAME(S): **SECOND CHANCE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 13 31 N
LONGITUDE: 117 17 47 W

NORTHING: 5452542
EASTING: 478419

ELEVATION: 1430 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 4 kilometres northwest of Salmo (Minister of Mines Annual Report 1930, page 278).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite Galena

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins

I05 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Regular

MODIFIER: Faulted

DIMENSION:

STRIKE/DIP: 350/15W

TREND/PLUNGE:

COMMENTS: Vein

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP
Lower Jurassic Rossland

FORMATION
Hall

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite
Argillaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Argillites and argillaceous quartzites of the Lower Jurassic Hall Formation (Rossland Group) contain a quartz vein with pyrite and galena which strikes 350 degrees and dips about 15 degrees south-west. It was reported that in 1930 the lower tunnel, already 27 metres long, was extended considerably. Shipments of ore from the Second Chance, totalling 10 tonnes, were made in 1932, 1933 and 1934. A total of 280 grams of gold and 155 grams of silver were recovered.

BIBLIOGRAPHY

EMPR AR *1930-278; 1932-160; 1933-200,237; 1934-A27
EMPR ASS RPT 12075
EMPR BC METAL MM01063
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 299A; 1090A; *1145A
GSC MEM 308, pp. 156,174
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/13

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW202**

NATIONAL MINERAL INVENTORY:

NAME(S): **KEYSTONE (L.5137)**, DELAWARE (L.5136)

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 13 34 N
LONGITUDE: 117 18 16 W
ELEVATION: 1373 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5452637
EASTING: 477833

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 4 kilometres northwest of Salmo.

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Pyrrhotite Tetrahedrite

ASSOCIATED: Quartz

ALTERATION: Silica

COMMENTS: Silicification is typical of deposits in the area.

ALTERATION TYPE: Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

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

SHAPE: Irregular

MODIFIER: Fractured Sheared

DIMENSION: 1 Metres

STRIKE/DIP: 035/20N

TREND/PLUNGE:

COMMENTS: Vein is up to 1.5 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Hall	
Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Argillaceous Quartzite
Granodiorite
Lamprophyre Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Keystone-Delaware is a fault controlled, quartz vein deposit within argillites and argillitic quartzites of the Lower Jurassic Hall Formation of the Rossland Group. Granodiorite of the Middle to Late Jurassic Nelson Intrusions intrudes to the northeast of the occurrence. Typical of such vein deposits in the area there are also lamprophyre dykes and possible localized silicification. It is presumed that the Keystone-Delaware is the up-dip extension of the Arlington ore zone (082FSW205).

The vein has an average strike of about 035 degrees and dips about 20 degrees northwest while the host stratigraphy strikes about 015 degrees and dips about 65 degrees west. The vein varies from about 5 centimetres to about 1.5 metres in width but averages about 0.6 metres, it is partly filled with quartz plus pyrite and some galena, sphalerite, tetrahedrite and rare pyrrhotite. Locally some mineralized cross fracturing is developed.

Gold values vary from 2 to 100 grams and intermittent production from 1901 to 1942 of 1669 tonnes indicates an average grade of about 50 grams per tonne gold and 100 grams per tonne silver. Additional production took place from 1979-1981.

BIBLIOGRAPHY

EMPR AR 1900-847; 1901-1032; 1902-161; 1903-148; 1904-130,143; 1906-248; 1907-103,213; 1908-108,246; 1910-108,243; 1932-25,159,195; 1933-200,237; 1934-A27; 1935-A27,E29,G50; 1936-E47; 1937-A39,E47; 1938-A36; 1939-39,84; 1940-69; 1941-26,68; 1942-27,64
EMPR ASS RPT 11542, 12075
EMPR BC METAL MM01023

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1447
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 299A; 1090A; 1145A
GSC MEM *172, p. 76; 191; 308, pp. 156,174
GSC OF 1195
GSC P 51-4; 79-26
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/14

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW203**

NATIONAL MINERAL INVENTORY:

NAME(S): **CANADIAN KING (L.4196)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 13 38 N
LONGITUDE: 117 19 21 W
ELEVATION: 1312 Metres

NORTHING: 5452766
EASTING: 476519

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 5 kilometres northwest of Salmo.

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Irregular
MODIFIER: Folded Faulted

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic Jurassic	Rossland	Hall	Nelson Intrusions

LITHOLOGY: Argillite
Quartzitic/Quartzose Argillite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Argillites of the Lower Jurassic Hall Formation of the Rossland Group contain quartz veining with pyrite, galena and sphalerite. The Canadian King occurrence is immediately north of the old Arlington mine (082FSW205) and is within the same folded sequence of argillites and quartzitic argillites.

This mine was operated intermittently from 1900 to 1912 producing 440 tonnes of ore. It was operated after 1906 on a lease basis as part of the Arlington mine. Total recovery is reported to be 37,976 grams of gold, 80,526 grams of silver, and 1,224 kilograms of lead.

BIBLIOGRAPHY

EMPR AR 1900-982; 1902-161; 1903-148; 1904-143; 1906-150; 1908-108, 246; 1909-272; 1911-159; 1912-155,322
EMPR ASS RPT 11542, 12075
EMPR BC METAL MM00975
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR GEM 1970-441; 1975-E32
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (*See 082FSW205 for map and miscellaneous clippings)
GSC MAP 299A; 1090A; *1145A
GSC OF 1195
GCNL #246, 1975
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/14

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW204**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD HILL**, REST CREEK

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 14 25 N
LONGITUDE: 117 19 34 W
ELEVATION: 1357 Metres

NORTHING: 5454218
EASTING: 476262

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 6 kilometres northwest of Salmo. Old records confused this showing with an occurrence of the same name on 49 Creek near Nelson which also produced copper.

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Arsenopyrite Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Hall	

LITHOLOGY: Argillite
Arenite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Argillites and arenaceous sediments of the Lower Jurassic Hall Formation (Rossland Group) are host to a number of closely spaced, quartz veinlets which follow the trend of the bedding. The stratigraphy is gently folded and the amount of quartz increases where small, flat rolls developed in the sediments. Arsenopyrite and minor chalcopyrite were identified in quartz veinlets. Quartz composed about 0.4 metres of the adit face. No reliable precious metal assays are recorded.

A total of 19 tonnes of ore were mined in 1932, 1934 and 1942 from which was recovered 560 grams of gold and 1,027 grams of silver.

BIBLIOGRAPHY

EMPR AR 1934-A27; 1942-64,27
EMPR BC METAL MM01000
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 299A; 1090A; 1145A
GSC MEM *172, p. 78
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/14

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW205**

NATIONAL MINERAL INVENTORY: 082F3 Au1

NAME(S): **ARLINGTON (L.3648)**, NEW ARLINGTON

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 13 27 N
LONGITUDE: 117 19 43 W
ELEVATION: 1220 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5452428
EASTING: 476073

LOCATION ACCURACY: Within 500M

COMMENTS: Located on a ridge between Hooch and Rest creeks about 5 kilometres northwest of Salmo (Geological Survey of Canada Memoir 172).

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Regular
MODIFIER: Folded Faulted

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Rosslund

FORMATION

Hall

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Argillite
Argillaceous Quartzite
Granite
Granite Porphyry Sill

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: ARLINGTON

REPORT ON: Y

CATEGORY: Inferred
QUANTITY: 113000 Tonnes

YEAR: 1982

COMMODITY: Gold GRADE: 3.0000 Grams per tonne

COMMENTS: Reserves are dump material from which samples assayed between 3 and 53.5 grams per tonne gold.

REFERENCE: Northern Miner October 28, 1982.

CAPSULE GEOLOGY

This property, consisting of 9 Crown-granted claims and fractions, is located between Rest and Hooch Creeks about 4.8 kilometres northwest of Salmo.

The Arlington claim (Lot 3648) was Crown-granted to the Hastings (British Columbia) Exploration Syndicate Ltd. in 1899. The mine was in continuous operation from 1900 until June 1912; leasers kept the mine operating until November 1913. No further work was done until 1927 when the Arlington Mining Company reopened the mine and installed a 15 stamp mill; the company operated intermittently through 1928.

In 1929 the property was acquired by Relief-Arlington Mines Ltd.; the company was subsequently controlled by the W.N. O'Neil Company Ltd. and in the 1940's by Premier Cold Mining Company. The mine was operated under lease by R. Oscarson from 1932 to 1942.

Messrs. Schrieves and R. & K. Golac optioned the property in 1943 and acquired title to it in 1945. Intermittent operations were carried on by the owners or by leasers until October 1948 when F.C. Buckland optioned the property. Subsequent operations were carried on under an agreement by Kenville Gold Mines Limited until May 31, 1950, when the property reverted to the former owners.

CAPSULE GEOLOGY

New Arlington Mines Limited was formed in December 1951 to work the property. The mill capacity was increased from 50 to 125 tons per day and milling operations, mainly of dump material, continued into 1954. Subsequent operations were carried on intermittently by leasers. In about 1961 the property was acquired by J. Russell of Borregga Springs, California.

Development work totals over 5182 metres of drift, crosscuts and raises. The vein has been explored and largely mined out for 457 metres along the strike.

Lower to Middle Jurassic argillites and argillaceous quartzites of the Hall Formation (Rosslund Group) are gently folded and intruded by a granite-porphry sill of the Middle to Late Jurassic Nelson Intrusions.

Pyrite, galena, and sphalerite mineralization is hosted by quartz in a 0.6 metre thick vein which closely follows the granite-sediment contact but which locally occurs as a footwall or hanging wall to the intrusive sill. The vein lies in strata which exhibits gentle "rolls" or folds down-dip and these structures may have had some controlling influence on mineralization. The vein has been explored and largely mined out for 460 metres along strike.

The mine was in production from 1900 to 1913 and again from 1932 to 1970. The total amount of ore mined for these years was 69,823 tonnes. Recovered from the ore was 1,700,339 grams of gold, 4,334,578 grams of silver, 520,420 kilograms of lead and 456,920 kilograms of zinc.

In 1969, G.D. Fox and Associates of Trail, hauled material from the old dumps to the Trail smelter. These operations ceased in 1970. It is possible that Shalman Resources Limited held the property in 1975.

In 1982, the property was owned by Chutine Resources Ltd. They estimate that there are about 113,000 tonnes of dump material from which samples assayed between 3 and 53.5 grams of gold per tonne (Northern Miner, October 28, 1982, page 6).

In 1983, a soil geochemistry survey was carried out. About 3084 tonnes were mined producing about 7400 grams of gold. In 1985, Ryan Exploration Company Ltd. acquired the Chutine's interest. Chutine dropped its option in 1988.

BIBLIOGRAPHY

- EMPR AR 1899-842; 1900-847,982; 1902-161; 1903-148; 1904-129,135, 142; 1905-168; 1906-150,248; 1907-103,213; 1908-108,246; 1909-119,272; 1910-107; 1911-159,284; 1912-155,322; 1913-131,419; 1927-313; 1928-338; 1932-159,195; 1933-199,236; 1934-A26; 1935-E29,A27,G50; 1936-E47; 1937-A38,A39,E27; 1938-A35,E40; 1939-39,42,84; 1940-25,69; 1941-26,68; 1942-A27,A64; 1943-65; 1944-40,62; 1945-43,100; 1946-35,145; 1947-162; 1948-133; 1949-167; 1950-123; 1951-41,138; 1952-43,146; 1953-45,116; 1954-49,126; 1957-A46; 1958-A45,38; 1960-A54; 1961-A49,68; 1962-A49,74; 1963-A49,70; 1964-A55,115; 1965-181; 1966-212; 1967-244; 1968-242
- EMPR ASS RPT *11542, 12075
EMPR BC METAL MM00953
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR GEM 1969, p. 318
EMPR INDEX 3-188; 4-119
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (*1:720 Scale Map of Arlington Mine, unknown author; also Miscellaneous clippings; Relief-Arlington Mines, Limited, Annual Report for 1938)
EMR MP CORPFILE (Relief Arlington Mines Ltd.; New Arlington Mines Ltd.; Chutine Resources Ltd.)
GSC MAP 299A; 1090A; 1091A; 1145A
GSC MEM *172, p. 75; 308, p. 174
GSC OF 1195
CANMET IR 1935, 771, p. 134-141, #653
CANMET RPT Investigation No. MD2599 (1949); Concentration and Cyanidation Tests on a Sample of Low Grade Dump Material, containing Gold, Silver, Lead and Zinc from Arlington Mine, Ymir Area, Nelson District, British Columbia
GCNL #209,#246, 1975; #197, 1979; #74, 1984; #114,#174,#200,#217, 1985
IPDM Mar/Apr 1983
N MINER Oct.28, 1982; Sept.22, 1983; Jan. 24, 1985
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/14

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW206**

NATIONAL MINERAL INVENTORY:

NAME(S): **COMMANDER (L.960)**, MAJOR

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 34 N
LONGITUDE: 117 46 39 W

NORTHING: 5436208
EASTING: 443219

ELEVATION: 823 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the lower slopes of Columbia Kootenay Mountain, 1.5 kilometres east of Rossland on the old Trail road.

COMMODITIES: Gold Copper Tungsten

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Pyrite Melanterite Scheelite

COMMENTS: Black copper oxide on dump materials (melanterite?).

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Porphyry

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

Eocene

Coryell Intrusions

LITHOLOGY: Monzonite
Biotite Hornblende Augite Monzonite
Lamprophyre Dike
Syenite
Dioritic Dike

HOSTROCK COMMENTS: The Rossland monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1915

SAMPLE TYPE: Rock

COMMODITY

GRADE

Gold

5.0000

Grams per tonne

COMMENTS: Sample of disseminated sulphides from a monzonite host assayed 5 to 7 grams per tonne gold.

REFERENCE: Geological Survey of Canada Memoir 77.

CAPSULE GEOLOGY

The Commander claim is underlain by the Early Jurassic Rossland monzonite, an east-trending stock comprised of a biotite-hornblende-augite monzonite. Syenite of the Middle Eocene Coryell Intrusions invades the Rossland monzonite at the eastern part of the property and the monzonite is crosscut by a variety of Tertiary dioritic and lamprophyre dykes.

Mineralization on the claim consists of disseminated coarse and fine-grained pyrite, pyrrhotite and chalcopyrite. A black copper oxide, melanterite (?) was found on the dumps on the property. In 1915, disseminated sulphides from the monzonite host assayed 5 to 7 grams per tonne gold (Geological Survey of Canada Memoir 77, page 131). In 1942, scheelite was detected in the shaft dump.

BIBLIOGRAPHY

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EMPR BULL 74
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1453
REPORT: RGEN0100

BIBLIOGRAPHY

1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16; 1991-17
GSC EC GEOL #17, pp. 98-99
GSC MAP 1518; 1504A
GSC MEM *77, p. 131
GSC P 79-26
Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
B.C., Ph.D. Thesis, University of Wisconsin
EMPR BULL 109

DATE CODED: 1987/09/22
DATE REVISED: 1991/05/17

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW207**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER DOLLAR (L.12599)**, LUCKY BOY (L.12600)

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 082F03W
 BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 11 55 N
 LONGITUDE: 117 17 19 W
 ELEVATION: 900 Metres

NORTHING: 5449575
 EASTING: 478974

LOCATION ACCURACY: Within 500M

COMMENTS: West part of Salmo, 300 metres from granite contact (Geological Survey of Canada Memoir 172, page 84).

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Chalcopyrite Pyrite Bornite

Tetrahedrite

COMMENTS: Occur in matrix to argillite breccia with calcite-ankerite gangue.

ASSOCIATED: Calcite Ankerite Quartz

ALTERATION: Carbonate Silica

ALTERATION TYPE: Carbonate Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Shear

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Irregular

MODIFIER: Faulted Fractured

DIMENSION: 1 Metres STRIKE/DIP: 290/80N

TREND/PLUNGE:

COMMENTS: The Silver Dollar vein is up to 1.5 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Hall	Nelson Intrusions
Jurassic			

LITHOLOGY: Argillite
 Greywacke
 Siltstone
 Feldspar Quartz Porphyry
 Granite
 Breccia
 Tuff
 Flow

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: UNDERGROUND WORKINGS

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Rock

COMMODITY

	GRADE	
Silver	3790.0000	Grams per tonne
Gold	57.8100	Grams per tonne
Copper	0.8200	Per cent
Lead	5.5000	Per cent
Zinc	3.7000	Per cent

REFERENCE: Assessment Report 18786.

CAPSULE GEOLOGY

The Silver Dollar and Lucky Boy occurrences are underlain by greywackes, argillites and interbedded tuffs and flows of the Lower Jurassic Hall Formation, Rossland Group. Feldspar-quartz porphyry dykes and/or sills occur and are somewhat conformable to bedding. The strata, striking north and dipping 40 to 90 degrees east, has been folded and appears to have been overturned. A granitic stock of the Middle to Late Jurassic Nelson Intrusions occurs within several hundred metres of the workings.

CAPSULE GEOLOGY

The Silver Dollar occurrence occurs in argillite and consists of a crosscutting vein, up to 1.5 metres wide, striking 290 degrees and dipping steeply north. Sphalerite, galena with only minor chalcopyrite and pyrite occur erratically along the strike length of the vein with calcite and ankerite.

The Lucky Boy vein is hosted in a shear zone, striking about 020 degrees north and dipping 10 to 30 degrees east. Pyrite is found as euhedral crystals in all rocks types. Quartz within the shear zone occurs as veins, veinlets and stringers that are generally well fractured and broken. In and along the margins of the quartz are pyrite, chalcopyrite, galena, rare sphalerite and bornite and tetrahedrite. Alteration consists carbonatization and silicification. Samples taken from the underground working assayed up to 57.81 grams per tonne gold and 3790 grams per tonne silver and base metal values range up to 5.5 per cent lead, 3.7 per cent zinc and 0.82 per cent copper (Assessment Report 18786).

Production figures from both the Silver Dollar and the Lucky Boy workings are combined. Production was reportedly intermittent from 1899 to 1970 but records indicate that from 1947 to 1970, 5,425 tonnes of ore were mined which produced 50,916 grams of gold, 1,818,469 grams of silver, 52,597 kilograms of lead and 60,230 kilograms of zinc.

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EMPR ASS RPT *18786
EMPR BC METAL MM01067
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR GEM 1969-317; 1970-480
EMPR INDEX 3-218
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 299A; 1090A; 1091A; 1145A
GSC MEM *172, p. 84; 308, p. 185
GSC OF 1195
GCNL #97,#141, 1988; #9, 1989
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/15

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW208**

NATIONAL MINERAL INVENTORY:

NAME(S): **PERRIER**, JULIUS CEASAR (L.687), LUCKY BOY,
 LIZZIE (L.688), SELOUS CREEK, WAR (L.696-697),
 MASCOT (L.686), SILVER HAWK, CAMERON,
 SILVER, SAM

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 082F06W
 BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 26 27 N
 LONGITUDE: 117 15 42 W
 ELEVATION: 870 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5476496
 EASTING: 481031

LOCATION ACCURACY: Within 500M

COMMENTS: Portal of underground workings lies east of and below the railroad
 grade (Property File - O'Grady, B.T. (1932)).

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena Chalcopyrite Gold

ASSOCIATED: Quartz Calcite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Stratiform Massive
 CLASSIFICATION: Hydrothermal Epigenetic Volcanogenic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au G06 Noranda/Kuroko massive sulphide Cu-Pb-Zn

SHAPE: Irregular

MODIFIER: Faulted

DIMENSION: 500 Metres

STRIKE/DIP: 012/47E

TREND/PLUNGE:

COMMENTS: Main vein, 0.25 to 0.55 metre wide, strikes between 005 and 020
 degrees and dips 35 to 60 degrees east.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Chlorite Schist
 Quartz Feldspar Porphyry
 Schistose Biotite Tuffite
 Basalt Augite Flow
 Flow Breccia
 Granodiorite
 Granite

HOSTROCK COMMENTS: Unit Je1 in the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

Plutonic Rocks

RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Greenschist

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1982

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	114.5000	Grams per tonne
Gold	2.7100	Grams per tonne
Copper	0.1900	Per cent
Lead	3.6600	Per cent
Zinc	5.7500	Per cent

COMMENTS: Across 0.45 metres of the stratiform mineralized zone at the Lucky Boy
 adit.

REFERENCE: Assessment Report 10605.

CAPSULE GEOLOGY

The Perrier mine is located 3 kilometres south of Nelson. The
 area has been intermittently explored since the early 1900's.

The area is underlain by altered augite (plus or minus
 plagioclase) basalt flows, flow breccia and subvolcanic intrusions of

CAPSULE GEOLOGY

the Lower Jurassic Elise Formation (Unit Jel), Rossland Group (Open File 1989-11). A tongue of granite to granodiorite of the Middle to Late Jurassic Nelson batholith occurs to the east.

There are three types of mineralization in the area: (1) gold-bearing quartz veins; (2) stratiform lead-zinc deposits; and (3) widespread disseminated sulphide mineralization. The veins appear to be fault controlled.

A flat lying quartz vein which crosscuts the regional foliation is hosted in chloritic schists. The vein strikes about 005 to 020 degrees and dips 35 to 60 degrees east. The vein, 0.25 to 0.55 metres wide, has been traced along strike for over 500 metres. The vein has quartz gangue with sphalerite, galena, pyrite, chalcopyrite and occasionally, free gold. Concentrations of sulphides are reported in zones where the vein has a flatter dip. A crosscutting vein which may be a branch of the main vein outcrops about 61 metres southeast of the shaft, strikes 330 degrees and has a vertical dip. This second vein hosts minute amounts of ruby silver and native silver with some carbonate (calcite).

The Julius Ceasar vein, about 450 metres due west of the Perrier mine, is hosted in quartz-feldspar porphyry. Chip samples assayed only low gold and silver values.

At the Lucky Boy adit, 150 metres south of the Perrier shaft, a mineralized zone, 0.45 metre wide, hosts galena, sphalerite, chalcopyrite and minor magnetite in schistose biotite tuffite. A grab sample taken in 1982 from the adit across the 0.45 metre assayed 0.190 per cent copper, 3.66 per cent lead, 5.75 per cent zinc, 114.5 grams per tonne silver, 2.71 grams per tonne gold (Assessment Report 10605). This deposit has been determined to be a Kuroko-type volcanogenic massive sulphide deposit.

Limited information and production records between 1913 and 1937 indicate the mine produced in excess of 2000 tonnes recovering over 34,681 grams of gold, 94,803 grams of silver, 14,384 kilograms of lead and 21,144 kilograms of zinc. Geochemical and geophysical survey results in 1988 were interesting (Assessment Report 17686).

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EMPR ASS RPT 3091, 7377, 7393, *10605, 11720, 15654, *17686, 21255
EMPR BC METAL MM01048
EMPR BULL 1, p. 96; 41; 109
EMPR EXPL 1975-E34; 1979-61
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR GEM 1971-404
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16; 1999-2
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GSC MAP 51-4A; 1091A
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Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
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DATE CODED: 1985/07/24
DATE REVISED: 1991/03/18

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW209**

NATIONAL MINERAL INVENTORY:

NAME(S): **CATHERINE (L.4437)**, CATH 1-2

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 26 22 N
LONGITUDE: 117 14 55 W
ELEVATION: 1250 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5476338
EASTING: 481976

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of adits at the southwest corner of Lot 4437 (Assessment Report 11720).

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Gold Pyrite Chalcopyrite

Pyrrhotite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

SHAPE: Irregular

DIMENSION: 2 Metres

STRIKE/DIP: 325/33N

TREND/PLUNGE:

COMMENTS: Original vein showing or Catherine vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Granite
Granodiorite
Biotite Granodiorite
Augite Basalt Flow
Flow Breccia
Sub Volcanic Intrusive

HOSTROCK COMMENTS: Unit Je1 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Catherine occurrence is located 6.5 kilometres south-southwest of Nelson. The Catherine Crown Grant was originally staked in 1902. Workings consist of a trench and three short adits.

The area is underlain by augite basalt flows, flow breccias and subvolcanic intrusions of the Lower Jurassic Elise Formation (Unit Jel), Rossland Group (Open File 1991-16). These are intruded by biotite granodiorite of the Late to Middle Jurassic Nelson Intrusions. The granodiorite forms a small stock with associated sills and late stage quartz veins.

The Catherine showing consists of one or more relatively flat lying quartz veins hosted in the granitic intrusive. Mineralization consists of galena, sphalerite, pyrite, chalcopyrite and pyrrhotite. The setting is similar to that of the Perrier mine (082FSW208), 800 metres to the west. The veins are 0.10 to 0.40 metre wide with local pinching and swelling. Vein material, often fractured and limonitic is composite with lenses or rafts of granite separating the quartz. Granitic wallrock alteration comprises weak to moderate sericitization locally accompanied by minor pyritization.

The original showing or Catherine vein was reported as being 1.2 to 1.8 metres wide, exposed by stripping for about 30 metres, northwest striking and about 30 to 35 degrees northeast dipping. Mineralization consists of pyrite, galena and free gold.

In 1983, the highest assay from the old workings was from a sample taken at the portal of adit #2 across 0.15 metres of quartz with galena, pyrite and sphalerite. This sample assayed 41.48 grams per tonne gold and 93.24 grams per tonne silver (Assessment Report 11720).

CAPSULE GEOLOGY

Recorded production, over the period 1928 to 1941, totalled 135 tonnes, yielding 5599 grams of gold, 15240 grams of silver, 3717 kilograms of lead and 1969 kilograms of zinc.

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1939-38,79; 1940-25; 1941-26
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EMPR BC METAL MM00977
EMPR BULL 1, pp. 96-97; 41
EMPR EXPL 1975-34; 1979-61
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR GEM 1971-404
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A; 1091A
GSC MEM 191, pp. 61, 63; 308, pp. 155, 172
GSC OF 1195
GSC P 52-13
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/04

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW210**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUMMINGBIRD**, HUMMING BIRD 1-11, HB

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 27 56 N
LONGITUDE: 117 10 20 W
ELEVATION: 1646 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5479226
EASTING: 487521

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of workings on the HB 4 claim (Assessment Report 14867).

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Sphalerite Galena Arsenopyrite Pyrrhotite Pyrite

Chalcopyrite

ASSOCIATED: Quartz

ALTERATION: Silica

ALTERATION TYPE: Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Shear

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

SHAPE: Irregular

MODIFIER: Sheared

DIMENSION: 35 Metres

STRIKE/DIP: 080/45S

TREND/PLUNGE:

COMMENTS: Main vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Ymir

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Granodiorite
Argillaceous Quartzite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Hummingbird occurrence is located 9 kilometres southeast of Nelson. The vein (veins ?) was being worked as early as 1922. Minor production is recorded for the years 1933, 1941 and 1960. Numerous open cuts, pits and trenches are scattered over the property. The setting is similar to the Wisconsin property (082FSE036) to the east.

The area is underlain by granite and granodiorite of the Late to Middle Jurassic Nelson Intrusions (Nelson batholith) near the contact with Lower Jurassic Ymir Group sediments. Sediments comprise argillite, quartzite, siltstone and limestone. Plutonic rocks outcrop north, south and east of the main showings and numerous granitic sills intrude the sediments. Post-ore faulting is observed.

Erratic and discontinuous breccia and quartz veins, containing sphalerite, galena, pyrite, some pyrrhotite, arsenopyrite and chalcopyrite, cut grey black argillaceous quartzite. The veins trend east which is roughly bedding-parallel. The veins occur in a 2 metre wide fault zone in brecciated and silicified country rock. The country rock is locally replaced by sphalerite, galena and pyrite. Mineralization occurs in crosscutting fractures/veinlets in open space filling textures, in bedding parallel veinlets, in veins and in discontinuous blebs and lenses.

The main vein averages about 15 centimetres wide, but may be up to 45 centimetres, strikes about 080 degrees and dips 45 to 50 degrees south. A minimum length of 35 metres is suggested from the character of the mineralization.

A 0.35-metre chip sample across a 0.25-metre wide quartz vein exposed in an open cut above the portal of the main vein assayed 1.15 grams per tonne gold, 4.8 grams per tonne silver, 0.26 per cent lead and 0.005 per cent zinc (Assessment Report 14867).

MINFILE NUMBER: **082FSW210**

CAPSULE GEOLOGY

In the years 1933 and 1941 minor production, totalling 77 tonnes, is recorded. The recovery was 1959 grams of gold, 4696 grams of silver, 1335 kilograms of lead and 5153 kilograms of zinc. Clean-up in 1960 produced 1711 grams of silver, 357 kilograms of lead and 973 kilograms of zinc from 20 tonnes of ore.

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1933-221,223; 1941-26,63; 1946-140; 1960-A54,67
EMPR ASS RPT *14867
EMPR BC METAL MM01017
EMPR BULL 41
EMPR EXPL 1986-C54,C55
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A; 1091A
GSC MEM 308, pp. 155,164
GSC OF 1195
GSC P 51-4
GCNL #131; #145, 1986
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/04

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW211**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAMMOTH (L.14694)**, MONARCH, KENO,
MARIPOSITE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 21 27 N
LONGITUDE: 117 17 09 W
ELEVATION: 1770 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5467238
EASTING: 479243

LOCATION ACCURACY: Within 500M

COMMENTS: Old shaft and workings on original Crown Grant (Assessment Report 10416).

COMMODITIES: Copper Molybdenum Silver Lead Zinc
Gold Nickel

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Molybdenite Pyrrhotite Galena

Sphalerite
COMMENTS: Tungsten reported but not verified.

ASSOCIATED: Quartz

ALTERATION: Epidote Feldspar Garnet Mariposite Actinolite

ALTERATION TYPE: Skarn Silicific'n Potassic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Skarn Epigenetic
TYPE: K01 Cu skarn K05 W skarn
I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic	Rossland	Hall	
Jurassic			Nelson Intrusions

LITHOLOGY: Augite Porphyry
Hornfels
Argillite
Agglomerate
Granite
Volcanic
Siltstone
Conglomerate
Greywacke

HOSTROCK COMMENTS: Mineralization is hosted in sedimentary and volcanic rocks adjacent to the Bonnington pluton.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

Plutonic Rocks

METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization

GRADE: Hornfels

INVENTORY

ORE ZONE: TRENCHES

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1982

SAMPLE TYPE: Rock

COMMODITY

GRADE

COMMODITY	GRADE	Units
Silver	15.8000	Grams per tonne
Copper	1.6600	Per cent
Molybdenum	0.0660	Per cent
Nickel	0.1260	Per cent
Lead	0.0800	Per cent
Zinc	0.1430	Per cent

COMMENTS: The samples were taken from trenches, poorly located.

REFERENCE: Assessment Report 10416.

CAPSULE GEOLOGY

The Mammoth occurrence is located 15 kilometres south-southwest of Nelson. The area has been explored since 1917.

The area is underlain by sediments of the Hall Formation and

CAPSULE GEOLOGY

volcanic rocks of the Elise Formation both of the Lower Jurassic Rossland Group. These have been intruded by the Middle to Late Jurassic Nelson Intrusions.

Erratic but widespread molybdenum-copper, with minor lead-zinc-silver mineralization and traces of gold, occur within and around skarn and contact zones. The skarn zones, containing scattered mineralization, are hosted in volcanic and sedimentary rocks. Mineralization primarily occurs as disseminated pyrite, molybdenite, and chalcopyrite in skarn zones within augite porphyry and agglomerate of the Elise Formation adjacent to the Bonnington pluton. Locally, minor veins carry sulphides but further to the north (Keno 082FSW349) significant mineralization similar to the Fern mine (082FSW183) occurs. Tungsten was reported by Little in 1959 but this has not been verified except geochemically.

Silicification, potassic alteration and skarnification are most common in the volcanic rocks. Most of the sulphide-rich areas are at or near contact zones of volcanics with intrusive rocks. Although the hornfelsed argillites of the Hall Formation host significant disseminated pyrite and some pyrrhotite locally, no economic mineralization in these rocks is reported.

Recent samples taken from surface trenches assayed up to 0.066 per cent molybdenum, 1.66 per cent copper, 15.8 grams per tonne silver, 0.08 per cent lead, 0.143 per cent zinc and 0.1260 per cent nickel (Assessment Report 10416). Old drill core samples returned higher molybdenum values but the mineralization is very erratic. Only traces of gold have been reported.

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EMPR BULL 41
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR GEM 1972-51
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC OF 1195
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
WWW http://www.infomine.com/index/properties/MAMMOTH_-BLUEBIRD.html
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/15

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW212**

NATIONAL MINERAL INVENTORY: 082F4 U1

NAME(S): **MOTA, CHINA CREEK, U3,
GENELLE**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:
LATITUDE: 49 14 00 N
LONGITUDE: 117 42 14 W
ELEVATION: 765 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located about 11 kilometres south of Castlegar, near China Creek.

MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)
NORTHING: 5453633
EASTING: 448757

COMMODITIES: Uranium

MINERALS

SIGNIFICANT: Pitchblende
ASSOCIATED: Quartz Feldspar
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated
CLASSIFICATION: Pegmatite
TYPE: O02 Rare element pegmatite - NYF family

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Castlegar Gneiss
ISOTOPIC AGE: 87 +/- 8 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			

LITHOLOGY: Pegmatite
Gneiss
Schist

HOSTROCK COMMENTS: The age date is from Geological Survey of Canada Paper 87-2, page 16.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Undivided Metamorphic Assembl.
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP:
GRADE:

INVENTORY

ORE ZONE: SAMPLE
CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Uranium
COMMENTS: Sample over 0.45 metres.
REFERENCE: Property File (Skerl, 1968).

GRADE	PERCENT
0.4500	Per cent

CAPSULE GEOLOGY

The property is located on China Creek on the west side of the Columbia River 11.2 kilometres north of Trail, close to the main Highway.

Prospector Murray Swetz, of Vancouver, is reported to have obtained high scintillometer counts in the area in December 1967. He staked claims which were optioned to Calix Mines Ltd. in 1968. Norex Uranium Ltd. in 1968 acquired options on 66 claims in 3 groups in the same general area. Norex purchased a 50 per cent interest in 24 claims, the Atom 17-22 inclusive and Mota 1-18 inclusive, for \$48,500 from Prospector Matthew Pritchard, of Edmonton, by an agreement dated May 1969. The company carried out prospecting, trenching, and diamond drilling at a cost of \$9,162. Hogan Mines Ltd. in 1968 optioned 20 claims in the area from Prospector M. MacDougall of Nelson, who had conducted an airborne scintillometer survey over the area.

Silver Arrow Explorations Ltd. held a 20 claim uranium prospect in the area in 1968. The company in 1970 amalgamated with Buttle Lake Mining Company Limited under the name Stampede International Resources Ltd.

Subsequent events are lacking. Five companies: Golden Granite

CAPSULE GEOLOGY

Mines Limited, Groundstar Resources Limited, Nevex Mines Ltd., Nomad Mines Ltd. and Tandem Resources Ltd. in January 1977 formed China Creek Uranium Consortium Inc, to consolidate 78 units covering 4,800 acres in the area. Stampede International Resources Ltd. and Northwest Ventures Ltd. agreed to provide joint financing in return for share interests in China Creek Uranium. Work in 1977 included Preliminary scintillometer, geochemical, and radon gas detection surveys, trenching, and percussion drilling in 51 holes to depths of 15.2 to 30 metres. The drilling was done in two areas, the Oko Poko Hill on the northeast side of China Creek, and on the southwest side of China Creek opposite Oko Poko Hill.

Coarse-grained feldspar and quartz are the dominant minerals in layered, shallow-dipping pegmatoid horizons of the Late Cretaceous Castlegar Gneiss Complex (possibly the metamorphic equivalent of the Pennsylvanian to Permian Mount Roberts Formation). Euhedral and subhedral grains of pitchblende, up to 1 millimetre across, occur in the pegmatites. The best assay result was about 0.02 per cent uranium across a thickness of 45 centimetres (Skerl, 1968).

Several radioactive occurrences lie to the west of this showing.

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/01/31

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW213**

NATIONAL MINERAL INVENTORY: 082F6 Mo1

NAME(S): **COPPER KING (L.5153)**, DORA (L.5152), DRUM LUMMON (L.5481),
EDDIE (L.12186), HOMESTAKE (L.3433), JUNE 1,
DRUM LUMMOND, ERIE CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 15 52 N
LONGITUDE: 117 23 49 W
ELEVATION: 1100 Metres
LOCATION ACCURACY: Within 500M

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5456929
EASTING: 471121

COMMENTS: Numerous workings occur on the west side of Erie Creek. The location is for workings near the southern boundary of Lot 5153 (Assessment Report 18478).

COMMODITIES: Silver Gold Copper Lead

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Arsenopyrite Chalcopyrite Galena
ASSOCIATED: Quartz
ALTERATION: Quartz Pyrite Chlorite
ALTERATION TYPE: Silicific'n Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au L07 Porphyry W
I05 Polymetallic veins Ag-Pb-Zn±Au

COMMENTS: The workings on the west side of Erie Creek that comprise this showing are interpreted to occur within the 1.5 to 2 kilometre chalcopyrite zone.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Archibald	
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions

LITHOLOGY: Greenstone
Biotite Hornfels
Quartz Monzonite
Aplite Dike
Feldspar Porphyry Dike
Augite Andesite
Hornfels
Siltstone
Argillite

HOSTROCK COMMENTS: Quartz monzonite stock is the Erie stock.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
Plutonic Rocks
RELATIONSHIP: Syn-mineralization
GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 20.2000 Grams per tonne
Gold 0.4450 Grams per tonne

COMMENTS: The sample taken was from hornfels containing chalcopyrite near the northeastern boundary of the Dora claim.

REFERENCE: Assessment Report 15510.

CAPSULE GEOLOGY

The property is located at a 1067 metres elevation on the west side of Erie Creek, extending south from Grassy Creek, some 24 kilometres south-southwest of Nelson.

The Dora claim (Lot 5152) was Crown-granted to H. Porter in

CAPSULE GEOLOGY

1901. The following year the adjacent Drum Lummon (Lot 5481) was Crown-granted to P. Bums and the Homestake (Lot 3433) to The Copper Farm Gold Mining and Development Company, Limited. No work was reported but Map 52-13 A shows two adits in this vicinity.

The Consolidated Mining and Smelting Company Limited held an option on this ground in 1928 and diamond drilling was carried out.

Canzac Mines Ltd. in 1967 held Mineral Lease M 129 comprising the above claims and the adjoining Copper King (5153), Goodenough (5466), Monte Carlo (1066) and Nelson (12177), located on and extending south from Grassy Creek. The company also held Mineral Lease M 125 comprising the Rosa (2460), Belle (2461), Florence (3237) and Bully Boy (3238) reverted Crown-grants located about 1.6 kilometres to the south between Skillet and McKay creeks. The Hattie 1-32 claims were staked over the adjacent area, extending east of Erie creek to Young Grouse Creek, a tributary of Burnt Creek. Map 52-13 A shows an adit in the vicinity of the Rosa claim. Trenching was reported in 1967.

McIntyre Porcupine Mines Limited optioned the claims from Canzac by an agreement dated March 1968. Work by McIntyre in 1968-70 included geological mapping, a geochemical soil survey and 1703 metres of diamond drilling in 12 holes. Wollaston Lake Mines Ltd. acquired all the assets of Canzac Mines in 1969. The company name (Wollaston) was changed in 1971 to Comaplex Resources International Ltd. Under the option agreement McIntyre had to form a new company to acquire the property and accordingly Dalhat Mines Limited was incorporated March 1971 with Comaplex holding a 30 per cent share interest. Additional claims (Dal 1-17) were apparently staked at that time. Work in 1974 included geological mapping and an induced potential survey over 11.2 kilometres.

Canamax Resources Inc. apparently acquired the property.

The Copper King showings are located on the west side of Erie Creek, about 13.5 kilometres southwest of Ymir. The area was first explored in the 1890's. The workings, comprising numerous pits, adits and trenches, on the Drum Lummon, Copper King, Homestake and Dora claims are all now included in the Erie Creek property. There is only sparse information on these individual claims. The Arnold (082FSW301), Ben Hassen (082FSW300) and Hattie (082FSW226) occurrences are also part of this property.

The area is underlain by the Lower Jurassic Rossland Group Elise Formation volcanics and Archibald Formation sediments. The Rossland Group rocks are intruded by the Middle to Late Jurassic Nelson Intrusions, locally known as the Erie stock. The Erie stock is comprised of a light grey quartz monzonite with associated aplitic and feldspar porphyry dykes. Biotite hornfels is apparently a contact metamorphic effect related to both the Nelson batholith and the Erie Creek dyke swarm. It is mainly developed in argillite and siltstone. Chlorite occurs mainly on fractures and in shear veins in augite andesite and hornfels.

Mineralization on the property occurs roughly in four concentric zones. An inner quartz-molybdenum plus scheelite zone followed by a chalcopyrite zone, a pyrite-pyrrhotite zone and an outer sphalerite-galena zone. The inner zone is approximately 600 metres in diameter and is centered on the east side of Erie Creek. The host rocks are quartz monzonite dykes, stocks and white rhyolite. The chalcopyrite zone occurs over an area of 1.5 to 2 kilometres and occurs in quartz and sulphide veinlets as fracture coatings and in shear veins with pyrite, pyrrhotite and minor amounts of scheelite. Best copper values obtained, up to 1.3 per cent, were from vein and dump samples mainly from old workings on the west side of Erie Creek (Drum Lummon, Cooper King, Dora, Homestake). Pyrite and pyrrhotite, in an area about 1.5 by 2.5 kilometres, occurs finely disseminated and as fracture coatings. Sphalerite and galena with some gold occurs in shear veins beyond the inner zone, such as the Arnold (082FSW301) and Ben Hassen (082FSW300) showings.

On the Copper King claim stripping in 1934 exposed an irregular quartz vein over 11 metres. The vein, hosted in greenstone intruded by aplite dykes, strikes 345 degrees and dips 35 degrees east. Up to 1 metre of vuggy quartz contains greenstone inclusions, pyrite and arsenopyrite.

On the Dora claim, an open cut exposes an aplite dyke which has been fractured and filled with quartz, pyrite, galena and arsenopyrite. The Dora adit near the eastern boundary was driven on a mineralized stockwork in white rhyolite and may be within the inner quartz-molybdenum plus or minus scheelite zone although there is no documented evidence. In 1987, a sample of hornfels with chalcopyrite, taken from the northeastern boundary of the Dora claim, assayed 20.2 grams per tonne silver and 0.445 grams per tonne gold (Assessment Report 15510).

The Drum Lummon workings comprise four adits in argillaceous

CAPSULE GEOLOGY

rocks described as hosting chalcopyrite mineralization in fractures.

Sampling done in the vicinity of the Drum Lummon, Copper King and Homestake workings in 1987 had low assay results (Assessment Report 18478).

The mineralization is believed to be part of a zoned porphyry type deposit which has a central quartz vein stockwork zone containing molybdenum-copper-tungsten mineralization and a peripheral zone with veins containing copper, lead, zinc and silver mineralization. These showings are interpreted as occurring in the peripheral zone, since there is no documented evidence of molybdenum or tungsten mineralization.

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GSC OF 1195
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V STOCKWATCH Jan. 8, 1988
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EMPR BULL 109

DATE CODED: 1987/10/19
DATE REVISED: 1991/05/21

CODED BY: LLC
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW214**

NATIONAL MINERAL INVENTORY:

NAME(S): **LITTLE SHEEP CK ULTRAMAFICS**, LITTLE SHEEP CREEK ASBESTOS

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 08 N
LONGITUDE: 117 50 42 W
ELEVATION: 990 Metres

NORTHING: 5435458
EASTING: 438280

LOCATION ACCURACY: Within 500M

COMMENTS: Located in the Little Sheep Creek Valley between Deer Park Hill and O.K. Mountain; 2.8 kilometres southwest of Rossland.

COMMODITIES: Chromium Nickel Asbestos

MINERALS

SIGNIFICANT: Chromite Asbestos Millerite Linnaeite Pyrite

COMMENTS: Quality and identification of asbestos is questionable.

ASSOCIATED: Talc Magnetite

ALTERATION: Talc Serpentine

COMMENTS: The volcanics are altered; type is not specified.

ALTERATION TYPE: Serpentin'zn

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Magmatic Epigenetic Industrial Min.
TYPE: M03 Podiform chromite M06 Ultramafic-hosted asbestos

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Ultramafic Intrusions
Permian			Coryell Intrusions
Eocene			

ISOTOPIC AGE: 49.1 +/- 1.4 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Serpentinite
Ultramafic
Volcanic
Syenite

HOSTROCK COMMENTS: Age date at University of British Columbia, Bulletin 73.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Slide Mountain Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1969
SAMPLE TYPE: Grab
COMMODITY: Nickel GRADE Per cent
Nickel 0.2400

COMMENTS: Samples taken assayed less than 0.24 per cent nickel.
REFERENCE: Bulletin 74, page 23.

CAPSULE GEOLOGY

A brown weathering serpentinite body, of probable Permian age, outcrops in the valley of Little Sheep Creek and is thought to be part the ultramafic intrusions of the Slide Mountain terrane. The serpentinite is in contact with altered volcanics of the Lower Jurassic Rossland Group, Elise Formation. These rocks are intruded by a syenite mass of the Middle Eocene Coryell Intrusions. Two masses of serpentinite lie within the Rossland map area and have relatively straight and transgressive margins. These lenticular masses form part of a linear belt extending 10 kilometres southwest from Rossland where it is truncated by the Coryell Batholith. The serpentinite is thought to have been emplaced along the Rossland break, which was the locus of dislocation and intrusion before the emplacement of the Coryell syenite. The northerly trending eastern

CAPSULE GEOLOGY

and western margins of the small serpentinite mass in Little Sheep Creek are known to be faults. The northern contact exposed in the workings of the Midnight (082FSW119) and I.X.L. (082FSW116) mines is highly sheared and associated with a zone of intense fracturing.

The typical massive serpentinite is a very dense black rock and hosts abundant serpentine and magnetite. Cross-fibre asbestos has infilled many joints as 0.2 to 0.6 centimetre veinlets and light green talc has developed in the immediate vicinity of the faults.

The serpentinite has been explored for deposits of nickel and chromium. Chromite occurs on the west side of Ivanhoe Ridge between the two main forks of Sophia Creek (Vandot - 082FSW130). Here visible chromite is exposed in trenches. In 1969, near the northern mass of serpentinite on the Midnight property (082FSW119) along the west side of Little Sheep Creek, companies sampled the underground workings and reported several thousand tonnes of serpentinite averaging 0.25 per cent nickel. Selected samples assayed as high as 0.45 per cent nickel (Bulletin 74, page 23). Chromite is associated with the fine-grained serpentinite. Samples were submitted to the Geological Survey of Canada and pyrite, millerite and a mineral of the linnaeite group were identified. Ten samples taken by Fyles (Bulletin 74) at various places throughout the two masses of serpentinite exposed in the area gave nickel assays of less than 0.24 per cent.

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- GSC MAP 1090A; *1504A
- GSC MEM 77, p. 211; 308
- GSC OF 1195
- GSC P 79-26
- EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/04

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW215**

NATIONAL MINERAL INVENTORY:

NAME(S): **SWIFT CREEK**, IMASCO

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 06 N
LONGITUDE: 117 16 59 W
ELEVATION: 640 Metres

NORTHING: 5435091
EASTING: 479325

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on quarry, 90 metres north of Swift Creek, as plotted on map 82FSW (Industrial Minerals File).

COMMODITIES: Limestone Marble Building Stone

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Lower Cambrian
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Archaeocyathids

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: R09 Limestone
DIMENSION: 500

Massive
Industrial Min.

R04 Dimension stone - marble
STRIKE/DIP: 049/40N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Undefined Group	Laib	
DATING METHOD: Fossil			
MATERIAL DATED: Archaeocyathids			
Jurassic			Nelson Intrusions

LITHOLOGY: Limestone
Marble
Granite
Meta Sediment/Sedimentary

HOSTROCK COMMENTS: Hosted in Reeves Member (Laib Formation) which is correlative with the Badshot Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Post-mineralization GRADE:

INVENTORY

ORE ZONE: QUARRY REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1962
SAMPLE TYPE: Chip
COMMODITY: Limestone GRADE: 50.8900 Per cent

COMMENTS: Taken across 18.9 metres. Grade given for calcium oxide. Grade is in per cent.

REFERENCE: Minister of Mines Annual Report 1962, page 154.

CAPSULE GEOLOGY

A band of limestone of the Lower Cambrian Reeves Member of the Laib Formation outcrops on Swift creek, 500 metres northwest of its confluence with the Salmo River, and continues northeastward for 450 metres. The band contacts metamorphosed sedimentary rocks to the northwest and is intruded to the southeast by granite of the Middle to Late Jurassic Nelson Intrusions. Bedding strikes 049 degrees and dips 40 degrees northwest.

The deposit is comprised of interlayered 2.5 to 5 centimetre thick beds of blue grey and white, medium grained limestone with a few 0.6 to 0.9 metre thick zones of coarse grained white limestone (marble). A sample of chips taken at 0.30 metre intervals across 18.9 metres near the top of a quarry contained 50.89 per cent CaO, 1.7 per cent MgO, 6.32 per cent insolubles, 0.46 per cent R2O3, 0.46 per cent Fe2O3, 0.012 per cent MnO, 0.011 per cent P2O5, 0.014 per cent sulphur and 41.16 per cent ignition loss (Minister of Mines Annual Report 1962, p. 154).

CAPSULE GEOLOGY

International Marble & Stone Company initially quarried some limestone in 1962 about 90 metres north of Swift Creek on Lot 1594. Quarrying operations recommenced in 1969 and continued up to 1983, when the company encountered access problems to the site. Between 1972 and 1983, 70,469 tonnes of limestone were quarried.

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EMPR OF 1991-16
GSC MAP 3-1956A; 2991; 1090A; 1145A
GSC MEM 308, pp. 30-35
GSC OF 481; 1195, pp. 6,7
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW216**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAND (L.14666)**, INEZ (L.14669)

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 19 28 N
LONGITUDE: 117 24 14 W
ELEVATION: 1220 Metres

NORTHING: 5463602
EASTING: 470651

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of Lot 14666 (Assessment Report 13115).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Gold

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic Skarn
TYPE: K04 Au skarn K01 Cu skarn
L01 Subvolcanic Cu-Ag-Au (As-Sb)

SHAPE: Irregular

MODIFIER: Faulted

DIMENSION: 320

COMMENTS: Inez vein structure.

Fractured
Metres

STRIKE/DIP: 045/80N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Archibald	
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Siltstone
Quartzite
Sandstone
Augite Porphyry
Lapilli Tuff
Granodiorite
Rhyolite Dike

HOSTROCK COMMENTS: Roof pendants of sedimentary and volcanic rocks occur in the Bonnington pluton.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1989

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

21.7300

Grams per tonne

COMMENTS: Highest assay from sampling of seven zones across intervals up to 2.37 metres in width and lengths up to 35 metres, on the Inez structure.

REFERENCE: Vancouver Stockwatch, Sept. 12, 1989.

CAPSULE GEOLOGY

The Rand and Inez veins are located in a mountain valley 20 kilometres northwest of Salmo. These are part of the Second Relief mine (082FSW187) which was the third largest gold-enriched skarn producer in the province.

The area is underlain by lapilli tuff and augite porphyry volcanics of the Elise Formation and siltstone, sandstone, argillite and quartzite of the Archibald Formation, both of the Lower Jurassic Rossland Group. These occur as a roof pendant within granodiorite of the Bonnington pluton of the Middle to Late Jurassic Nelson Intrusions. The veins occur on the west limb of a small anticline, whose axis runs down the Erie Creek valley, near the Red Mountain

CAPSULE GEOLOGY

fault.

The Rand and Inez vein systems crosscut the sediment-volcanic stratigraphy, striking generally northeast with steep northwest dips, converging towards the No. 2 adit. Vein mineralization is generally erratic comprising mineralized lenses of massive sulphides in the order of 0.4 by 9 metres along strike. Mineralization consists of pyrite, pyrrhotite and chalcopyrite. Gold also occurs as very fine flakes and minute particles.

The Inez vein structure, located west of Erie Creek, extends 320 metres from northeast to southwest. On this structure, 7 zones of possible significant mineralization have been identified. At the portal, the Inez vein is on the hanging wall of a banded, light buff coloured, 1-metre thick rhyolite dyke which is strongly faulted at the footwall contact. The vein is hosted in fragmental volcanic rocks with bands of siliceous hornfelsed sedimentary rocks. Sampling of these seven zones across intervals up to 2.37 metres in width and lengths of up to 35 metres assayed up to 21.73 grams per tonne gold (Vancouver Stockwatch, Sept. 12, 1989).

The Rand vein has been traced on surface for over 420 metres. The vein is cut off at the No. 2 portal crosscut by a strong fault containing up to 12 centimetres of gouge of crushed wallrock. A grab sample of weathered material, from the Rand vein, containing pyrrhotite and quartz assayed 238.9 grams per tonne gold and 38.05 grams per tonne silver (Vancouver Stockwatch, July 11, 1989). An unknown amount of ore was extracted from this vein.

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EMPR GEM 1969-319
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
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GSC MAP 1090A
GSC MEM 191, p. 12; 308
GSC OF 1195
GSC P 49-22; 50-19; 52-13
V STOCKWATCH July 11, Sept.12, Nov.20,23, 1989
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/05

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1475
REPORT: RGEN0100

MINFILE NUMBER: **082FSW217**

NATIONAL MINERAL INVENTORY:

NAME(S): **EUREKA (L.946)**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 46 N
LONGITUDE: 117 49 56 W
ELEVATION: 1064 Metres

NORTHING: 5436621
EASTING: 439226

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east side of Little Sheep Creek, about 2.0 kilometres west of Rossland, between the California and I.X.L. Mines.

COMMODITIES: Molybdenum Copper

MINERALS

SIGNIFICANT: Molybdenite Chalcopyrite Pyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: L03 Alkalic porphyry Cu-Au

I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Triassic-Jurassic
Jurassic

Rainy Day Pluton
Nelson Intrusions

LITHOLOGY: Quartz Monzonite
Quartz Diorite

HOSTROCK COMMENTS: The Rainy Day pluton is part of the Nelson Intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Eureka Crown grant is underlain by the Rainy Day pluton of the Middle to Late Jurassic Nelson Intrusions comprised of quartz-monzonite to quartz-diorite. The monzonite is medium-grained and hosts epidote, apatite, sphene, with minor sericite and penninite.

On the property there is a quartz vein, outcropping on the east side of Little Sheep Creek, which hosts pyrite, molybdenite and chalcopyrite. The vein is within the monzonitic stock and hosts pyrite cubes. Pyritized fracture planes trend north to south.

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1990, pp. 9-31
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GSC MAP 1518; 1090A; 1504A
GSC MEM *77, p. 153; 308
GSC P 79-26
EMPR BULL 109

DATE CODED: 1987/10/06
DATE REVISED: 1991/05/06

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW217**

MINFILE NUMBER: **082FSW218**

NATIONAL MINERAL INVENTORY:

NAME(S): **INVINCIBLE (L.12084)**, EMERALD TUNGSTEN, JERSEY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 06 57 N
LONGITUDE: 117 13 12 W
ELEVATION: 1040 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5440356
EASTING: 483946

LOCATION ACCURACY: Within 500M

COMMENTS: North of the Feeney mine (082FSW247) and west of the Dodger mine (082FSW011). See also Emerald Tungsten (082FSW010).

COMMODITIES: Tungsten

Molybdenum

MINERALS

SIGNIFICANT: Scheelite Molybdenite Powellite Pyrrhotite Pyrite

Wolframite

COMMENTS: Only traces of molybdenite were identified in the skarn zones.

ASSOCIATED: Quartz

ALTERATION: Garnet Diopside Powellite

ALTERATION TYPE: Skarn Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

CLASSIFICATION: Skarn

TYPE: K05 W skarn

SHAPE: Regular

MODIFIER: Folded

DIMENSION: 24 x 3

Metres

STRIKE/DIP:

TREND/PLUNGE:

COMMENTS: Mineralized zone

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Cambrian
Jurassic

GROUP

Undefined Group

FORMATION

Laib

IGNEOUS/METAMORPHIC/OTHER

Dodger Granite Stock

LITHOLOGY: Limestone

Marble

Argillite

Dolomite

Granite

Garnet Diopside Skarn

HOSTROCK COMMENTS: Mineralization occurs in the Reeves Member (Laib Formation) which is correlative with the Badshot Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Kootenay

METAMORPHIC TYPE: Contact

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Syn-mineralization

GRADE:

INVENTORY

ORE ZONE: UNDERGROUND

REPORT ON: Y

CATEGORY: Combined

YEAR: 1973

QUANTITY: 68141 Tonnes

COMMODITY

GRADE

Tungsten

0.6200

Per cent

COMMENTS: The ore reserve is reported as 68,141 tonnes grading 0.62% WO₃.

REFERENCE: Boronowski, 2001 (Property File).

CAPSULE GEOLOGY

The Invincible orebody is adjacent to the western margin of the Dodger stock of the Middle to Late Jurassic Nelson Intrusions where it transects flat-lying beds of the Reeves Member limestone of the Lower Cambrian Laib Formation. The tungsten ore zone lies northward and along strike, but on the east side of the Granite fault, from the Feeney (082FSW247) and Emerald (82FSW010) deposits.

The orebody occurs on the overturned limb of the Jersey anticline and is bounded above and below by skarn and argillite of the Truman and Emerald members of the Laib Formation respectively. Most of the scheelite occurs in lenticular zones that extend at a

CAPSULE GEOLOGY

high angle from the granitic stock, more or less conformable with layering of the marble. The scheelite occurs as fine, disseminated grains within garnet-diopside skarn and is accompanied by pyrite, pyrrhotite, minor powellite and traces of molybdenite and wolframite. Quartz is common in zones of mineralized granite.

The ore zone extends up to 24 metres from the stock, and may be more than 3 metres thick in places. The zone lies about 260 metres below surface and produced 256,480 tonnes of 0.65 per cent WO₃ from 1970 to 1973 (Geology, Exploration and Mining in British Columbia 1973, pages 54-57). Production is included with the Emerald Tungsten mine (082FSW010) and recorded with the production statistics of the Jersey mine (082FSW009).

Ore Reserves calculated by Canadian Exploration Ltd. (Canex) in August 1973 estimated that the Invincible Tungsten Mine contains a combined probable, possible and marginal ore reserve of 68,141 tonnes grading 0.62% WO₃ (Boronowski, 2001). This represents approximately 335,089 kilograms (738,748 pounds) of tungsten.

The majority of the reserves are reported to be accessible from the underground workings. As of 2001, the northern extension of the Invincible mine remained untested.

BIBLIOGRAPHY

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EMPR ASS RPT 24910
EMPR BC METAL MM01096
EMPR BULL *10 (Rev); *41, p. 120, Fig. 9; 101, pp. 20, Appendix 3, 6
EMPR GEM 1969-319; 1970-442; 1971-401; 1972-47; *1973-54
EMPR OF 1991-16; 1991-17; 1998-8-M, pp. 1-74
EMPR PF (see 082FSW010-Miscellaneous maps, photos, clippings and reports of the Emerald Tungsten Mine including adjoining properties; see 082FSW011-1:1200 Scale Plan of the Dodger Mine; 1:1200 Scale Map of mine workings and sample locations, 1972; Boronowski, A. (2001): Geological Report on the Invincible Tungsten Mine)
GSC MAP 299A; 1090A; 1145A
GSC MEM 308
GSC OF 1195
CMH 1972-73
GCNL Apr.17, 1971
WWW http://www.infomine.com/index/properties/JERSEY_EMERALD_MINE.html
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 2001/06/11

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Development of the 240 K zone, which lies east of the Annex, was in progress in 1973. Probable reserves in this zone were estimated at about 300,000 tons. (Reeves 1973 Annual Report). The mine closed in April 1975.

The Annex mine is on the south side of the Pend d'Oreille River and is located within dolomitized Reeves Member limestone of the Lower Cambrian Laib Group. The orebody appears to be a downfaulted section of the Reeves MacDonald ore zone (082FSW026) but reportedly contains higher metal grades than the Reeves. The sulphides within the dolomite included galena, sphalerite and pyrite with minor chalcopyrite. The mine produced a lead and zinc concentrate from which lead, zinc, silver, copper and cadmium metals were recovered.

Production from the Annex mine from 1970 to 1975, inclusive, totalled 763,314 tonnes of ore. From this ore 34,052,093 grams of silver, 7,136,975 kilograms of lead, 42,679,634 kilograms of zinc, 482,244 kilograms of cadmium and 16,492 kilograms of copper were recovered. The above production includes a small amount of salvage ore from the Reeves MacDonald mine.

Drilling from 1986 to 1988 by Golden Eye Minerals Ltd. intersected the Annex zone. Hole 87-1 yielded 167 metres averaging 8 per cent zinc, 0.88 per cent lead, 0.09 per cent cadmium and 54.9 grams per tonne silver, including 8 metres of 10 per cent zinc, 1.64 per cent lead, 0.12 per cent cadmium and 75.8 grams per tonne silver. Hole 88-1 yielded 9 metres averaging 7.53 per cent zinc, 0.39 per cent lead, 0.08 per cent cadmium and 106.6 grams per tonne silver (Northern Miner, May 25, 1998). In 1998 Redhawk Resources Inc. drilled the Annex zone from the Caviar 5 claim west of the Annex Mine (Assessment Report 25675). The Annex system was extended another 200 metres to a total of 365 metres of downplunge continuity. Hole 98-1 (extension hole) assayed 13 metres of 3.35 per cent zinc, 0.1 per cent lead and 4.46 grams per tonne silver (GCNL #163 (Aug.25), 1998).

The Annex property was included in the April 2000 option agreement between Redhawk and Reeves MacDonald Mines Limited where Redhawk has a 4-year option to purchase the Reeves property. Redhawk and joint venture partner Zinc Ox Resources plan to explore the Redbird (082FSW024) and the Reeves MacDonald option collectively under the Remac project name. See the Redbird & Reeves MacDonald for further information.

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EMPR BC METAL MM00951
EMPR BULL 41; 109
EMPR GEM 1969-320; 1970-444; 1971-402; 1972-21,49; 1973-22,59;
1974-24,68
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202810A & B, 202811A & B, 202812
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EMPR OF 1991-16; 1998-10; 2000-22
EMPR PF (see 082FSW024, Golden Eye Minerals Limited, Filing
Statement, January 1991)
EMR MIN BULL MR 166 RES
EMR MP CORPFILE (Reeves MacDonald Mines Ltd.; Pend Oreille Mines and
Metals Co.)
GSC MAP 299A; 1090A; *1145A
GSC MEM 308
GSC OF 1195
CANMET IR 71-77 (1971)
GCNL Feb.13, 1973; #121(June 24), #163(Aug.25), 1998; #147(Aug.1),
#182(Sept.22), 2000
N MINER May 25, 1998; Aug.28, 2000
WWW <http://www.redhawkresources.com>

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/07

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW220**

NATIONAL MINERAL INVENTORY:

NAME(S): **CURLETT**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 11 28 N
LONGITUDE: 117 15 46 W
ELEVATION: 760 Metres

NORTHING: 5448734
EASTING: 480853

LOCATION ACCURACY: Within 500M

COMMENTS: Outcrop of metamorphic rock identified on Map 1145A.

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Molybdenite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Concordant
CLASSIFICATION: Igneous-contact
TYPE: * Unknown

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Metamorphic Rock
Granite

HOSTROCK COMMENTS: A small inlier of metamorphic rocks, possibly of the Elise Formation, is in contact with the Nelson granite.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains
Plutonic Rocks
RELATIONSHIP: Syn-mineralization
GRADE:

CAPSULE GEOLOGY

A small inlier of metamorphic rocks, possibly of the Lower Jurassic aged Rossland Group, Elise Formation outcrop directly east of Salmo in contact with granite of the Middle to Late Jurassic Nelson Intrusions. The metamorphic rocks carry disseminated grains of pyrite and molybdenite and the mineralization has a northerly trend coincident with the gneissosity.

BIBLIOGRAPHY

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1990, pp. 9-31
EMPR GEM *1969-317
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 299A; 1090A; *1145A
GSC MEM 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/13

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW221**

NATIONAL MINERAL INVENTORY:

NAME(S): **INDEPENDENT (L.1275)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 24 N
LONGITUDE: 117 49 15 W
ELEVATION: 1067 Metres

NORTHING: 5434080
EASTING: 440031

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the Independent Crown grant (Lot 1275) on the lower southeast slope of Deer Park Hill, about 3.6 kilometres southwest of Rossland.

COMMODITIES: Tungsten

MINERALS

SIGNIFICANT: Scheelite Arsenopyrite Pyrite
ASSOCIATED: Quartz Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I12 W veins

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Greenstone
Volcanic Conglomerate
Volcanic Breccia
Sandstone
Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: The monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains
Plutonic Rocks
RELATIONSHIP: Syn-mineralization GRADE:
Post-mineralization

CAPSULE GEOLOGY

The claim is underlain by Lower Jurassic Rossland Group, Elise Formation consisting of greenstone, volcanic breccia, volcanic conglomerate and sandstone. These are intruded to the north by the Rossland monzonite, an east trending stock of biotite-hornblende-augite monzonite. A small syenitic mass of the Middle Eocene Coryell intrusions intrudes the strata to the east.

Mineralization occurs in quartz-carbonate veinlets which host minor arsenopyrite and pyrite in the altered Rossland Group rocks. Associated with the veinlets are minor amounts of disseminated scheelite and pyrite with the wallrock.

BIBLIOGRAPHY

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EMPR BULL *74, Fig. 1,*3
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16; 1991-17
GSC MAP 1504A
GSC MEM 77
GSC P 79-26
*Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland, B.C., Ph.D. Thesis, University of Wisconsin

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1482
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 109

DATE CODED: 1987/10/06
DATE REVISED: 1991/05/21

CODED BY: LLC
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

Rossland Group. Lamprophyre dykes intrude the volcanic rocks. Biotite and pyrite alteration and isolated lenses of hornfelsed volcanics containing epidote-chlorite-garnet alteration are present near the contact.

Mineralized quartz veins, mainly in granitic rocks, contain pyrite, minor galena, sphalerite and molybdenite. Significant gold values are associated with pyrite. Molybdenite also occurs as isolated blebs in pegmatite veins. The veins are generally less than 0.5 metre wide. It is suspected that some of the quartz veins are localized by shears.

The discontinuous Whitewater vein is up to about 1.8 metres wide at the contact and is hosted in fractured country rock. The quartz is mineralized with pyrite but the gold values are erratic. The vein strikes 40 degrees and dips 60 degrees south. A drill hole sample in 1970 assayed 8.9 grams per tonne gold over 0.67 metre (Property File - Snowwater Resources Ltd., Prospectus, July 1988).

To the east of the Whitewater workings, drilling has been undertaken on the Breccia zone. The best intersection was across 1 metre and assayed 1.54 grams per tonne gold and 1.0 gram per tonne silver (Assessment Report 1990).

High grade float boulders of quartz mineralized with pyrite, occasional free gold and sporadic, minor sphalerite and galena have been traced along Whitewater Creek through the Columbia and Snowwater Crown Grants. The boulders appear to be related in part to schistose volcanics from south of the known vein exposures.

BIBLIOGRAPHY

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EMPR BC METAL MM01090
EMPR BULL *1, p. 101; 41
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EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR GEM 1970-439
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
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GSC MEM 308, pp. 156,172
GSC OF 1195
GSC P 52-13
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/12

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW223**

NATIONAL MINERAL INVENTORY:

NAME(S): **ZILOR (L.1051)**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 19 N
LONGITUDE: 117 48 56 W

NORTHING: 5433921
EASTING: 440415

ELEVATION: 1070 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located 2.5 kilometres south of Rossland, south and adjacent to the Lily May Crown grant (082FSW153).

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrrhotite Arsenopyrite Chalcopyrite

MINERALIZATION AGE: Unknown

DEPOSIT

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

DIMENSION: STRIKE/DIP: 117/75N

COMMENTS: Average of mineralized vein which strikes between 090 and 145 degrees.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Rossland Elise Rossland Monzonite

Lower Jurassic

ISOTOPIIC AGE: 190 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

LITHOLOGY: Hornfels Siltstone
Siltstone
Argillite
Hornfels
Volcanic Breccia
Monzonite
Biotite Hornblende Augite Monzonite

HOSTROCK COMMENTS: The age date is a personal communication from K.P.E. Andrew of the Geological Survey Branch (March, 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains

Plutonic Rocks

RELATIONSHIP:

GRADE: Hornfels

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

306.0000

Grams per tonne

Gold

1.0000

Grams per tonne

COMMENTS: Also 0.08 per cent copper and greater than 1 per cent lead and zinc respectively.

REFERENCE: Assessment Report 18310.

CAPSULE GEOLOGY

The Zilora occurrence is hosted by siltstone and hornfelsic siltstone of the Lower Jurassic Elise Formation, Rossland Group. The showing occurs within the contact aureole of the Early Jurassic Rossland monzonite. The Rossland monzonite has recently been age dated at 190 million years and consists of a biotite-hornblende-augite monzonite stock. The grey to black siltstone and argillite grades to hornfels and forms distinct layers within the Rossland Group volcanic breccias. Ammonites of Early Jurassic age were reported to occur in the siltstone on Ivanhoe Ridge. The showing is considered as part of the south belt of mineralization in the Rossland camp.

CAPSULE GEOLOGY

The Zilor vein trends east, with a strike between 090 and 145 degrees, dipping 75 degrees north. Vein mineralization consists of galena, sphalerite, pyrrhotite, arsenopyrite and chalcopyrite. The veins are hosted by the grey, hornfelsic siltstone which also contains disseminated pyrite. One sample assayed 1 gram per tonne gold, 306 grams per tonne silver, 0.08 per cent copper and greater than 1 per cent each of lead and zinc (Assessment Report 18310). Two old shafts are reported to exist on the Zilor property.

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EMPR ASS RPT 24, 34, 1903A, 1903B, 2045, *9054, *18310
EMPR BULL *74
EMPR EXPL 1980-59
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1990, pp. 9-31
EMPR GEM 1969-315
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1518; 1504A
GSC MEM 77
GSC P 79-26
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/28

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW224**

NATIONAL MINERAL INVENTORY:

NAME(S): **RAINY DAY (L.1339)**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 20 N
LONGITUDE: 117 49 53 W
ELEVATION: 1067 Metres

NORTHING: 5435817
EASTING: 439278

LOCATION ACCURACY: Within 500M

COMMENTS: Located 1.9 kilometres west of Rossland on the lower slopes of Deer Park Hill.

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT:	Molybdenite	Pyrite	Pyrrhotite	Magnetite	
ASSOCIATED:	Quartz	Pyroxene	Hornblende	Biotite	Chlorite
	Carbonate	Sphene	Zircon		
ALTERATION:	Apatite	Chlorite	Magnetite		
ALTERATION TYPE:	Propylitic				
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER: Vein Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L05 Porphyry Mo (Low F- type)
SHAPE: Tabular
MODIFIER: Fractured

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Jurassic
Eocene

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Rainy Day Pluton

ISOTOPIC AGE: 49.6 +/- 1.5 Ma

DATING METHOD: Potassium/Argon

MATERIAL DATED: Biotite

Eocene

Coryell Intrusions

LITHOLOGY:

Quartz Diorite
Banded Hornfels
Hornfels
Siltstone
Monzonite
Syenite

HOSTROCK COMMENTS: Intrusive dated March 1983 at University of British Columbia; Bulletin 74, page 54.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

PHYSIOGRAPHIC AREA: Selkirk Mountains

Plutonic Rocks

RELATIONSHIP: Syn-mineralization

GRADE: Hornfels

CAPSULE GEOLOGY

The Rainy Day claim is underlain by a small mass of quartz diorite of the Middle Eocene Rainy Day pluton. It is named after the Crown-granted claim which covers the central part of the pluton. The pluton is in contact with Lower Jurassic Elise Formation (Rossland Group) hornfels, banded hornfels and siltstone and is intruded on the west by syenite and monzonite of the Middle Eocene Coryell Intrusions. In 1983, a sample of the Rainy Day quartz diorite gave a potassium-argon age of 49.6 plus or minus 1.5 million years (Bulletin 74). The intrusive margins of the stock are sharp and irregular and underground mapping from the Le Roi mine (082FSW093) workings suggest the pluton may be tabular with a low to moderate dip.

Surface exposures are of light grey porphyritic and non-porphyritic quartz diorite. The non-porphyritic facies forms the central core and the porphyritic facies the marginal zone; both are truncated to the west by the Coryell syenite. The porphyritic, and to a lesser extent, the non-porphyritic quartz diorite are highly fractured with a network of intersecting veinlets containing fine-grained pyroxene, quartz, hornblende, biotite, chlorite, carbonates and sulphides comprised mainly of pyrite and molybdenite. Accessory minerals are apatite, sphene, magnetite and

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1488
REPORT: RGEN0100

CAPSULE GEOLOGY

zircon. Narrow pyroxene-quartz vein- lets host molybdenite and pyrrhotite.

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GSC MAP 1090A; 1504A
GSC MEM 77; 308
GSC P 79-26
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/27

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW225**

NATIONAL MINERAL INVENTORY:

NAME(S): **ST. LOUIS (L.935)**, GREY 3-7, MINERAL LEASE #12

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 06 26 N
LONGITUDE: 117 49 48 W
ELEVATION: 1295 Metres

NORTHING: 5439707
EASTING: 439422

LOCATION ACCURACY: Within 500M

COMMENTS: Located 3.2 kilometres north of Rossland on the northern slopes of Red Mountain.

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Pennsylvan.-Permian
Jurassic
Jurassic

GROUP

Undefined Group
Rossland

FORMATION

Mount Roberts
Elise

IGNEOUS/METAMORPHIC/OTHER

Trail Pluton

LITHOLOGY: Siltstone
Hornfels
Argillite
Augite Porphyry Sill
Granodiorite
Hornfels
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain
METAMORPHIC TYPE: Contact

Quesnel
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE:

CAPSULE GEOLOGY

The St Louis Crown grant is underlain by siltstone, argillite and hornfels of the Pennsylvanian and possibly Permian Mount Roberts Formation. To the north, the Mount Roberts rocks are intruded by the granodiorite of the Middle to Late Jurassic Trail pluton and to the south by rocks of the Early Jurassic Rossland monzonite. Augite porphyry (Rossland sill) of the Elise Formation, Rossland Group is also reported in the area. The country rock is highly metamorphosed with some skarn alteration as a result of the intrusions.

Weak sulphide mineralization consisting of disseminated pyrite, pyrrhotite and minor chalcopyrite occurs in the area. Lenses of mainly pyrrhotite also occur. Chalcopyrite is found in the skarn and other metamorphic rocks in the area of the St. Louis shaft.

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/21

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW225**

MINFILE NUMBER: **082FSW226**

NATIONAL MINERAL INVENTORY: 082F6 Mo1

NAME(S): **HATTIE**, JUNE 2, ERIE CREEK

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 15 45 N
LONGITUDE: 117 23 12 W
ELEVATION: 1050 Metres

NORTHING: 5456709
EASTING: 471867

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate area of drilling on the east side of Erie Creek (Assessment Report 18478).

COMMODITIES: Molybdenum Tungsten Copper Silver

MINERALS

SIGNIFICANT: Molybdenite Scheelite Chalcopyrite Pyrite Pyrrhotite
ASSOCIATED: Quartz
ALTERATION: Quartz Sericite Pyrite
ALTERATION TYPE: Silicific'n Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic Porphyry
TYPE: L03 Alkalic porphyry Cu-Au L07 Porphyry W
 I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 600 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: The inner zone, in which the showing occurs, is 600 metres in diameter.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Cretaceous Nelson Intrusions

LITHOLOGY: Quartz Monzonite
Aplite
Quartz Feldspar Porphyry
Felsic Dike
Volcanic
Hornfels

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1979
SAMPLE TYPE: Drill Core
COMMODITY GRADE
Silver 41.1400 Grams per tonne
Copper 0.0500 Per cent
Molybdenum 0.1150 Per cent
COMMENTS: Best results over 85 metres, includes 30 metres of 41.14 grams per tonne silver.
REFERENCE: Assessment Report 15510.

CAPSULE GEOLOGY

The property is located at a 1067 metres elevation on the west side of Erie Creek, extending south from Grassy Creek, some 24 kilometres south-southwest of Nelson.
The Dora claim (Lot 5152) was Crown-granted to H. Porter in 1901. The following year the adjacent Drum Lummon (Lot 5481) was Crown-granted to P. Bums and the Homestake (Lot 3433) to The Copper Farm Gold Mining and Development Company, Limited. No work was reported but Map 52-13 A shows two adits in this vicinity.
The Consolidated Mining and Smelting Company Limited held an option on this ground in 1928 and diamond drilling was carried out.
Canzac Mines Ltd in 1967 held Mineral Lease M 129 comprising the above claims and the adjoining Copper King (5153), Goodenough (5466),

CAPSULE GEOLOGY

Monte Carlo (1066) and Nelson (12177), located on and extending south from Grassy Creek. The company also held Mineral Lease M 125 comprising the Rosa (2460), Belle (2461), Florence (3237) and Bully Boy (3238) reverted Crown-grants located about 1.6 kilometres to the south between Skillet and McKay creeks. The Hattie 1-32 claims were staked over the adjacent area, extending east of Erie creek to Young Grouse Creek, a tributary of Burnt Creek. Map 52-13 A shows an adit in the vicinity of the Rosa claim. Trenching was reported in 1967.

McIntyre Porcupine Mines Limited optioned the claims from Canzac by an agreement dated March 1968. Work by McIntyre in 1968-70 included geological mapping, a geochemical soil survey and 1703 metres of diamond drilling in 12 holes. Wollaston Lake Mines Ltd acquired all the assets of Canzac Mines in 1969. The company name (Wollaston) was changed in 1971 to Comaplex Resources International Ltd. Under the option agreement McIntyre had to form a new company to acquire the property and accordingly Dalhat Mines Limited was incorporated March 1971 with Comaplex holding a 30 per cent share interest. Additional claims (Dal 1-17) were apparently staked at that time. Work in 1974 included geological mapping and an induced potential survey over 11.2 kilometres.

Canamax Resources Inc. apparently acquired the property.

The Hattie showing is located on the east side of Erie Creek, about 12 kilometres southwest of Ymir. This showing, along with the Copper King (082FSW213), the Arnold (082FSW301) and the Ben Hassen (082FSW300) showings, occur on the Erie Creek property.

The area is underlain by Lower Jurassic Archibald Formation, Rossland Group sediments. The Rossland Group rocks are intruded by the Middle to Late Jurassic Nelson Intrusions, locally known as the Erie stock. The Erie stock is comprised of a light grey quartz monzonite with associated aplitic and feldspar porphyry dykes. Biotite hornfels is apparently a contact metamorphic effect related to both the Nelson batholith and the Erie Creek dyke swarm. Hornfels is mainly developed in argillite and siltstone. Chlorite occurs mainly on fractures and in shear veins in augite andesite and hornfels.

Drilling and prospecting have identified molybdenite mineralization on fracture surfaces and in quartz veinlets within quartz monzonite. Molybdenite with pyrite, pyrrhotite, minor chalcopyrite, and rare scheelite is disseminated in quartz veinlets associated with a quartz stockwork texture and as selvages on fracture surfaces. The mineralization, associated with the Erie Creek dyke swarm of felsic and mafic dykes, is not confined to the intrusive suite. Weak quartz-sericite-pyrite alteration occurs in envelopes along and adjacent to fractures and molybdenite-quartz veins.

Mineralization on the property occurs roughly in four concentric zones. An inner quartz-molybdenum plus scheelite zone followed by a chalcopyrite zone, a pyrite-pyrrhotite zone and an outer sphalerite-galena zone. The inner zone is approximately 600 metres in diameter and is centered on the east side of Erie Creek. The host rocks are quartz monzonite dykes, stocks and white rhyolite. The chalcopyrite zone occurs over an area of 1.5 to 2 kilometres and occurs in quartz and sulphide veinlets as fracture coatings and in shear veins with pyrite, pyrrhotite and minor amounts of scheelite. The best copper values obtained, up to 1.3 per cent, were from vein and dump samples mainly from old workings on the west side of Erie Creek (Drum Lummon, Cooper King, Dora, Homestake). Pyrite and pyrrhotite, in an area about 1.5 by 2.5 kilometres, occur finely disseminated and as fracture coatings. Sphalerite and galena with some gold occur in shear veins beyond the inner zone, such as the Arnold (082FSW301) and Ben Hassen (082FSW300) showings.

The inner quartz-molybdenite plus or minus scheelite zone is approximately centered on the Hattie or June 2 claim. Host rocks are quartz monzonite dykes and stock, and white rhyolite. Grades in the zone range from 0.01 to 0.059 per cent molybdenum; 0.0166 to 0.196 per cent copper and 0.005 to 0.14 per cent tungsten (Assessment Report 15510). Best results reported by McIntyre Porcupine Mines were 85 metres of 0.115 per cent MoS₂ and 0.05 per cent copper, including 30 metres of 41.14 grams per tonne silver (Assessment Report 15510).

The mineralization is believed to be part of a zoned porphyry-type deposit which has a central quartz vein stockwork zone containing molybdenum-copper-tungsten mineralization and a peripheral zone with veins containing copper, lead, zinc and silver mineralization. This showing is interpreted as occurring in the central stockwork zone.

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1492
REPORT: RGEN0100

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GSC MEM 308
GSC OF 1195
GSC P 49-22; 52-13
V STOCKWATCH Jan. 8, 1988
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/23

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW227**

NATIONAL MINERAL INVENTORY:

NAME(S): **REX**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 28 55 N
LONGITUDE: 117 24 54 W
ELEVATION: 610 Metres

NORTHING: 5481116
EASTING: 469940

LOCATION ACCURACY: Within 1 KM

COMMENTS: Location uncertain, described as being at 610 metres elevation, 9.6 kilometres by road from Nelson (Geology, Exploration and Mining 1970, page 438).

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Jurassic
Jurassic

Nelson Intrusions
Unnamed/Unknown Informal

LITHOLOGY: Aplite Dike
Granitic Rock
Dioritic Rock
Pyroxenite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Rex showing is located near Blewett, at 610 metres elevation 9.6 kilometres west of Nelson. The location is uncertain. The area is underlain by Jurassic pseudodiorite and pyroxenite of unknown affinity and granitic rock of the Late to Middle Jurassic Nelson Intrusions. Chalcopyrite occurs in an aplite dyke within granitic rocks. No other information is available.

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EMPR OF 1988-1; *1989-11; 1991-16
GSC MEM 308
GSC OF 1195
GSC P 52-13
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/04

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW228**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOTO 3, P S, MOONGLOW,
SUNBURST**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F05W
BC MAP:

MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 25 N
LONGITUDE: 117 55 44 W
ELEVATION: 1280 Metres

NORTHING: 5458288
EASTING: 432432

LOCATION ACCURACY: Within 500M

COMMENTS: Showing exposed in rock cut along Christina Lake-Kinnaird Highway
(Assessment Report 8187).

COMMODITIES: Tungsten Copper

MINERALS

SIGNIFICANT: Scheelite Malachite
ASSOCIATED: Quartz
ALTERATION: Malachite Specularite Hematite
COMMENTS: The skarn mineralogy is not identified.
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Skarn Igneous-contact
TYPE: K05 W skarn 112 W veins
DIMENSION: 9 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Vein.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Undefined Formation	
Jurassic			Nelson Intrusions
Eocene			Coryell Intrusions

LITHOLOGY: Argillite
Argillaceous Quartzite
Granodiorite
Granite
Diorite
Skarn
Brecciated Dike

HOSTROCK COMMENTS: Argillaceous sediments may be part of the Rossland Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PLUTONIC ROCKS: Plutonic Rocks
RELATIONSHIP: Syn-mineralization
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE:

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Grab
COMMODITY _____ GRADE _____
Tungsten 10.9700 Per cent
COMMENTS: Selected sample from quartz vein with scheelite. Commodity is Wo3.
REFERENCE: Assessment Report 8187.

CAPSULE GEOLOGY

The Loto 3 showing is located along Blueberry Creek, in a roadcut about 1.3 kilometres northwest of the Nancy Green Lake cut-off.

The area is underlain by Paleozoic (?) argillaceous quartzites and argillites which may be part of the Lower Jurassic Rossland Group. These metamorphosed sediments have been intruded by the Middle to Late Jurassic Nelson Intrusions, comprised mainly of granite and granodiorite, and then later by Middle Eocene Coryell Intrusion syenite and associated dykes.

Scheelite mineralization is exposed along a highway roadcut within a 9-metre wide quartz vein. Disseminated scheelite occurs in

CAPSULE GEOLOGY

quartz veins just northwest of this main showing and in several places west of the highway. The host rock is skarn which is crosscut by numerous dykes and dioritic intrusives.

West of the mineralized roadcut, a brecciated dyke, possibly related to the Coryell Intrusion, hosts specular hematite and malachite.

A selected grab sample taken in 1980 from a quartz vein with scheelite assayed 10.97 per cent W_3O_8 (Assessment Report 8187).

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EMPR OF 1991-16; 1991-17
GSC MAP 1090A
GSC MEM 308
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/01/10

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW229**

NATIONAL MINERAL INVENTORY: 082F6 W1

NAME(S): **STEWART 2, MAIN, STEWART,
YMIR, SALMO, PHASE I BRECCIA,
PHASE II BRECCIA**

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 16 55 N
LONGITUDE: 117 15 56 W
ELEVATION: 1620 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of mineralized breccia and old adit (Open File 1989-11).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5458833
EASTING: 480686

COMMODITIES: Molybdenum Tungsten Gold Silver Lead
 Zinc

MINERALS

SIGNIFICANT: Molybdenite Scheelite Pyrite Pyrrhotite Powellite
COMMENTS: Trace visible gold.
ASSOCIATED: Quartz
ALTERATION: Epidote Sericite Silica Calcite Chlorite
 K-Feldspar Powellite
ALTERATION TYPE: Silicific'n Propylitic Oxidation Potassic Argillic
 Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Breccia Disseminated
CLASSIFICATION: Porphyry Skarn Hydrothermal
TYPE: L05 Porphyry Mo (Low F- type) K05 W skarn
 I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Fractured

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Hall	
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions
Eocene			Coryell Intrusions

LITHOLOGY: Quartz Monzonite Porphyry
Biotite Augite Monzonite
Dike
Argillite
Quartzite
Volcanic Flow
Pyroclastic
Volcanic Breccia
Augite Porphyry
Agglomerate

HOSTROCK COMMENTS: Intrusives form a multi-stage intrusive complex within both Hall sedi-
ments and Elise volcanics.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: STEWART REPORT ON: Y
CATEGORY: Indicated YEAR: 1981
QUANTITY: 204000 Tonnes
COMMODITY GRADE
Molybdenum 0.2200 Per cent
COMMENTS: Drill indicated reserves. Actual grade is 0.37 per cent MoS2.
Conversion used for MoS2 to Mo is 1.6681.
REFERENCE: Assessment Report 10072.

CAPSULE GEOLOGY

The property is located at approximately 1524 metres elevation on the south side of Stewart Creek 3.2 kilometres west-northwest of

CAPSULE GEOLOGY

Ymir.

Early work on the showings, for which there is no record, included a 8-metre adit. Drysdale, 1917 (GSC Memoir 94) reported molybdenum on a claim towards the headwaters of Stewart Creek.

The Stewart group of 8 claims and the Stewart No. 2 group of 13 claims were staked in 1942 by E.P. Harkedahl, O.P. Anderson, and E. Emilson of Ymir. Premier Gold Mining Company, Limited optioned the property in July of that year. Work by the company included prospecting, stripping, trenching, reopening the old adit, and sampling. The option was given up in November of that year.

The Consolidated Mining and Smelting Company of Canada Limited optioned the property in 1943 and sampled the showings. A bulk sample was taken for a mill test. The option was dropped in July of that year.

The showings were restaked by Harkedahl and associates in about 1948 as the Scheelite and Scheelite 2-6 claims and the adjacent N.H. group of 8 claims. The 14 claims were optioned to K.J. Springer and associates who incorporated Arrow Tungsten Mines Limited in March 1951 to acquire the property. Mineralization in trenched zones A, B and C was estimated at 330 tons per vertical foot averaging 0.50% WO₃. If this continued down dip for 61 metres the probable reserve would be 66,000 tons (DM Cannon 5/04/51 in Arrow Tungsten Mines Limited Prospectus 30/04/51). The company drove an adit southerly for 140 metres. At 58 metres from the portal a raise was driven 27 metres to old surface workings. Diamond drilling at right angles to the adit was done in 3 holes to the east and 7 to the west. Only spotty scheelite and powellite was found in the narrow skarn band which the adit followed for 62 metres when it became indistinguishable. No mineralization was reported encountered by the diamond drilling. Work ceased in March 1952.

The property was held in 1978 as the Stewart 1-4 claims (66 units) by Eric and Jack Denny, of Nelson. A geochemical soil and silt survey was carried out over Stewart 1-3.

The Stewart 2 showing is located 4 kilometres west of Ymir and 28 kilometres south of Nelson. The property was staked in 1978. The Stewart 2 and Bobbi (082FSW250) occurrences are the most significant porphyry showings in the Nelson-Ymir area.

The area is underlain by the Lower Jurassic Elise and Hall formations of the Rossland Group which hosts a multi-stage intrusive complex. The complex comprises Middle to Late Jurassic Nelson quartz monzonite porphyries, Middle Eocene biotite augite monzonite Coryell Intrusions with related aplite, diabase and lamprophyre dykes. The intrusive complex and surrounding sediments and volcanics locally host, sometimes overlapping, silica flooding, potassium metasomatism, quartz-stockwork development, argillic, sericitic, and propylitic alteration. The volcanic rocks comprise intermediate to mafic flows, fine pyroclastic units, augite porphyry, agglomerate and volcanic breccias.

Tungsten-bearing skarns and pyrite-pyrrhotite veins with lead-zinc-silver values have been documented around the margins of the complex. Gold has been identified only in trace amounts within the intrusives but occurs as free gold and with pyrite within quartz veins peripheral to the intrusive complex.

Molybdenite has been identified as sparse disseminations and selvages on fracture surfaces within quartz-stockwork zones and in the Phase I Breccia unit. It is most extensive within the Phase II Breccia on the northwest margin of the complex where it occurs in a pipelike breccia body as fine disseminations within the matrix, as selvages on fractures and within quartz veinlets. Molybdenite is also disseminated within the quartz monzonite porphyry breccia fragments and more rarely forms quartz-molybdenite fragments within the molybdenum rich matrix of the Phase II Breccia.

Powellite is a common alteration mineral on surface of the Phase II Breccia and the breccia is associated with strong pyrite-sericite alteration.

Drill testing has identified reserves of 204,000 tonnes grading 0.22 per cent molybdenite within the Phase II Breccia zone. Actual grade is 0.37 per cent MoS₂ (Assessment Report 10072). Conversion used for MoS₂ to Mo is 1.6681.

Extensive geological mapping, rock geochemistry, ground and airborne geophysics and diamond drilling have been carried out over the intrusive complex and the surrounding country rocks.

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EMPR BULL 9; 10 (Rev), p. 150; 41

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1984-40,1986
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pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16; 1991-17
EMPR PF (082FSW311-1:480 Scale Sketch Plan of workings and assays,
Premier Gold Mining Co. Ltd., 1942)
EMR MIN BULL MR 223 B.C. 30
EMR MP CORPFILE (Premier Gold Mining Company Ltd.; Arrow Tungsten
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GSC EC GEOL 1959, #17, p. 115
GSC MAP 1090A; 1144A
GSC MEM 77; 172; 308
GSC OF 1195
GSC P 51-4; 52-13
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/08

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW230**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER 1, JOHN, NORTH,**
CAMERON 2, SILVER HAWK, LIZZIE C (L.3587)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 27 29 N
LONGITUDE: 117 16 22 W
ELEVATION: 1000 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5478413
EASTING: 480232

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of North showing workings (Assessment Report 7377).

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Concordant Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Metamorphic
DIMENSION: 65 x 3 Metres STRIKE/DIP: 360/85E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Biotite Schist
Porphyritic Granite Dike
Granite
Granodiorite
Volcanic
Tuffaceous Siltstone
Tuffaceous Sandstone

HOSTROCK COMMENTS: Units Je1 and Je10 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1979
SAMPLE TYPE: Grab

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	57.9300	Grams per tonne
Lead	1.8500	Per cent
Zinc	7.3600	Per cent

COMMENTS: Trench located 9 metres south of the main shaft sampled across 3 metres.
REFERENCE: Assessment Report 7377.

CAPSULE GEOLOGY

The Silver 1 showing is located on the east side of Cottonwood Creek about 5 kilometres south of Nelson.
The area is underlain by intermediate volcanics and volcaniclastics of the Lower Jurassic Elise Formation (units Je1 and Je10), Rossland Group (Open File 1989-11). The stratigraphy is intruded by granite sills related to Middle to Late Jurassic granites and granodiorites of the Nelson Intrusions. A southerly extension of the Nelson batholith occurs to the east.
The showing consists of galena, sphalerite, pyrite and sparse chalcopyrite occurring along planes of schistosity. The mineralized zone has been exposed for a strike length of about 65 metres with a variable width of 1 to 3 metres. The zone is hosted in biotite schist. Reports indicate that some sulphide mineralization is also associated with the contact alteration zone of a 1-metre thick

CAPSULE GEOLOGY

granitic dyke.

Assays are erratic and tonnage potential is estimated to be very low. Values of 0.5 to 5.65 per cent lead, 4 to 13.45 per cent zinc and 13 to 497.2 grams per tonne of silver have been reported. A grab sample, taken in 1979 across 3 metres, from a trench 9 metres south of the main shaft, assayed 57.93 grams per tonne silver, 1.85 per cent lead and 7.36 per cent zinc (Assessment Report 7377).

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/19

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW231**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER 5, SOUTH, JOHN 1,
BIG MAC, SILVER HAWK, JULIUS CAESAR (L.3591)**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 27 05 N
LONGITUDE: 117 16 08 W
ELEVATION: 850 Metres

NORTHING: 5477671
EASTING: 480511

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of South showing workings (Assessment Report 7377).

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic Replacement
TYPE: J01 Polymetallic manto Ag-Pb-Zn
DIMENSION: 122 x 17 Metres STRIKE/DIP: 360/85W TREND/PLUNGE:
COMMENTS: Mineralized zone.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Limy Schist
Schistose Limestone
Porphyritic Granite Dike
Granodiorite
Volcanic Rock

HOSTROCK COMMENTS: Units Je1 and Je10 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SHAFT REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1979
SAMPLE TYPE: Grab

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	124.4000	Grams per tonne
Lead	13.4600	Per cent
Zinc	1.3000	Per cent

COMMENTS: The sample width is 16.8 metres.
REFERENCE: Assessment Report 7377.

CAPSULE GEOLOGY

The Silver 5 showing is located along Selous Creek about 5 kilometres south of Nelson.

The area is underlain by intermediate volcanics and volcaniclastics of the Lower Jurassic Elise Formation (Units Je1 and Je10), Rossland Group (Open File 1989-11). The stratigraphy is intruded by porphyritic granite dykes related to Middle to Late Jurassic granites and granodiorites of the Nelson Intrusions.

The Silver 5 showing consists of schistose limestone containing bands of galena, sphalerite, pyrite and chalcopyrite. The zone is exposed for about 122 metres along strike with an apparent width of about 17 metres. The zone strikes directly north with a variable dip between 85 degrees west to 45 degrees east. This is possibly a replacement deposit.

Assay values are erratic and a sample 16.8 metres wide assayed 124.4 grams per tonne silver, 13.46 per cent lead and 1.3 per cent zinc (Assessment Report 7377).

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/19

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW232**

NATIONAL MINERAL INVENTORY:

NAME(S): **HILLTOP**, SITKA, WALL,
SILVER WALL

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 10 50 N
LONGITUDE: 117 00 14 W
ELEVATION: 1960 Metres

NORTHING: 5447528
EASTING: 499717

LOCATION ACCURACY: Within 500M

COMMENTS: Lies on a pass between Next Creek and Devil's Hole Lake immediately west of the old Spokane past producer (082FSE032).

COMMODITIES: Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Igneous-contact
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
COMMENTS: Veins trend east-west with steep north dips.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Hadrynian	Windermere	Monk	
Jurassic			Nelson Intrusions

LITHOLOGY: Granodiorite
Quartzite
Argillite
Granodiorite

HOSTROCK COMMENTS: The Monk Formation is equivalent to the lower pelitic part of the Horsethief Creek Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Ancestral North America Plutonic Rocks
METAMORPHIC TYPE: Contact Regional RELATIONSHIP: GRADE:

CAPSULE GEOLOGY

The Hilltop showing consists of an extension of the quartz vein system at the Spokane (082FSE032) and Harris (082FSE078) occurrences), to the northeast, and several small associated veins at variable orientations. The showing is hosted by Hadrynian Monk Formation sediments of the Windermere Supergroup (correlative with pelitic rocks of the lower Horsethief Creek Group). These sediments have been intruded by granodiorite of the Middle to Late Jurassic Nelson Intrusions.

The general trends of the veins are east-west with steep north dips. The veins, which average 1 to 2 centimetres in width, host small lenses, stringers, and disseminations of pyrite, pyrrhotite, galena, sphalerite and some minor chalcopyrite. Gold and silver contents are apparently low.

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GSC MEM 308
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/14

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW233**

NATIONAL MINERAL INVENTORY:

NAME(S): **NESS**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 35 N
LONGITUDE: 117 22 58 W
ELEVATION: 1325 Metres

NORTHING: 5434165
EASTING: 472036

LOCATION ACCURACY: Within 500M

COMMENTS: Located about 18 kilometres south-southwest of Salmo.

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal
TYPE: 105 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 60 x 45 Metres
COMMENTS: Area of quartz veining

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Lower Cambrian
Jurassic

GROUP

Undefined Group

FORMATION

Laib

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Phyllite
Argillite
Limestone
Quartzite
Granite

HOSTROCK COMMENTS: Host rock not specified.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Granites of the Middle to Late Jurassic Nelson Intrusions intrude phyllites, argillites, limestones and quartzites of the Lower Cambrian, upper Laib Formation. The intrusive contacts are irregular and rafts of sediments are contained within granitic intrusives. The Ness showing consists of quartz veining (in an area 45 by 60 metres), which contains some disseminated pyrite and chalcopyrite. Geochemistry indicates trace to very low amounts of copper with trace amounts of various other metals. No significant economic mineralization is documented.

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/07

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW234**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUE EYES**, BLUE MOON

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 15 N
LONGITUDE: 117 50 01 W
ELEVATION: 1371 Metres

NORTHING: 5441223
EASTING: 439176

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located about 5 kilometres north of Rossland on Stoney (Topping) Creek. Reported to be west of the Union property (082FSW164), (Bulletin 74, page 52).

COMMODITIES: Tungsten Molybdenum

MINERALS

SIGNIFICANT: Scheelite Molybdenite Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated
CLASSIFICATION: Hydrothermal Porphyry
TYPE: I12 W veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Trail Pluton

LITHOLOGY: Granodiorite
Siltstone
Sandstone
Breccia
Quartz Diorite
Diorite
Syenite
Quartz Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
Plutonic Rocks
RELATIONSHIP: Syn-mineralization
GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1942
SAMPLE TYPE: Channel
COMMODITY GRADE
Molybdenum 0.1700 Per cent
Tungsten 0.3300 Per cent
COMMENTS: Sample taken across 30 centimetres of vein and wallrock.
REFERENCE: Geological Survey of Canada Economic Geology 17.

CAPSULE GEOLOGY

The Blue Eyes showing is underlain by a non-porphyrific granodiorite of the Middle to Late Jurassic Trail pluton (Nelson Intrusions) that contains small shears and joints along which quartz veins are exposed in an adit driven westward at an elevation of 1371 metres. In trenches, five or more quartz veins, ranging up to 10 centimetres in width, host crystals of scheelite which range up to 2.0 centimetres in length. In general, these large crystals are in clusters and give a high tungsten content over a few square centimetres. However, the average grade of the veins is low.

An adit followed a series of small joints and shears that contain quartz veins bearing pyrite. Scheelite is present almost the whole length. Some of the veins are up to 30 centimetres in width and host scheelite along the margins. The smaller veins occupy joints in the granodiorite with scheelite disseminated in the veins and penetrating several centimetres into the wallrock. In 1942, a channel sample taken across 30 centimetres of vein and wallrock about 121 metres from the portal, assayed 0.33 per cent WO₃ and 0.17 per

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1506
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CAPSULE GEOLOGY

cent MoS2 (Geological Survey of Canada Economic Geology Series No. 17).

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GSC P 79-26
EMPR BULL 109

DATE CODED: 1987/10/07
DATE REVISED: 1991/05/21

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW235**

NATIONAL MINERAL INVENTORY:

NAME(S): **HUNGARY MAN (L.4083)**, CONNOR, CONNOR CREEK,
ANNE-MARIE, JO-ANNE, ROOT,
HUNGRY MAN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 24 52 N
LONGITUDE: 117 29 36 W
ELEVATION: 976 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 4083 (Assessment Report 17292).

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5473646
EASTING: 464217

COMMODITIES: Gold Copper

MINERALS

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

DEPOSIT

CHARACTER: Podiform Massive Shear Vein
CLASSIFICATION: Hydrothermal Epigenetic Volcanogenic
DIMENSION: 300 x 30 x 7 Metres STRIKE/DIP: 340/08N TREND/PLUNGE:
COMMENTS: Lenses are up to 7 metres across and 30 metres in length. Mineraliza-
tion occurs over 300 metres.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Ymir	Unnamed/Unknown Formation	
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions

LITHOLOGY: Feldspar Porphyry Andesite
Diorite
Sediment/Sedimentary

HOSTROCK COMMENTS: Andesite is thought to be a roof pendant of Elise Formation volcanics.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Channel
COMMODITY: Gold 4.4200 Grams per tonne
COMMENTS: Sample #10133 from exposure along Connor Creek, across 1 metre. Also
2.4 grams per tonne silver.
REFERENCE: Assessment Report 18518.

CAPSULE GEOLOGY

The Hungary Man showing is located 20 kilometres southwest of Nelson. The claim was Crown granted in 1900 and two shafts and a crosscut were developed.

A pendant of feldspar porphyry andesite of the Lower Jurassic Elise Formation, Rossland Group occurs in diorite of the Middle to Late Jurassic Nelson Intrusions. The area has been mapped as being underlain by sediments of the Lower Jurassic Ymir Group.

Mineralization consists of massive to semi-massive sulphides in a schistose volcano-sedimentary sequence. Sulphides comprise pyrrhotite, pyrite and minor chalcopyrite in quartz gangue. There are indications that the mineralization continues for at least 300 metres. The mineralization appears to be concentrated along the andesite-diorite contact in mineralized shear and breccia zones. This is possibly a Besshi-type deposit.

The Hungary Man showing consists of sulphides in lenses up to 7 metres across and up to over 30 metres in length. These zones trend north-south parallel to the local structure striking 340 degrees and dipping 08 degrees north. Similar mineralization occurs on the

CAPSULE GEOLOGY

adjacent Connor and Anne-Marie claims.

A channel sample (#10133) from an exposure along Connor Creek assayed 4.42 grams per tonne gold and 2.4 grams per tonne silver over 1 metre (Assessment Report 18518). Results from a soil sampling program on the Anne-Marie claim to the north in 1989 were interesting.

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GSC P 49-22; 52-13
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EMPR BULL 109

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

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW236**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUESTAR, ZAP**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 04 N
LONGITUDE: 117 25 35 W
ELEVATION: 790 Metres

NORTHING: 5433225
EASTING: 468845

LOCATION ACCURACY: Within 500M

COMMENTS: North of the Pend d'Oreille River and west of Tillicum Creek.

COMMODITIES: Gold Copper Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite
COMMENTS: Only sporadic flakes of sulphides other than pyrite are present.
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 500 x 2 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Shear zone hosting quartz veins.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Paleozoic Undefined Group Unnamed/Unknown Formation

LITHOLOGY: Argillite
Limestone
Quartzite
Volcanic
Phyllite

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: ADIT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1983
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 1.1200 Grams per tonne
Gold 1.0200 Grams per tonne
COMMENTS: A sample taken from the Bluestar adit.
REFERENCE: Assessment Report 13489.

CAPSULE GEOLOGY

Underlying the Bluestar occurrence are black argillites, phyllites, quartzites and limestones of what Little (1985) calls the "Pend d'Oreille Sequence" of Yates. These have a Silurian(?), Lower and Middle Devonian, and Carboniferous(?) age (Geological Survey of Canada Open File 1195, page 9). These rocks are exposed west of Tillicum Creek and south of the Waneta fault which brings them in fault contact with the sediments and volcanics of the Jurassic Rossland Group.

The Bluestar showing consists of quartz veining along a north trending shear zone. The quartz carries minor disseminated pyrite and occasional flecks of chalcopyrite, galena and sphalerite. The zone is in the order of 1 to 2.5 metres wide and traceable along strike about 500 metres. No significant metal values were obtained by assaying samples. Mineralization appears sporadic although one sample at the Bluestar adit contained 1 part per million gold with a trace of silver (Assessment Report 13489).

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1510
REPORT: RGEN0100

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GSC MAP 299A; 1090A; *1145A
GSC MEM 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/01

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW237**

NATIONAL MINERAL INVENTORY:

NAME(S): **KENA GOLD**, KENA (MAIN), KENA (NEIL),
KENA 7, COTTONWOOD, MAC 1,
GOLD MTN 3

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F06W 082F06E
BC MAP:
LATITUDE: 49 25 39 N
LONGITUDE: 117 16 07 W
ELEVATION: 1432 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location of Main showing, south of Gold Creek, about 7 kilometres
south of Nelson (Assessment Report 26503).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5475015
EASTING: 480522

COMMODITIES: Gold Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Sphalerite Galena Bornite
Molybdenite
ASSOCIATED: Quartz
ALTERATION: Silica Pyrite K-Feldspar Sericite
ALTERATION TYPE: Silicific'n Pyrite Potassic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein Massive
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au STRIKE/DIP: 105 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: Metres TREND/PLUNGE: /

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Middle Jurassic			Silver King Porphyry

LITHOLOGY: Andesite
Andesite Porphyry
Breccia
Monzodiorite
Diorite
Andesite Tuff
Mafic Tuff
Plagioclase Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

CAPSULE GEOLOGY

The Kena Gold showings are located about 7 kilometres south of Nelson and are part of the larger Kena property of Sultan Minerals Inc. The Kena property hosts a number of porphyry style, gold and gold-copper occurrences. The property lies on the eastern limb of the Hall Creek Syncline, a south-plunging fold associated with intense shearing that dominates the structure of the Nelson map area. The syncline incorporates volcanic and lesser sedimentary rocks of the Lower Jurassic Elise Formation (Rossland Group) which are intruded by a synvolcanic monzodiorite complex and by the younger? Middle Jurassic Silver King Intrusions comprising a coarse grained plagioclase porphyry stock with related dikes and sills.

The Kena Gold showings (Main and Neil) were explored in the late 1800s and the old Cottonwood mine adit, located near a granitic stock, was used to prospect a quartz vein for gold, with little success. Elise Formation volcanics in the area comprise andesite lapilli tuff, augite basalt flow, flow breccia and fine mafic tuff. The Main and Neil showings consist of irregular veins and pods of massive pyrite in silicified and sericitized andesite. The Neil showing is about 100 metres southeast of the Main showing.

The Kena Gold zone occurs in a highly disrupted area along the flank of the Silver King porphyry stock. The section includes a number of dike and sill-like masses of monzodiorite, andesite porphyry and Silver King porphyry. Gold mineralization occurs in

CAPSULE GEOLOGY

silicified and pyritized crackle breccia fracture zones in the volcanics related to subconcordant dioritic intrusions. Grades are variable but the gold appears to be structurally controlled and is related to the pyrite content. Broad zones of pervasive silicification and potassic alteration occur at the diorite intrusive contacts. These zones have assayed between 1.37 to 2.34 grams per tonne gold over 1.5 to 2.0 metres (Assessment Report 15767). Previous property owners believed gold to be associated with a fine grained, yellow, remobilized pyrite that varies from 1 to 90 per cent in content over short widths and which is distinct from the pale brassy pyrite commonly found in adjacent volcanic rocks. Broad zones of potassic alteration and silicification occur at the margins of the intrusions, and the best widths of mineralization occur where silicification intersects strong fracture systems. The most significant and dense fracture system is subvertical and trends at 090 degrees.

Chalcopyrite, sphalerite and galena occur as disseminations in quartz veins, or as massive sulphide veins adjacent to the dioritic rocks. These occurrences carry low gold concentrations, normally less than 3 grams per tonne. Not all of the silicified zones are gold bearing. Some of the quartz occurs as vuggy crystalline veins of the type commonly found around epithermal deposits. The andesite tuff assemblage has been highly sheared along the regional trend and shearing may have dislocated existing mineralization.

Although mineralizing structures trending 090 degrees had been identified by earlier property owners, all of the historic drilling on the Kena Gold zone has been conducted to cross the regional geology and foliation direction of 130 degrees. In 2000, a report by D. Rhys in part states that gold mineralization grading greater than 2 grams per tonne most consistently, although not exclusively, occurs in sets of east-west striking, steeply south dipping pyrite-quartz veins with pale grey potassium feldspar-sericite-quartz-calcite alteration. If continuous veins or vein systems of this type are developed, they could form higher grade vein targets within the broad area of low grade mineralization present in that area (Assessment Report 26503).

Disseminated pyrite is ubiquitous throughout the volcanic stratigraphy but increases in areas which are highly silicified and contain quartz veinlets. Locally, pyrite may comprise up to 10 per cent of the rock and copper mineralization reportedly corresponds to areas of pyrite-silica enrichment. Chalcopyrite with minor bornite occurs sparingly (0.15 to 0.4 per cent copper in bedrock) along foliation planes in the more mafic volcanics and to a lesser extent in intermediate units.

On the Kena Property the monzogabbro intrusive suite and the Silver King pluton host intrusion-related alteration and gold mineralization. Mineralization has been affected by regional deformation and veinlets cutting the volcanic hosts are frequently folded and transposed, those within the Silver King pluton less affected. Hydrothermal biotite associated with the mineralization are aligned in the regional foliation.

Hydrothermal alteration assemblages present in drill core in and around the Gold Mountain Zone are similar to the principal alteration types developed around gold-rich porphyry deposits (potassic, propylitic, intermediate argillic, and sericitic). The mineralization is post Aalenian and pre Bajocian. Gold mineralization occurs in areas of pervasively pyritized Silver King pluton and within 20 metres of the contact. It consists mainly of disseminated pyrite and chalcopyrite and fewer stringers and veinlets (EMPR Fieldwork 2002, pages 133-151).

Mineralization in the Kena property area was first described in a report by G.M Dawson in Geological Survey of Canada Annual Report for 1888-89. Little is known about exploration on the claim area prior to 1973. Post-1973 exploration, however, has identified old prospect pits and trenches, as well as several old adits indicating periods of exploration activity in the early part of the century. Numerous exploration companies carried out geological, geochemical, geophysical surveys, trenching and drilling on the property from 1974-91. These companies explored the Elise Formation volcanics for gold and copper mineralization and discovered the Kena Gold zone (this description), Kena Copper zone (082FSW332) and the Shaft/Cat zones (082FSW331). The Kena Gold zone underwent the most thorough exploration with the Kena Copper and Shaft/Cat zones only being tested minimally. No additional work was done until 1999 when Sultan Minerals Inc. acquired and amalgamated several properties under the name Kena property. Recent exploration work and data compilation by Sultan Minerals have identified four gold-bearing zones on the Kena property. These are: the newly discovered Gold Mountain (082FSW379), Kena Gold, Shaft/Cat, and South Gold soil anomaly located about 1000

CAPSULE GEOLOGY

metres south of the Kena Copper zone.

The Kena Gold zone has been extensively drill tested but much of the previously drilled core was never sampled. In 2000, Sultan Minerals relogged much of the historic core using alteration and mineralization studies in order to get a signature for the gold mineralization, and many unsampled sections were assayed. Also, structural data from outcrop and drill core was assessed and a new structure identified which appears to be the mineralizing control. Currently, remodeling of the Kena Gold zone is underway, utilizing this new mineralizing orientation and alteration assemblage data (Sultan Minerals Inc. Annual Report 2000).

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GSC MEM 308
GSC OF 1195
GSC P 49-22; *52-13
GCNL #189(Oct.3),#205(Oct.26), #211(Nov.3),#215(Nov.9),#225(Nov.24),
#237(Dec.12), 2000
N MINER Online Oct.3,9, 2001
PR REL Sultan Minerals Inc. Jan. 14,21, 2000
V STOCKWATCH Aug.28, 1989; Oct.2,10, Nov.15, 2001
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Placer Dome File
Sultan Minerals Inc. Annual Report 2000

DATE CODED: 1985/07/24
DATE REVISED: 2002/02/05

CODED BY: GSB
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW238**

NATIONAL MINERAL INVENTORY:

NAME(S): **LAST CHANCE**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 01 56 N
LONGITUDE: 117 37 49 W
ELEVATION: 900 Metres

NORTHING: 5431229
EASTING: 453930

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located 8.0 to 9.5 kilometres southeast of the city of Trail, about 1.6 kilometres west of the Columbia River on steep bluffs rising to about 200 metres above a wide bench area of land bordering the river (Minister of Mines Annual Report 1928, page 356).

COMMODITIES: Silver Copper Lead Zinc Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein Concordant
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Mineralized, parallel No. 1 and No. 2 veins. STRIKE/DIP: 315/75W TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic Eocene	Rossland	Elise	Sheppard Intrusion

LITHOLOGY: Siltstone
Hornfels Siltstone
Schist
Aplite Dike
Dike
Syenite

HOSTROCK COMMENTS: Syenite dyke.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: DUMP REPORT ON: N

CATEGORY: Assay/analysis	YEAR: 1928	
SAMPLE TYPE: Grab		
<u>COMMODITY</u>	<u>GRADE</u>	
Silver	246.9000	Grams per tonne
Gold	0.3400	Grams per tonne
Copper	1.9200	Per cent
Lead	6.3000	Per cent
Zinc	11.6000	Per cent

COMMENTS: Sample taken from a small pile outside of the portal on the No. 1 vein.

REFERENCE: Minister of Mines Annual Report 1928, page 356.

CAPSULE GEOLOGY

The exact location of the Last Chance showing is uncertain. The area is underlain by altered siltstone, hornfelsed siltstone and schist of the Lower Jurassic Elise Formation, Rossland Group. The Rossland Group rocks are crosscut by a major north trending aplite dyke, related to the Middle Eocene Sheppard syenite intrusion.

The Last Chance claim hosts veins which strike northwesterly and dip steeply to the southwest probably paralleling the schistosity in the host rock. Two veins, known as the No. 1 and No. 2, host mineralization.

The No. 2 vein, ranges from 23 to 56 centimetres in width, and hosts streaks and lenses of ore consisting mainly of chalcopyrite,

CAPSULE GEOLOGY

with minor bornite in a gangue of altered country rock, quartz and calcite. The No. 1 vein, paralleling the No. 2 vein and about 37 metres distant, hosts galena, sphalerite and pyrite with minor chalcopyrite in similar gangue. The No. 1 vein is about 91 centimetres wide and hosts ore up to 18 centimetres in width. Both veins follow well-defined planes of fissuring and appear to be persistently horizontal.

In 1928, a grab sample from ore obtained from the No. 2 vein assayed 0.69 grams per tonne gold, 260.6 grams per tonne silver and 3.68 per cent copper. Selected ore from an open-cut on the No. 1 vein assayed 0.69 grams per tonne gold, 510.8 grams per tonne silver, 15.3 per cent lead, and 5.4 per cent zinc. A grab sample from an ore pile from the No. 1 vein assayed 0.34 grams per tonne gold, 246.9 grams per tonne silver, 6.3 per cent lead, 11.6 per cent zinc and 1.92 per cent copper (Minister of Mines Annual Report 1928, page 356).

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GSC MAP 1090A; *1504A
GSC MEM 77; 308
GSC P 79-26
EMPR BULL 109

DATE CODED: 1987/09/08
DATE REVISED: 1991/03/12

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW239**

NATIONAL MINERAL INVENTORY: 082F6 Au1

NAME(S): **ATLIN-NOME** ATLIN (L.4800), NOME

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 17 32 N
LONGITUDE: 117 11 28 W
ELEVATION: 1340 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 4800 (NTS Map 082F06).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5459959
EASTING: 486104

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite
COMMENTS: "iron-sulphides".
ASSOCIATED: Quartz
COMMENTS: The argillite is highly altered and decomposed. Alteration minerals or type are not specified.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
COMMENTS: A "fairly regular" vein.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Jurassic	Ymir	Undefined Formation	Nelson Intrusions

LITHOLOGY: Argillite
Granodiorite
Porphyritic Dike

HOSTROCK COMMENTS: Ymir Group sediments near the contact with the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Plutonic Rocks
GRADE: Hornfels

CAPSULE GEOLOGY

The Atlin-Nome showing is located 2 kilometres northeast of Ymir. The Dundee (082FSW067) and Yankee Girl (082FSW068) mines are just to the south. Workings consist of a shaft and an adit from the turn of the century.

The area is underlain by metamorphosed sediments of the Lower Jurassic Ymir Group near the contact with granodiorite of the Nelson batholith of the Late to Middle Jurassic Nelson Intrusions. The sediments comprise argillite, siltstone, sandstone, quartzite and limestone. The Mt. Elise shear occurs to the west.

The argillites are highly altered and decomposed. A "fairly regular" quartz vein hosting pyrite ("iron sulphides") is hosted in a porphyritic dyke close to the granodiorite mass. Massive sulphide lenses occur locally. Values from sorted ore were 30.3 to 37.9 grams per tonne (\$20 to \$25 per tonne). Production is probably included with the Yankee Girl mine production.

No other information is available.

The property is located at approximately 1097 metres elevation on the north side of Oscar Creek, 1.6 kilometres east of Ymir.

The Yankee Girl, Canadian Girl, and Atlin claims were staked in October 1899 by Messrs. Graham, Grobe, McLeod, Masterton, and Lovell. Development work was done in a series of open cuts, a shaft, and an adit ("Overland Tunnel") which gained a depth of 15 metres on the vein. In 1904 the Atlin and adjacent Nome and Yukon claims were held by Pat Daly, A. Parr, Wm. Coffey and associates. The Atlin-Nome workings included a shaft to 18 metres with a 15-metre crosscut to the north, and a 96-metre crosscut adit and drifts on the vein. On the Yukon claim an adit had been driven 75 metres. The Yankee Girl (Lot 7712) and Canadian Girl (Lot 7072) were Crown-granted in 1907 to David Grobe, Donald McLeod, James Cronin, and Eber Moore. The Yukon Fr. (Lot 5303) was Crown-granted to Messrs. Daly, Coffey,

CAPSULE GEOLOGY

Hughes and Ryan. In 1910 the Atlin (Lot 4800) and Atlin Fr. No. 2 (Lot 9336) were Crown-granted to William Coffey.

The property was bonded in 1907 by a syndicate of American interests. About 305 metres of development work was carried out and a tram line was built from the Yukon claim to the wagon road. The bond was given up in August of that same year. Early in 1908 the property was bonded by H.L. Rodgers, representing New York interests, and development work began in driving the 1235 (No. 4) level adit from the Old Bill claim of the adjacent Dundee property (82 F/6, Au 10). Operations were transferred to Yankee Girl Gold Mines, Limited which was incorporated in South Dakota and registered in British Columbia in 1909.

The Yankee Girl, Canadian Girl and Yukon Fraction were optioned in 1911 by Hobson Silver-Lead Company, Limited of Spokane, which was controlled by Fort Worth Texas interests. An aerial tram 1829 metres long was built from the 1235 level to the railroad at Ymir. Development work continued in the 1235 level and ore was shipped to smelters at Greenwood, Grand Forks, and Trail, the high silica content of the ore making it desirable for fluxing purposes. The company ceased operations in 1919. Ownership of the property was transferred to Texas Yankee Girl Mines, Limited, which was registered in British Columbia in 1920. The Mining Corporation of Canada, Limited optioned the property in the spring of 1920 and carried out 628 metres of drifting and crosscutting and 204 metres of raising in known areas of the mine. The option was given up later in the year. No further activity was reported until 1926 when O.C. Thompson and associates optioned the property and incorporated Yankee Girl, Limited. The mine was reopened and some ore shipped during the year. In May 1927 The Porcupine Goldfields Development and Finance Company, Limited optioned the property. Further development work was carried out and diamond drilling was done to test for ore below the 1235 level. Enterprise Consolidated Mining Company, Limited optioned the property in March 1928 from Texas Yankee Girl Mines, Limited. The company name Enterprise) was changed to Yankee Girl Consolidated Mines, Limited. Further development work was done in the upper levels of the mine. The workings at that time included 2 shafts, 5 adits and 10 levels totalling some 5486 metres of openings. In the fall of 1928 a new crosscut adit was begun on the Ymir (Wildhorse) Creek side of the mountain 233 metres below the 1235 level. When work was suspended late in 1929 the Wildhorse adit had been driven 869 metres.

Early in 1933 E.P. Crawford, F.R. Weekes and associates took over the property under an agreement with Texas Yankee Girl Mines, Limited and incorporated Ymir Yankee Girl Gold Mines, Limited in May 1934. The property included 5 Crown-granted claims, the Yankee Girl, Canadian Girl, Lakeview, Black Diamond, Yukon Fr., and Klondyke No. 1 Fr. The company installed a 100 t.p.d. mill which began production in January 1935. A winze was sunk to 91 metres below the 1235 level, extending the workings to a depth of 495 metres and comprising eleven levels. The company continued operations during 1938 while lessees carried out the mining of ore remnants in pillars and stopes in the less accessible parts of the mine. In 1939 the company carried out a salvage mining operation in pillars and stope remnants. A crosscut adit was driven from the 1235 adit level to the Dundee ore zone in 1940. The mill operated on Dundee ore, and on mill tailings from former operations, until June 1942 when the company ceased work. Lessees operated the mill until near the end of the year, treating backfill from old stopes. Lessees continued intermittent mining and clean up operations into 1950.

Yankee Dundee Mines Limited was incorporated in November 1952 to develop the Yankee Girl and Dundee properties. Rehabilitation and extension of the Wildhorse adit began and in 1954 the adit reached a length of 1417 metres. At 1247 metres from the portal the Bonus vein was intersected and drifted on for 20 metres. At 1417 metres the Yankee Girl vein was encountered and drifted on for 14 metres. In December 1954 a raise was started on the vein but only driven 11 metres when work stopped.

Newmont Mining Corporation of Canada Limited optioned the property in August 1960. Diamond drilling was done in 2 holes to test the Bonus vein. The option was given up in December.

Cayzar Athabaska Mines Limited in August 1961 optioned the property from Yankee Dundee and drove a raise on the Yankee Girl vein for 144 metres to intersect the old workings at the 1625 level. Drifting totalling 126 metres and some 678 metres of diamond drilling in 5 holes was done on the Yankee Girl vein from the Wildhorse adit. The option was given up in 1965. The company name (Yankee Dundee) was changed in 1963 to Dundee Mines Limited.

Burlington Mines Ltd. by an agreement dated July 1966 acquired from Dundee Mines 24 Crown-granted claims. Rehabilitation and

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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PAGE: 1518
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CAPSULE GEOLOGY

maintenance work was done in the Wildhorse adit. The company name was changed to Burlington Mines & Enterprises Ltd. in 1970 and to Burlington Gold Mines Ltd. in 1974.

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EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; 1090A
GSC MEM *94, p. 107; 191; 308
GSC OF 1195
GSC P 51-4
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/05

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW240**

NATIONAL MINERAL INVENTORY:

NAME(S): **M**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 14 18 N
LONGITUDE: 117 07 45 W
ELEVATION: 1500 Metres

NORTHING: 5453959
EASTING: 490598

LOCATION ACCURACY: Within 500M

COMMENTS: About 4 kilometres northwest of Hewlett Peak.

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Sphalerite Galena Chalcopyrite

COMMENTS: Only minor chalcopyrite.

ASSOCIATED: Quartz

COMMENTS: In sheared argillites.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive

CLASSIFICATION: Hydrothermal

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Tabular

MODIFIER: Faulted

DIMENSION: 600 x 2 Metres

COMMENTS: Vein

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Ordovician

GROUP

Undefined Group

FORMATION

Active

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite
Limestone
Quartz Vein

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1977

SAMPLE TYPE: Chip

COMMODITY

GRADE

Zinc

3.1200

Per cent

COMMENTS: Sample width is 2.13 metres (highest assay).

REFERENCE: Assessment Report 6474.

CAPSULE GEOLOGY

Sheared argillites and limestones of the Middle to Lower Ordovician Active Formation contain a fault related vein deposit. The fault zone strikes 150 degrees with a steep southwest dip along the ridge between Active and Howard creeks. Within the sheared argillites a quartz gangue hosts pyrite, pyrrhotite, sphalerite, galena, and minor chalcopyrite across widths of 1 to 2 metres and along a strike length of about 600 metres. Analysis indicates the across 2.06 to 3.12 per cent zinc from surface trenches along the zone (Assessment 6474).

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GSC MAP 50-19A; 299A; 1090A; 1145A
GSC MEM 308
GSC OF 1195
GSC P 49-22; 52-13

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1520
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/11

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW241**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROSA (L.2460)**, JUNE 6, ERIE CREEK

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 15 00 N
LONGITUDE: 117 23 29 W
ELEVATION: 1006 Metres

NORTHING: 5455321
EASTING: 471516

LOCATION ACCURACY: Within 500M

COMMENTS: Two adits located at the southwest boundary of Lot 2460 (Assessment Report 18478).

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Galena Sphalerite
ASSOCIATED: Quartz
ALTERATION: Quartz Pyrite Chlorite
ALTERATION TYPE: Silicific'n Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic Porphyry
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
COMMENTS: Interpreted to occur within the peripheral porphyry zone.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Archibald	
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions

LITHOLOGY: Biotite Hornfels
Granodiorite
Quartz Monzonite
Siltstone
Argillite
Quartzite
Augite Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 213.2000 Grams per tonne
Gold 0.0150 Grams per tonne

COMMENTS: Sample from old adit along the Skilet River.
REFERENCE: Assessment Report 15510.

CAPSULE GEOLOGY

The Rosa showing is located near the confluence of Skilet and Erie creeks, about 14 kilometres southwest of Ymir. The area was first explored in the 1890's. The workings, comprising 2 adits, are now included in the Erie Creek property. The Copper King (082FSW213), the Arnold (082FSW301), Ben Hassen (082FSW300) and Hattie (082FSW226) occurrences are also part of this property.

The area is underlain by the Lower Jurassic Rossland Group, Elise Formation volcanics and Archibald Formation sediments. The Rossland Group rocks are intruded by the Middle to Late Jurassic Nelson Intrusions, locally known as the Erie stock. The Erie stock is comprised of a light grey quartz monzonite with associated aplitic and feldspar porphyry dykes. Biotite hornfels is apparently a contact metamorphic effect related to both the Nelson batholith and the Erie Creek dyke swarm. It is mainly developed in argillite and

CAPSULE GEOLOGY

siltstone. Chlorite occurs mainly on fractures and in shear veins in augite andesite and hornfels.

Mineralization on the property occurs roughly in four concentric zones. An inner quartz-molybdenum plus scheelite zone followed by a chalcopyrite zone, a pyrite-pyrrhotite zone and an outer sphalerite-galena zone. The inner zone is approximately 600 metres in diameter and is centered on the east side of Erie Creek (Hattie). The host rocks are quartz monzonite dykes, stocks and white rhyolite. The chalcopyrite zone occurs over an area of 1.5 to 2 kilometres and occurs in quartz and sulphide veinlets as fracture coatings and in shear veins with pyrite, pyrrhotite and minor amounts of scheelite. The best copper values obtained, up to 1.3 per cent, were from vein and dump samples mainly from old workings on the west side of Erie Creek (Drum Lummon, Copper King, Dora, Homestake). Pyrite and pyrrhotite, in an area about 1.5 by 2.5 kilometres, occurs finely disseminated and as fracture coatings. Sphalerite and galena with some gold occurs in shear veins beyond the inner zone, such as the Arnold and Ben Hassen showings.

Sphalerite and galena in quartz gangue occur in shear veins on the Rosa Reverted Crown Grant. In 1987, a sample taken from an old adit along Skilet Creek assayed 213.2 grams per tonne silver and 0.015 gram per tonne gold (Assessment Report 15510).

The mineralization is believed to be part of a zoned porphyry type deposit which has a central quartz vein stockwork zone containing molybdenum-copper-tungsten mineralization and a peripheral zone with veins containing copper, lead, zinc and silver mineralization. This showing is interpreted as occurring in the peripheral zone.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
EMPR PF (In 82FSW300: Kootenay King Resources Inc. Prospectus, Sept. 16, 1987)
GSC MAP 1090A; 1145A
GSC MEM 308
GSC OF 1195
GSC P 49-22; 52-13
EMPR BULL 109

DATE CODED: 1987/10/19
DATE REVISED: 1991/05/23

CODED BY: LLC
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW242**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRAND PRIZE (L.933)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 45 N
LONGITUDE: 117 49 07 W
ELEVATION: Metres

NORTHING: 5434726
EASTING: 440200

LOCATION ACCURACY: Within 500M

COMMENTS: Located just northeast of the Deer Park Mine (082FSW122) approximately 1.7 kilometres southeast of Rossland on the southeast slope of Deer Park Hill.

COMMODITIES: Lead Bismuth

MINERALS

SIGNIFICANT:	Pyrrhotite	Pyrite	Galena	Bismuth	Magnetite
ALTERATION:	Epidote	Chlorite	Pyrite	Magnetite	
ALTERATION TYPE:	Propylitic		Skarn		
MINERALIZATION AGE:	Unknown				

DEPOSIT

CHARACTER:	Vein	Massive			
CLASSIFICATION:	Hydrothermal	Epigenetic	Skarn	Industrial Min.	
TYPE:	I05	Polymetallic veins	Ag-Pb-Zn±Au	K03	Fe skarn
	K02	Pb-Zn skarn			

HOST ROCK

DOMINANT HOSTROCK: Metamorphic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Banded Hornfels
Monzonite
Biotite Hornblende Augite Monzonite
Magnetite Skarn

HOSTROCK COMMENTS: Monzonite dated March 1991 (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT:	Omineca	PHYSIOGRAPHIC AREA:	Selkirk Mountains
TERRANE:	Quesnel	RELATIONSHIP:	Plutonic Rocks
METAMORPHIC TYPE:	Contact		RELATIONSHIP: Syn-mineralization Post-mineralization
		GRADE:	Hornfels

CAPSULE GEOLOGY

The claim is underlain by rocks of the Lower Jurassic Rossland Group, Elise Formation, which have been altered to a banded hornfels. The magnetite-rich hornfels or magnetite-skarn occurs along the contact between the Rossland Group rocks and the Early Jurassic Rossland monzonite. This intrusive stock consists of a mass of biotite-hornblende-augite monzonite and contains epidote, chlorite, magnetite with pyrite and pyrrhotite.

Mineralization, which occurs along the monzonite contact, is considered part of the south belt vein system and consists of pyrite, pyrrhotite and magnetite in veins and in semi-massive form. In 1967, very minor amounts of galena were observed in association with native bismuth in a pit northeast of the Deer Park mine (082FSW122). The two minerals were intimately intergrown in a specimen that was examined. The intergrowth may have resulted from simultaneous deposition or, since a number of lead-bismuth sulphosalt minerals are known, from a later breakdown of a single parent material (Thorpe, 1967).

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EMPR BULL *74, Fig. 2,3
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

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GSC MEM *77; 308
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DATE CODED: 1987/10/19
DATE REVISED: 1991/06/19

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REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
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MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

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REPORT: RGEN0100

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EMPR EXPL 1983-56; 1984-39
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43
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GSC MAP 1090A; 1504A
GSC MEM 308
GSC P 79-26
EMPR BULL 109

DATE CODED: 1987/10/20
DATE REVISED: 1991/03/08

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1527
REPORT: RGEN0100

MINFILE NUMBER: **082FSW244**

NATIONAL MINERAL INVENTORY:

NAME(S): **MAYFLOWER (L.9189)**, LUCKY BOY

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 06 N
LONGITUDE: 117 12 24 W
ELEVATION: 895 Metres

NORTHING: 5442484
EASTING: 484925

LOCATION ACCURACY: Within 500M

COMMENTS: On Crown grant Lot 9189 south of Sheep Creek, just east of Annie Rooney Creek.

COMMODITIES: Zinc

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Soft, oxidized red material is likely limonite and/or hematite.

ALTERATION: Dolomite Clay

ALTERATION TYPE: Carbonate Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: E14 Sedimentary exhalative Zn-Pb-Ag

J01 Polymetallic manto Ag-Pb-Zn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	

LITHOLOGY: Dolomite
Limestone

HOSTROCK COMMENTS: Mineralization occurs in the Reeves Member.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Mayflower is part of the same mineral exposure as the Lucky Boy (082FSW005) immediately to the north and within the same dolomitized zone of Reeves Member limestone of the Lower Cambrian Laib Group. The Mayflower contains an old 9 metre shaft sunk on a vein of oxidized, soft, red material and brown clay about 1 metre in width. The oxidized zone is reported to assay about 6 per cent zinc. Cominco Ltd. drilled the property in 1988. Refer to the Lucky Boy occurrence for details.

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1990, pp. 9-31
EMPR GEM 1973-57; 1974-67
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GSC BULL 29
GSC MAP 299A; 1090A; 1145A
GSC MEM 308
GSC OF 1195
EMPR OF 2000-22
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/19

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW244**

MINFILE NUMBER: **082FSW245**

NATIONAL MINERAL INVENTORY:

NAME(S): **WOLF LAKE**, WALDIE LAKE

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 06 05 N
LONGITUDE: 117 03 19 W
ELEVATION: 1952 Metres

NORTHING: 5438728
EASTING: 495965

LOCATION ACCURACY: Within 500M

COMMENTS: South of Waldie Lake on the west slope of Wolf Peak.

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION:

STRIKE/DIP: 116/80N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Hadrynian	Windermere	Three Sisters	
Jurassic			Nelson Intrusions

LITHOLOGY: Siliceous Quartzite
Granodiorite
Porphyroblastic Granite
Quartz Porphyritic Dike
Sediment/Sedimentary Rock

HOSTROCK COMMENTS: The Three Sisters Formation is equivalent to the upper, largely arenaceous and rudaceous, part of the Horsethief Creek Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1983

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver 34.0000 Grams per tonne

Gold 19.0000 Grams per tonne

Copper 0.0336 Per cent

COMMENTS: The sample contains quartz with massive pyrite (highest assay).

REFERENCE: Assessment Report 12119.

CAPSULE GEOLOGY

The Wolf Lake (Waldie Lake) showing is within an east trending fault zone which has been intruded by a quartz-porphyry dyke of the Middle to Late Jurassic Nelson Intrusions. The fault and dyke system also host a late stage quartz vein which carries massive to disseminated pyrite and chalcopyrite. Country rocks are the siliceous sediments and quartzites of the Hadrynian Three Sisters Formation of the Windermere Supergroup (correlative with rocks of the Horsethief Creek Group).

Grab samples of quartz and massive pyrite assayed up to 34 grams per tonne silver and 19 grams per tonne gold although the sampling showed generally lower values and the erratic metal distribution typical of such vein deposits (Assessment Report 12119). The 1 to 3 metre wide dyke has fault gouge developed along both contacts with the country rock.

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RUN TIME: 16:27:53

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REPORT: RGEN0100

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GSC MEM *172, p. 81; 308
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1986/12/04

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW246**

NATIONAL MINERAL INVENTORY:

NAME(S): **VIEW (L.645)**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 32 N
LONGITUDE: 117 48 55 W
ELEVATION: 1370 Metres

NORTHING: 5438028
EASTING: 440479

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east slope of Red Mountain, 1.8 kilometres northwest of Rossland.

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Pennsylvan.-Permian	Undefined Group	Mount Roberts	

LITHOLOGY: Siltstone
Augite Porphyry Sill
Hornblende Magnetite Hornfels
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Hornfels

INVENTORY

ORE ZONE: TUNNEL

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1915

SAMPLE TYPE: Rock

COMMODITY

GRADE

Copper

15.0000

Per cent

COMMENTS: Sample of 38 centimetres of solid ore.

REFERENCE: Geological Survey of Canada Memoir 77.

CAPSULE GEOLOGY

The View Crown-granted claim is underlain, on its western part, by the Pennsylvanian and possibly Permian Mount Roberts Formation siltstone, hornfelsed siltstone, hornfels and a breccia complex. The siltstone is rusty, sooty and massive or thinly bedded with minor disseminated pyrrhotite and pyrite. The hornfels and hornfelsic siltstones are thinly laminated and massive cherty rocks which locally contain brown garnet and epidote. The Mount Roberts succession overlies augite porphyry of the Rossland sill, which underlies the eastern part of the Crown grant, and is thought to have been thrust over the sill. The Rossland sill intrudes the upper part of the Elise Formation (Rossland Group) and is considered part of that formation.

The Rossland Group rocks are intruded to the south by the Rossland monzonite stock and to the north by the Cretaceous Trail Pluton which is comprised of a granodiorite stock.

The View claim adjoins the St. Elmo property (082FSW134) near the summit of Red Mountain. A 14-metre tunnel was driven along a 38 centimetre wide mineralized vein which widens at depth to nearly 0.9 metres of mixed ore comprised of pyrrhotite and chalcopyrite. More ore shoots exposed along the walls show 38 centimetres of solid ore which in 1915 typically assayed 15 per cent copper (Geological Survey of Canada Memoir 77, page 135).

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EMPR BULL 109

DATE CODED: 1987/09/23
DATE REVISED: 1991/05/17

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW247**

NATIONAL MINERAL INVENTORY:

NAME(S): **FEENEY (L.9074)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 06 40 N
LONGITUDE: 117 13 25 W
ELEVATION: 1230 Metres

NORTHING: 5439832
EASTING: 483681

LOCATION ACCURACY: Within 500M

COMMENTS: North of the Emerald Tungsten mine (082FSW010) on the east side of the Emerald stock, south of the Invincible mine (082FSW218).
Production records included with the Jersey mine (082FSW009).

COMMODITIES: Tungsten

Molybdenum

MINERALS

SIGNIFICANT: Scheelite Pyrrhotite Pyrite Wolframite Molybdenite
COMMENTS: Molybdenum is only a minor constituent of the ore.

ASSOCIATED: Quartz

ALTERATION: Garnet Diopside Augite Actinolite Epidote

Powellite

ALTERATION TYPE: Skarn Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Skarn
TYPE: K05 W skarn
SHAPE: Regular
MODIFIER: Folded
DIMENSION: 6 x 2
COMMENTS: Skarn zones

Metres

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	
Jurassic			Emerald Stock

LITHOLOGY: Limestone
Argillite
Granite
Skarn

HOSTROCK COMMENTS: Mineralization occurs along the contact of the Reeves and Emerald members of the Laib Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Feeney tungsten zone is located on the east side of the granitic Emerald stock of the Middle to Late Jurassic Nelson Intrusions. The zone forms a relatively shallow ore body within the Lower Cambrian Laib Formation along the contact of the Reeves Member limestone and Emerald Member argillite and along the granite-limestone contact.

The mineralization consists of scheelite with minor powellite, rare wolframite and traces of molybdenite in a green and brown garnet-diopside skarn containing augite, actinolite, epidote, pyrrhotite and quartz. Both the Emerald (082FSW010) and Feeney orebodies are transected by the Granite fault and drilling east and north of the fault located the Invincible tungsten zone (082FSW218).

Most of the scheelite occurs as fine, disseminated grains in lenticular skarn zones which extend from the granite contact out into the limestone-argillite country rock conformable to bedding. The skarn zones are up to 6 metres long and average about 2 metres in width. Grades are about 0.5 to 1.5 per cent tungsten.

The Feeney mine lies north of and along strike of the Emerald mine and south of the Invincible mine. The Dodger (082FSW011) workings lie to the east. The Feeney mine operated between 1951 and 1955 and produced about 54,000 tonnes of ore (Bulletin 41, page 119). It is not known if production recommenced after this period. The production data is included with that of the Jersey mine (082FSW009).

MINFILE NUMBER: **082FSW247**

RUN DATE: 25-Jun-2003
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PAGE: 1533
REPORT: RGEN0100

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GSC MEM 308
GSC OF 1195
GSC P 49-22; 52-13
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/20

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: 082FSW247

MINFILE NUMBER: **082FSW248**

NATIONAL MINERAL INVENTORY:

NAME(S): **PARADISE (L.728)**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 28 21 N
LONGITUDE: 117 24 12 W
ELEVATION: 850 Metres

NORTHING: 5480062
EASTING: 470779

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Lot 728 near Blewett (NTS Map 082F06).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Gold

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Dioritic Rock
Pyroxenite

HOSTROCK COMMENTS: Pseudodiorite and pyroxenite of unknown affinity.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Paradise showing is located immediately south of Blewett between Eagle and Fortynine creeks. Old workings comprise a tunnel and some trenches from around 1926.

The area is underlain by Jurassic pseudodiorite and pyroxenite of unknown affinity.

Mineralization is confined to a quartz vein of variable width up to 1 metre which hosts pyrite, chalcopyrite and some free gold. The vein is hosted in pseudodiorite (reported as granite). Best gold values appear confined to streaks and stringers of sulphides within the vein.

A sample across 0.15 metre of quartz and sulphides in the tunnel assayed 38.4 grams per tonne gold and 34.3 grams per tonne silver (Minister of Mines Annual Report 1926, page 282). In 1926, it was reported that 36 to 45 tonnes of material was put through the Granite-Poorman mill (082FSW086) with "disappointing" results.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A
GSC MEM 308
GSC OF 1195
GSC P 49-22; 52-13
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/05

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

orebody continued into 1926. The option was subsequently given up and P.F. Horton one of the owners, carried out some work on the property in 1927. Exploration work to that date was all done in the heavily oxidized zone at the north and on No. 1 orebody where the flat-plunging ore was exposed on surface. Oxidation here extended to the full depth of the ore zone, about 91 metres below surface.

The Consolidated Mining and Smelting Company returned in 1927 to purchase the 18 Crown-granted claims and fractions, but the property remained idle until 1948. Starting about 1946, the company began geological investigations that led to an intensive diamond drilling program beginning in 1948. Large bodies of 9, low-grade disseminated sulphides plunging gently south from the oxidized orebody were indicated by this drilling. In June, 1949 an underground program began to investigate the drill results. The No. 4 level was rehabilitated and from the face the adit was extended south for nearly 457 metres. A parallel drive was subsequently made about 70 metres to the west and connected to the main drive by 3 crosscuts at 61 metre intervals. Diamond drilling from these two drives and from exploration raises in 1950 partly delimited two orebodies - the No. 1 and No. 2 - and work until 1953 was aimed at developing these orebodies for production. In 1951 construction of a 1,000 ton per day concentrator began and a new adit level (No. 8) was driven 823 metres north from the Sheep Creek valley millsite to the ore zone. The concentrator was completed early in 1953 but due to low lead and zinc prices, was not put into operation. All work ceased on March 31 and was not resumed until April 1955; milling began in May.

The Garnet zone outcrops on the Garnet and Legal Tender claims between elevations of 1067 and 1158 metres on the Sheep Creek slope about 0.5 kilometre north of the concentrator. The Legal Tender claim (Lot 10823) was staked on this showing in about 1899. In 1912 the claim was Crown-granted to George Klavano. Development work at that time apparently consisted of a few short adits. In 1926 the claim was part of the Black Jack group of 4 claims. This group was optioned by P.F. Horton & associates in 1926 and late in the year exploration work was done in about a dozen trenches crosscutting the zone. The Legal Tender was part of the group sold to Cominco in 1927; the Black Jack claims, lying to the west of the Legal Tender, were apparently abandoned. Diamond drilling by the company in 1948-49 in more than 30 holes delimited a more or less continuous mineralized zone 15 metres wide lying 46 to 61 metres west of the Garnet fault. Mining of the Garnet zone began in 1965 as an open pit operation and was later incorporated with the underground operation. The mine and mill closed on November 1, 1966. The company name was changed in 1966 to Cominco Ltd. Plans to re-open the mine were announced late in 1972. The mill and underground workings were rehabilitated and production resumed in February 1973. Mining and milling operations continued until August 1978 when the mine closed. Measured and indicated reserves, as of December 31, 1978, were reported at 409000 tons, at 0.1 per cent lead and 4.1 per cent zinc (Canadian Pacific Limited, Form 10-K, December 31, 1978).

David Minerals Ltd. by an agreement dated May 8, 1981 purchased the mine, mill and adjacent properties from Cominco Ltd. for \$750,000; a 20 acre parcel was subsequently sold to Goldbelt Mines Inc. for a millsite. Renovation of the H.B. mill was carried out to prepare a flotation circuit to custom mill gold-bearing sulphide ores, and a second circuit to treat molybdenite-gold ore from the company's Rossland properties (82 F/4, Mo 2 and 3). The gold circuit was put into operation on ore from the Gold Belt property in December 1981.

The Garnet zone includes showings previously reported as Blackjack and Legal Tender. They are all part of a continuous mineralized horizon associated within the HB mine (082FSW004) and contributed to that mine's production.

The HB orebodies are currently thought to be Kootenay Arc-type carbonate hosted sedimentary exhalative (sedex) deposits. The orebodies are located within dolomitized limestone of the Lower Cambrian Laib Formation, Reeves Member (correlative with limestone of the Badshot Formation). The east side of the Laib Formation is in contact with argillites of the Lower to Middle Ordovician Active Formation, on a fault contact, with the Active rocks overthrust from the east over the Reeves carbonates.

Fine-grained sphalerite, pyrite, and minor galena occur as scattered lenses and as disseminated grains in dolomite. The main Garnet zone ores are about 15 metres wide and outcrop between 1050 and 1160 metres elevation, about 50 metres west of the Garnet fault.

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EMPR BULL *41, page 103

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1537
REPORT: RGEN0100

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GSC MEM 172, p. 52
GSC OF 1195
GSC P 49-22; 52-13
EMPR OF 2000-22
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/18

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW250**

NATIONAL MINERAL INVENTORY:

NAME(S): **BOBBI, MARY, ELEANOR 1-8,**
KIM 1-8, BOBBI 2-5, MURIEL 1-4,
BETTY 2-4, ALABAMA (L.2279), ATLANTA (L.2280)

MINING DIVISION: Nelson

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F06E

UTM ZONE: 11 (NAD 83)

BC MAP:
 LATITUDE: 49 17 50 N
 LONGITUDE: 117 14 35 W
 ELEVATION: 1342 Metres

NORTHING: 5460526
 EASTING: 482328

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of main mineralized showing 1700 metres north of the Ymir exit on Highway 6 and 1370 metres west (Assessment Report 7656).

COMMODITIES: Molybdenum Tungsten Copper Fluorite Gold
 Lead Zinc

MINERALS

SIGNIFICANT: Molybdenite Scheelite Chalcopyrite Pyrite Pyrrhotite
 Fluorite Galena Sphalerite
 ASSOCIATED: Quartz Fluorite
 ALTERATION: Sericite Pyrite
 ALTERATION TYPE: Sericitic Silicific'n Pyrite
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Stockwork
 CLASSIFICATION: Porphyry Hydrothermal Epigenetic Industrial Min.
 TYPE: L03 Alkalic porphyry Cu-Au L07 Porphyry W
 I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Hall	
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions

LITHOLOGY: Quartz Monzonite
 Quartz Diorite
 Feldspar Porphyry
 Sandstone
 Argillite
 Siltstone
 Shale
 Tuffaceous Conglomerate
 Andesite
 Rhyolite Dike

HOSTROCK COMMENTS: Unit Je11 and Je4 of the Elise Formation (Open File 1989-11).
 Tertiary rhyolite dykes.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
 TERRANE: Quesnel
 METAMORPHIC TYPE: Contact Plutonic Rocks RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: TRENCH REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1980
 SAMPLE TYPE: Chip

COMMODITY	GRADE	
Gold	0.1000	Grams per tonne
Copper	0.0700	Per cent
Fluorite	0.0780	Per cent
Molybdenum	0.1150	Per cent
Tungsten	0.0300	Per cent

COMMENTS: Sample from trench 6. Commodities are MoS2 and Wo3.
 REFERENCE: Assessment Report 8448.

CAPSULE GEOLOGY

The Bobbi showing is located 2 kilometres northwest of Ymir.

CAPSULE GEOLOGY

The Bobbi and Stewart 2 (082FSW229) occurrences are the most significant porphyry showings in the Nelson-Ymir area. Numerous small pits and adits occur on the property mainly from tungsten exploration carried out on the Alabama and Atlanta Crown Grants.

The area, on the east limb of a north trending syncline, is underlain by sediments of the Hall Formation and volcanic rocks of the Elise Formation (unit Jell) both of the Lower Jurassic Rossland Group (Open File 1989-11). The Hall Formation sediments consist of a sequence of argillite, shale, siltstone and sandstone. The volcanic rocks are primarily tuffaceous conglomerates but andesite, flow breccia, tuff and augite porphyry are present to the east. These are intruded by quartz monzonite to quartz diorite plugs and dykes of the Late to Middle Jurassic Nelson Intrusions and Tertiary rhyolite dykes.

The most common intrusion is an albite porphyry of quartz diorite composition. Other intrusions include plagioclase porphyry and quartz monzonite. The quartz monzonite is a medium-grained, light grey to white coloured plug which contains phenocrysts up to 1.5 centimetres in length of quartz, feldspar, biotite and hornblende.

Molybdenite, scheelite and minor chalcopyrite are found along with sericite in quartz veins and in fractures within the quartz monzonite plug. Fluorite is a common accessory mineral within the intrusive. Low lead and zinc values were noted from Hall sediments near the intrusive margin. Pyrite is ubiquitous in both sediments and volcanics and disseminated pyrrhotite and minor chalcopyrite are hosted in Hall sediments. Prospecting indicated very minor disseminated chalcopyrite, sphalerite and galena in quartzitic sediments. No anomalous silver, gold or tin values were reported. Reported radioactivity is due to the presence of potassium feldspar within the quartz porphyry intrusive.

A sample from trench 6 in 1980 assayed 0.07 per cent copper, 0.115 per cent molybdenite, 0.03 per cent W_3O_8 and less than 0.1 grams per tonne gold with 0.078 per cent fluorine (Assessment Report 8448).

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EMPR MAP 7685G; RGS 1977; 8480G
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/05

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW251**

NATIONAL MINERAL INVENTORY:

NAME(S): **FRESNO, STEWART 4, FRENU,
TRASK, STEWART 2, LION,
STEWART**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E

UTM ZONE: 11 (NAD 83)

BC MAP:
LATITUDE: 49 16 40 N
LONGITUDE: 117 13 50 W
ELEVATION: 945 Metres

NORTHING: 5458361
EASTING: 483231

LOCATION ACCURACY: Within 500M
COMMENTS: Granitic outcrop hosting mineralization (Assessment Report 1083).

COMMODITIES: Molybdenum

MINERALS

SIGNIFICANT: Molybdenite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stockwork Disseminated
CLASSIFICATION: Hydrothermal Porphyry
TYPE: L05 Porphyry Mo (Low F- type)
SHAPE: Irregular
MODIFIER: Sheared Fractured

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions
Eocene			Coryell Intrusions

LITHOLOGY: Felsic Intrusive
Quartz Monzonite
Biotite Monzonite
Sub Volcanic Intrusive
Basalt Flow
Flow Breccia
Tuffaceous Conglomerate

HOSTROCK COMMENTS: Units Je1, Je4 and Je11 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Fresno showing is located on Quartz Creek, about 1.5 kilometres due west of Ymir. The showing was originally staked in 1902.

The area is underlain by basalt flows, flow breccias, subvolcanic intrusions and tuffaceous conglomerate of the Lower Jurassic Elise Formation, Rossland Group. These have been intruded by Late to Middle Jurassic Nelson Intrusions and Eocene Coryell Intrusions.

Molybdenite mineralization, with associated pyrite, is observed to occur as selvages on fracture surfaces within sheared, felsic intrusives.

The Trask workings are about 1 kilometre west of the Fresno showing but no specific details of the mineralization are recorded. The Lion was staked in 1949 and may in fact be the same as the Fresno showing.

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1984-40
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16

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Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/06

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW252**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROMA**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F05E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 30 N
LONGITUDE: 117 41 34 W
ELEVATION: 840 Metres

NORTHING: 5458258
EASTING: 449608

LOCATION ACCURACY: Within 500M

COMMENTS: Mineralization, Figure 1 (Assessment Report 6623).

COMMODITIES: Uranium Thorium

MINERALS

SIGNIFICANT: Uraninite Uranothorite Autunite

COMMENTS: Uranium mineral may be uranothorite.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated Concordant

CLASSIFICATION: Pegmatite

TYPE: O02 Rare element pegmatite - NYF family

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Castlegar Gneiss

ISOTOPIC AGE: 87 +/- 8 Ma

DATING METHOD: Uranium/Lead

MATERIAL DATED: Zircon

Upper Cretaceous

Kinnaird Orthogneiss

LITHOLOGY: Gneiss
Pegmatite
Schist
Quartz Biotite Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Anomalous uranium showings are reported from coarse-grained "pegmatoid" layers within the fine-grained quartz-biotite schists and gneisses of the Late Cretaceous Kinnaird Orthogneiss (Castlegar Gneiss). The pegmatoid horizons consist of coarse feldspars and quartz. Background radioactivity is about 3 times regional levels.

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EMPR MAP 7685G; RGS 1977; 8484G
EMPR OF *1990-32; 1991-16
EMPR PF (In 082FSW212 - Skerl, A.C. (1968): Special Report)
GSC MAP 7-1962; 1090A; 1504A
GSC MEM 308
GSC P 79-26; *87-2, pp. 13-20
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/15

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW253**

NATIONAL MINERAL INVENTORY:

NAME(S): **PUREX LIME** NELWAY, LOT 9056,
LOT 9280

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 00 56 N
LONGITUDE: 117 17 26 W
ELEVATION: 884 Metres

UTM ZONE: 11 (NAD 83)
NORTHING: 5429226
EASTING: 478755

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on drill hole #1 on the west side of a hill, as plotted on Map 299A (Industrial Mineral File).

COMMODITIES: Limestone Dolomite

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Dolomite Talc
MINERALIZATION AGE: Middle Cambrian

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 137 Metres
COMMENTS: Limestone forms a 137 metre high hill.

STRIKE/DIP: R10 Dolomite TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Cambrian	Undefined Group	Nelway	

DATING METHOD: Fossil

LITHOLOGY: Limestone
Argillaceous Limestone
Dolomite
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core
COMMODITY: Limestone

YEAR: 1955

GRADE: 55.6000 Per cent

COMMENTS: From hole #1 at 82.3 metres depth. Grade given is for CaO.

REFERENCE: Minister of Mines Annual Report 1955, page 95, Section 6.

CAPSULE GEOLOGY

Limestone of the Middle Cambrian Nelway Formation forms a 137 metre high hill on the north end of Lots 9056 and 9280, 2 kilometres northeast of Nelway. A dolomite bed striking 137 degrees and dipping 35 degrees southwest outcrops along the north side of the hill. The dolomite thickens from a metre on the northwest corner of the hill to a hundred metres 0.4 kilometres to the west. Much of the limestone is underlain by this dolomite bed.

Diamond drilling encountered white to dark grey, occasionally argillaceous, limestone beds with some interbedded argillite. Pyrite was found to be negligible. Hole 1 drilled from the top of the hill in an easterly direction at minus 40 degrees intersected 29 metres of white, granular limestone starting at a depth of 68.58 metres. A sample taken from this section at 82.30 metres contained 55.6 per cent CaO, 0.4 per cent MgO and 0.6 per cent insolubles (Minister of Mines Annual Report 1955, page 95, Section 6). This hole bottomed in 15 metres of dolomite starting at 133.5 metres depth. A sample of the dolomite taken at 136.55 metres contained 31.0 per cent CaO, 21.4 per cent MgO and 0.80 per cent insolubles (Section 9).

Purex Lime Company attempted to develop the limestone deposit. The company drilled two holes in 1955.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1544
REPORT: RGEN0100

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GSC MEM 308, pp. 35-39
GSC OF 1195, pp. 7,8
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW254**

NATIONAL MINERAL INVENTORY:

NAME(S): **JACK POT (L.4789)**, JACKPOT

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 27 52 N
LONGITUDE: 117 23 05 W
ELEVATION: 945 Metres

NORTHING: 5479159
EASTING: 472123

LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Lot 4789 (NTS Map 082F06).

COMMODITIES: Copper Silver Gold

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Dioritic Rock
Granite
Pyroxenite
Volcanic Rock

HOSTROCK COMMENTS: Pseudodiorite and pyroxenite of unknown affinity (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1919
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Silver	34.3000	Grams per tonne	
Gold	1.3700	Grams per tonne	
Copper	2.8000	Per cent	

COMMENTS: Sample taken from ore pile.
REFERENCE: Minister of Mines Annual Report 1919, page 133.

CAPSULE GEOLOGY

The Jack Pot showing is located on Eagle Creek, about 7.5 kilometres west of Nelson. Old prospect tunnels and adits are present on the property.

The area is underlain by Jurassic pseudodiorite and pyroxenite of unknown affinity. Middle to Late Jurassic Nelson intrusions and volcanic rocks of the Lower Jurassic Elise Formation (Rossland Group) occur to the east and west.

A quartz vein carrying pyrite and chalcopyrite is hosted by pseudodiorite and siliceous granite (?). The quartz material contains limonite and malachite staining and assays of selected samples reported in 1919 indicate 2.8 per cent copper, 34.3 grams silver and 1.37 grams of gold (Minister of Mines Annual Report 1919, page 133).

It is believed that the showing is an extension of the Hardscrabble vein (082FSW086) which formed part of the Granite-Poorman deposit immediately to the north.

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1546
REPORT: RGEN0100

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pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A
GSC MEM 308
GSC OF 1195
GSC P 52-13
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/06

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW255**

NATIONAL MINERAL INVENTORY: 082F3 Zn7

NAME(S): **JACKPOT WEST**, WEST, JACKPOT,
JACK POT, HIGHLAND CHIEF (L.5620)

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 14 20 N
LONGITUDE: 117 09 44 W
ELEVATION: 1770 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located about 300 metres southwest of the Jackpot Main zone
(082FSW012), (Bulletin 41, Figure 8).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5454025
EASTING: 488192

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Pyrite Sphalerite Galena
ASSOCIATED: Dolomite
ALTERATION: Dolomite Diopside
ALTERATION TYPE: Carbonate Skarn Serpentin'zn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated Discordant
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag E13 Skarn Irish-type carbonate-hosted Zn-Pb
SHAPE: Irregular
MODIFIER: Folded Faulted
DIMENSION: 138 x 2 Metres
COMMENTS: Mineralized zone STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Undefined Group	Laib	Hidden Creek Stock
Jurassic			

LITHOLOGY: Dolomite
Limestone
Granite
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Jackpot West prospect is located on the ridge between Hidden and Porcupine creeks, 10 kilometres northeast of Salmo. See also Jackpot Main (082FSW012), Jackpot East (082FSW013) and Jackpot Lerwick (082FSW256).

The Jackpot orebodies are currently thought to be Kootenay Arc-type carbonate hosted sedimentary exhalative (sedex) deposits. The orebodies are located within dolomitized limestone of the Lower Cambrian Laib Formation, Reeves Member (correlative with limestone of the Badshot Formation). The carbonate is complexly folded and faulted close to the north margin of the granitic Hidden Creek stock of the Middle to Late Jurassic Nelson Intrusions.

Mineralization on the Jackpot West zone occurs near the base of the dolomite along the northwest margin of a large unit of limestone which strikes northeast and dips south. The mineralized zone has a maximum width of 2 metres and has been traced along strike for about 138 metres. Sphalerite and pyrite occur in banded serpentinitized dolomite, and locally sphalerite and minor galena are found in a diopside skarn. The zone is discordant to the northeast with metasediments of the Lower Cambrian Quartzite Range and Reno formations and is likely in fault contact with them. To the southwest the mineralized dolomites are cut by a north trending fault. For reserves and work history refer to the Jackpot Main (082FSW012) occurrence.

Tombstone Explorations Co. Ltd. acquired the Jackpot property from New Jersey Zinc Explorations Company (Canada) Ltd. in 1997.

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1548
REPORT: RGEN0100

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1990, pp. 9-31
EMPR GEM 1973-58; 1974-68
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMR MP CORPFILE (Tri Basin Resources Ltd.; New Jersey Zinc
Exploration Company (Canada) Ltd.)
GSC BULL 29, p. 9
GSC MAP 1956-3; 51-4A; 175A; 1090A; 1144A
GSC MEM 94; 172; 308
GSC OF 1195
GSC P 50-19; 51-4
GCNL Sept.27, 1983
WWW <http://www.tombstone-exp.com>
EMPR OF 2000-22
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/26

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW256**

NATIONAL MINERAL INVENTORY: 082F3 Zn7

NAME(S): **JACKPOT LERWICK**, JACKPOT, LERWICK (L.5622),
JACK POT, INK SPOT

STATUS: Developed Prospect
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 14 18 N
LONGITUDE: 117 09 09 W
ELEVATION: 1740 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Located about 350 metres southeast of the Jackpot Main zone
(082FSW012), (Bulletin 41, Figure 8).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5453962
EASTING: 488899

COMMODITIES: Zinc Lead

MINERALS

SIGNIFICANT: Sphalerite Pyrite Pyrrhotite
ASSOCIATED: Dolomite
ALTERATION: Dolomite
COMMENTS: The zone is extensively oxidized at surface; oxidation minerals
are not identified.
ALTERATION TYPE: Carbonate Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated Massive
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag E13 Irish-type carbonate-hosted Zn-Pb
SHAPE: Irregular
MODIFIER: Folded Faulted
DIMENSION: 75 x 30 x 3 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized zones

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	
Jurassic			Hidden Creek Stock

LITHOLOGY: Dolomite
Limestone
Granite
Skarn
Diorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay
PHYSIOGRAPHIC AREA: Selkirk Mountains
Plutonic Rocks

CAPSULE GEOLOGY

The Jackpot Lerwick prospect is located on the ridge between Hidden and Porcupine creeks, 10 kilometres northeast of Salmo. The Jackpot Lerwick zone is within dolomitized limestones of the Reeves Formation of the Lower Cambrian Laib Formation (correlative with the Badshot Formation). The dolomite is intruded immediately to the west by a tongue of diorite from the Hidden Creek stock of the Middle to Late Jurassic Nelson Intrusions. Most contacts with other rock types are discordant. The showing area contains rock units with complex structural and stratigraphic relationships. The Jackpot orebodies are thought to be Kootenay Arc-type carbonate hosted sedimentary exhalative (sedex) deposits. Mineralization consists of disseminated sphalerite, pyrite, and pyrrhotite in a west dipping zone of dolomite which is extensively oxidized at surface. Sulphides occur in layers more massive than the East Zone. Mineralized bands are in the order of 1 to 3 metres thick and outcrop over a width of about 75 metres interbanded with barren dolomites. The mineralized zone has been traced over 153 metres on surface although individual sulphide bands are not known to continue for more than about 30 metres. Pyrrhotite is the dominant sulphide in the Lerwick zone. This occurrence has had extensive exploration work carried out but no significant production has been documented. Reserves and work history are reported in the Jackpot Main (082FSW012) deposit. Tombstone Explorations Co. Ltd. acquired the Jackpot property

CAPSULE GEOLOGY

from New Jersey Zinc Explorations Company (Canada) Ltd. in 1997.

BIBLIOGRAPHY

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1990, pp. 9-31
EMPR GEM 1973-58; 1974-68
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMR MP CORPFILE (Tri Basin Resources Ltd.; New Jersey Zinc
Exploration Company (Canada) Ltd.)
GSC BULL 29, p. 9
GSC MAP 1956-3; 51-4A; 175A; 1090A; 1144A
GSC MEM 94; 172; 308
GSC OF 1195
GSC P 50-19; 51-4
GCNL Sept. 27, 1983
WWW <http://www.tombstone-exp.com>
EMPR OF 2000-22
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/26

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW257**

NATIONAL MINERAL INVENTORY:

NAME(S): **DAVNE**, DAWN

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 03 05 N
LONGITUDE: 117 14 44 W
ELEVATION: 885 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5433198
EASTING: 482058

LOCATION ACCURACY: Within 500M

COMMENTS: Part of the Lucky Strike vein (082FSW062).

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT:	Galena	Sphalerite	Tetrahedrite	Pyrite	Chalcopyrite
ASSOCIATED:	Quartz				
ALTERATION:	Cerussite	Chalcocite	Covellite	Malachite	Azurite
ALTERATION TYPE:	Oxidation				
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Middle Cambrian	Undefined Group	Nelway	
Lower Cambrian	Undefined Group	Laib	

LITHOLOGY: Dolomite
Argillite
Phyllite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Davne is a fissure vein which is the strike extension of the Lucky Strike (082FSW062) with the same mineralization and general setting. The vein is associated with the northeast trending Black Bluff fault and contains a quartz gangue which carries galena, tetrahedrite, pyrite, sphalerite, and some chalcopyrite. The width is an average of 5 centimetres but very locally it may be as wide as 50 centimetres. The vein on the Davne is within dolomites of the Middle Cambrian Nelway Formation as well as phyllites and argillites of the Lower Cambrian Laib Group. Near surface and to a depth of about 5 metres the vein is oxidized and alteration minerals are present. These include cerussite, chalcocite, covellite, malachite and azurite. Cerussite commonly occurs as veinlets within galena, and exhibits ragged replacement outlines. Many areas of tetrahedrite are almost entirely replaced by chalcocite and covellite. No free gold or silver is reported and metal values are highly erratic ranging from nil or trace up to as high as 65 grams per tonne gold and 13 kilograms per tonne silver in selected grab samples.

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 299A; 1090A; 1091A; *1145A
GSC MEM 172; 308, pp. 158,175
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/27

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW257**

MINFILE NUMBER: **082FSW258**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD 1-2**, GOOD EYE, GOOD EVE

MINING DIVISION: Trail Creek

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 15 N
LONGITUDE: 117 43 54 W
ELEVATION: 1066 Metres

NORTHING: 5428177
EASTING: 446489

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east side of Grouse Ridge, west of Goodeve Creek, 8.0 kilometres southeast of Rossland near the Canada-U.S.A. International Boundary.

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Galena Pyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 75 x 1 Metres STRIKE/DIP: 145/90 TREND/PLUNGE: /
COMMENTS: Mineralized quartz vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Paleozoic	Undefined Group	Unnamed/Unknown Formation	
Lower Jurassic	Rossland	Elise	
Eocene			Sheppard Intrusion

LITHOLOGY: Granodiorite
Argillite
Shale
Volcanic Rock
Greenstone
Limestone
Syenite
Slate
Chert
Phyllite

HOSTROCK COMMENTS: Kootenay Arc overlap.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
Quesnel RELATIONSHIP:
GRADE:

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1979
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 82.2800 Grams per tonne
Gold 92.6400 Grams per tonne
Lead 0.1500 Per cent

COMMENTS: The sample was taken from a trench from a quartz vein; width is not known.

REFERENCE: Assessment Report 7799.

CAPSULE GEOLOGY

The area of the Gold 1-2 showing is underlain by the Lower Jurassic Rossland Group Elise Formation volcanics and by a package designated as Unit Cs which is of probable upper Paleozoic age and may be correlative with the Milford Group (Fieldwork 1990, page 21). These upper Paleozoic rocks consist of argillite, slate, phyllite, chert, greenstone and limestone. The strata are intruded by a mass of the Middle Eocene Sheppard Intrusions comprised of granodiorite to syenite.

CAPSULE GEOLOGY

The area prospected is underlain predominantly by leucocratic granodiorite of the Sheppard Intrusions with occurrences of syenite and monzonite in the vicinity of Goodeve Creek. The intrusives cut interlayered argillites, shale and the volcanics of the Elise Formation exposed along Goodeve Creek.

A number of quartz veins were found in the leucocratic intrusive, ranging from 1 centimetre to 1 metre in width and hosting traces of gold with disseminated pyrite and galena. The veins, exposed in 5 test pits, varied in width from 0.3 to 1.0 metre. They strike between 110 to 180 degrees with a near vertical dip and are traceable for 75 metres in length. In 1979, a sample from a quartz vein assayed: 92.64 grams per tonne gold, 82.28 grams per tonne silver, 0.15 per cent lead (Assessment Report 7799). In 1982, sample values ranged up to 8.7 grams per tonne gold, 28.8 grams per tonne silver, and 0.44 per cent lead (Assessment Report 11178).

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1090A; *1504A
GSC MEM 77; 308
GSC P 79-26
EMPR BULL 109

DATE CODED: 1987/10/14
DATE REVISED: 1991/03/12

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW259**

NATIONAL MINERAL INVENTORY: 082F3 Au4

NAME(S): **JOINT (L.8344)**, DOUBLE JOINT (L.8345)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 09 48 N
LONGITUDE: 117 08 04 W
ELEVATION: 1616 Metres

NORTHING: 5445622
EASTING: 490199

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of Crown grant (Lot 8344).

COMMODITIES: Lead Zinc Gold Silver

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Ordovician
Jurassic

GROUP

Undefined Group

FORMATION

Active

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Limestone
Argillite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Joint vein is an east-west trending quartz vein within limestone of the Lower to Middle Ordovician Active Formation. The limestones and argillites of the Active Formation are in fault contact with Lower Cambrian Laib Formation sediments to the east and host a stock of Middle to Late Jurassic Nelson Intrusions southwest of the occurrence.

Mineralization consists of minor disseminated galena, sphalerite, and pyrite in quartz gangue. Both walls of the vein contain minor streaks of limonite and have spotty gold and silver values over narrow widths.

See Gold Belt (082FSW044) for exploration and development details.

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EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 50-19A; 299A; 1090A; *1145A
GSC MEM 172, p. 33
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1987/01/19

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW260**

NATIONAL MINERAL INVENTORY:

NAME(S): **HEATHER**, MOUNTAINEER

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 10 19 N
LONGITUDE: 117 03 04 W
ELEVATION: 1974 Metres

NORTHING: 5446572
EASTING: 496274

LOCATION ACCURACY: Within 500M

COMMENTS: On the north face of the Middle Sister peak, the central peak of Three Sisters Peaks (Geological Survey of Canada Memoir 172, page 80).

COMMODITIES: Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Quartzite Range	
Hadrynian	Windermere	Three Sisters	

LITHOLOGY: Quartzite
Felsic Dike
Lamprophyre Dike
Conglomerate
Schist

HOSTROCK COMMENTS: The Quartzite Range Fm. is correlative with rocks of the Hamill Gp., and the Three Sisters Fm. with Horsethief Creek Group rocks.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1938

COMMODITY: Gold
GRADE: 2.0600 Grams per tonne

COMMENTS: From a 20 to 25 centimetre chip sample of felsite dyke material.

REFERENCE: Property File - Maconachie, 1938.

CAPSULE GEOLOGY

The Heather showing occurs at an elevation of 1974 metres on the north face of Middle Sister peak, one of three peaks forming the Three Sisters Peak. The peak areas of Three Sisters Peak are underlain by the Hadrynian Three Sisters Formation (Windermere Supergroup) which comprises quartzite, conglomerate and schist. Within a few hundred metres to the west is the north trending contact with the Lower Paleozoic Quartzite Range Formation composed chiefly of quartzite (correlative with rocks of the Hamill Group).

The showing is located within a shear zone that strikes 35 to 45 degrees and dips almost vertically. A composite felsic and lamprophyric dyke system, now highly sheared and shattered, in the order of 3.5 metres wide, has intruded the shear zone. Although the latest map of the area would indicate that the occurrence is located in rock of the Three Sisters Formation early documents report that the dykes are intruded into quartzite of the Quartzite Range Formation. The quartzites have a strike of about 045 degrees with a steep northwesterly dip.

CAPSULE GEOLOGY

Silicification and quartz veining within the shear zone is common. An adit has been driven as drift for over 50 metres on the zone. The old workings expose as much as a 1.2 metre width of quartz along the side of the dyke. Sulphide mineralization is sparse to non-existent but visible gold has been observed in the quartz. A sample taken across 20 to 25 centimetres of felsite dyke material assayed 2.06 grams per tonne gold and a trace of silver. A 4 centimetre wide quartz vein assayed 4.80 grams per tonne gold and a trace of silver (Maconachie, 1938).

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GSC MAP 1145A
GSC MEM *172, p. 80; 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/14

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1557
REPORT: RGEN0100

MINFILE NUMBER: **082FSW261**

NATIONAL MINERAL INVENTORY:

NAME(S): **CARIBOU**, CANUCK, CANADIAN - CARIBOO

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 14 00 N
LONGITUDE: 117 06 15 W

NORTHING: 5453400
EASTING: 492417

ELEVATION: 1982 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: On the east side of Active Creek, a south fork of Porcupine Creek,
and southeast of the Howard occurrence (082FSW199) (Geological Survey
of Canada Memoir 172, page 73).

COMMODITIES: Gold

Silver

Lead

Zinc

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Galena Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION:

STRIKE/DIP: 057/40E

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Ordovician

GROUP

Undefined Group

FORMATION

Active

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite
Limestone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

A small quartz vein striking 057 degrees and dipping 35 to 40 degrees southeast is hosted by black argillites of the Lower and Middle Ordovician Active Formation. Mineralization consists of pyrite, pyrrhotite, galena, and sphalerite and has been exposed in a short adit and a number of surface trenches.

The vein produced 1,992 tonnes of ore in 1938, 1939 and 1940 with all but 52 tonnes being mined in 1940. From the total mined 511 grams of gold and 829 grams of silver were recovered.

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EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 299A; 1090A; *1145A
GSC MEM *172, p. 73; 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/11

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW261**

MINFILE NUMBER: **082FSW262**

NATIONAL MINERAL INVENTORY:

NAME(S): **WALLACE CREEK**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 02 23 N
LONGITUDE: 117 19 28 W
ELEVATION: 597 Metres

NORTHING: 5431922
EASTING: 476288

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on site of samples 9228 and 9229 on low bluffs north of Salmo River, as plotted on Map 299A (Industrial Mineral File).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Lower Cambrian
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Archaeocyathids

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 320 Metres
COMMENTS: Limestone exposed up to 320 metres in width.

STRIKE/DIP: 050/45E

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	
DATING METHOD: Fossil			
MATERIAL DATED: Archaeocyathids			

LITHOLOGY: Limestone
Dolomite

HOSTROCK COMMENTS: Hosted in Reeves Member (Laib Formation) which is correlative with the Badshot Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip
COMMODITY: Limestone
GRADE: 52.4000 Per cent

YEAR: 1955

COMMENTS: Taken across 12 to 15 metres of strata. Grade give for CaO.
REFERENCE: Industrial Mineral File - Fyles, 1956.

CAPSULE GEOLOGY

Limestone of the Lower Cambrian Reeves Member of the Laib Formation outcrops 250 to 1200 metres north of the Salmo river just east of Wallace Creek. The unit strikes 050 degrees for 950 metres and dips 45 degrees southeast. Exposed widths vary from 250 to 320 metres.

The limestone is fine to medium grained and uniform grey to thinly banded black and white in colour. Two samples, each taken across 12 to 15 metres of strata assayed as follows (in per cent) (Fyles, 1956 - Samples 9228, 9229):

Sample	CaO	MgO	Insolubles
9228	52.4	1.71	3.28
9229	42.2	5.09	14.3

The two samples were collected along the lowest limestone bluffs 180 to 270 metres north of the Salmon Valley logging road.

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
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ENERGY AND MINERALS DIVISION

PAGE: 1559
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR PF (*Memo by Fyles with assay, J.T., Mar.28, 1956)
GSC MAP 3-1956A; 299A; 1090A; 1145A
GSC MEM 308, pp. 31-35
GSC OF 481; 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW263**

NATIONAL MINERAL INVENTORY:

NAME(S): **JERO 5**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 02 48 N
LONGITUDE: 117 50 14 W
ELEVATION: 1035 Metres

NORTHING: 5432981
EASTING: 438821

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southern slope of Deer Park Hill about 4 kilometres southwest of Rossland (Assessment Report 13449).

COMMODITIES: Silver Gold

MINERALS

SIGNIFICANT: Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Eocene	Rossland	Elise	Coryell Intrusions

ISOTOPIC AGE: 49.1 +/- 1.4 Ma
DATING METHOD: Potassium/Argon
MATERIAL DATED: Biotite

LITHOLOGY: Argillite
Syenite
Monzonite
Granite

HOSTROCK COMMENTS: Syenite dyke age date from Bulletin 74, page 54

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE:	SAMPLE	REPORT ON:	N
CATEGORY:	Assay/analysis	YEAR:	1984
SAMPLE TYPE:	Chip		
COMMODITY		GRADE	
Silver		14.2000	Grams per tonne
Gold		0.6800	Grams per tonne

REFERENCE: Assessment Report 13449.

CAPSULE GEOLOGY

The Jero 5 showing consists of pyritic argillite of the Lower Jurassic Rossland Group, Elise Formation. These rocks are intruded within 500 metres to the northwest by a stock the Middle Eocene Coryell Intrusions which varies in composition from syenite to monzonite and granite. A chip sample of the argillite taken over an unspecified length assayed 0.68 grams per tonne gold and 14.2 grams per tonne silver (Assessment Report 13449).

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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
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PAGE: 1561
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR BULL 109

DATE CODED: 1987/10/16
DATE REVISED: 1991/04/09

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW264**

NATIONAL MINERAL INVENTORY: 082F4 Cr1

NAME(S): **CAL**, BURLINGTON (L.4359), BURLINGTON WEST (L.2715),
ROSS 1, ROSS MORRISON 1, MAR,
SKIN, JOB, IVAN HOE RIDGE,
GOLDEN LEAF, VANDOT, CONSTANTINE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek

LATITUDE: 49 03 08 N
LONGITUDE: 117 52 59 W
ELEVATION: Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5433637
EASTING: 435479

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the west side of Ivanhoe Ridge and the east side of Record
Ridge near the north end of the Cal claim; approximately 6
kilometres southwest of Rossland.

COMMODITIES: Gold Silver Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Galena Sphalerite Pyrite
ASSOCIATED: Quartz
ALTERATION: Malachite Limonite
COMMENTS: Manganese oxide.
ALTERATION TYPE: Serpentin'zn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L01 Subvolcanic Cu-Ag-Au (As-Sb)

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Eocene Permian	Rossland	Elise	Coryell Intrusions Ultramafic Intrusions

LITHOLOGY: Feldspar Porphyry
Serpentinite
Andesite
Porphyritic Dike
Talc Schist
Tuff
Breccia
Siltstone
Syenite
Trachyandesite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Slide Mountain
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Rock
COMMODITY GRADE
Silver 12.0000 Grams per tonne
Copper 0.8000 Per cent
Lead 0.4000 Per cent
Zinc 0.4000 Per cent
COMMENTS: Silver values ranges from 12 to 80 grams per tonne.
REFERENCE: Assessment Report 7162.

CAPSULE GEOLOGY

The area of interest is in the vicinity of Ivanhoe Ridge and Sophia Creek, some 6.4 kilometres southwest of Rossland. From incomplete information it appears that two chromite showings have been prospected, one located on Crown-grants at about 1341 metres elevation on Ivanhoe Ridge, and the other, about 1.6 kilometres to the south, at about 1250 metres elevation on the ridge

CAPSULE GEOLOGY

between the two main forks of Sophia Creek and about 300 metres southeast of the natural gas pipeline (Vandot, 082FSW130).

Crown-grants were obtained on two claims, the Burlington West (Lot 2715) and Burlington (Lot 4359); the latter was Crown-granted to Bob Lamont in 1901.

The reverted Crown-grants were leased and additional claims staked in 1918 by A. Cameron, J.H. MacDonald and associates. Work was apparently confined to trenching and stripping. The Vandot group of 5 recorded claims, reported to be located on the Cascade highway at the first summit west of Rossland, were owned in 1966 by V.M. Van, of Rossland. Old trenches were deepened and sampled.

Noranda Exploration Company Limited held the property in 1984 as the Ross, Ross 2-3, and Cal claims. Work included magnetometer surveys over 16 kilometres, induced polarization and electromagnetic surveys over 1 kilometre, a geochemical soil survey comprising 177 samples, and trenching.

The claims are underlain by ultramafic rocks, of probable Permian age, that are in contact with Lower Jurassic Elise Formation volcanics of the Rossland Group. The rocks lie in fault contact with the Tertiary Marron Group volcanics comprised of trachyandesite and trachyte. A Middle Eocene Coryell pluton comprised of a mass of syenite intrudes the suite of rocks.

A base metal showing lies at the north end of the Cal claim within discontinuous shears striking 330 to 015 degrees and dipping 75 degrees west. The showing, known as the Constantine prospect, lies within shears in fine-grained feldspar porphyry with rusty, vuggy quartz infilling hosting pyrite, chalcopyrite, malachite, limonite and manganese oxide. In 1980, three samples assayed an average 0.8 per cent copper, 0.4 per cent lead, and 0.4 per cent zinc (Assessment Report 7162). The samples also contained a trace of gold and from 12 to 80 grams per tonne silver.

In 1946, a shaft was sunk 30 metres along the shear which strikes 320 degrees and dips 70 degrees southwest. In 1982, exploration in the old shafts on the Ross 2 claim showed lenticular quartz veins with a quartz lense striking 330 degrees and dipping 75 degrees northeast at a depth of 20 metres hosting disseminated chalcopyrite and sphalerite in white quartz gangue. A 20 centimetre metre sample from the old shaft sunk in 1946 along the vuggy quartz averaged 0.6 grams per tonne silver and 17.0 grams per tonne gold with one sample at 22.6 grams per tonne gold. A 20 centimetre sample taken in 1982 assayed 30.59 grams per tonne gold, 7.20 grams per tonne silver and 0.02 per cent copper (Assessment Report 10799).

Three samples from sheared fine-grained porphyry dykes in contact with serpentinized ultramafics averaged 319 grams per tonne silver and 2.35 per cent copper across 90 centimetres (Assessment Report 10799). Mineralization consisted of colourless blebs of quartz with disseminated pyrrhotite and pyrite with manganese oxide and limonite coatings. Mineralized sheared bands varying from less than 5 centimetres to greater than 1 metre in serpentinized andesite (?) host abundant malachite with trace sphalerite, galena and nodular pods of chalcopyrite. A 30-centimetre sample of black, serpentinized andesite (?) hosting a 3-centimetre band of malachite encrusted in talc schist assayed 0.8 grams per tonne gold, 35.7 grams per tonne silver and 0.45 per cent copper (Assessment Report 10799).

There are chromite showings on the property in black serpentinite. The showings host visible chromite and nickeliferous magnetite and are described in the Vandot showing (082FSW130).

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- EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
- EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
- EMPR PF (Sidon International Resources Corporation, Prospectus, Dec. 12, 1988)
- GSC MAP 1090A; 1504A
- GSC MEM 77; 308
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- EMPR BULL 109

DATE CODED: 1987/10/15
DATE REVISED: 1991/03/26

CODED BY: LLC
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW265**

NATIONAL MINERAL INVENTORY:

NAME(S): **BIG HORN**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 13 11 N
LONGITUDE: 117 06 45 W
ELEVATION: 1860 Metres

NORTHING: 5451888
EASTING: 491808

LOCATION ACCURACY: Within 500M

COMMENTS: Old workings are at the common corner post of Skarn 1, 2, 15, and 16 claims.

COMMODITIES: Gold Silver Copper Zinc Tungsten

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Sphalerite Chalcopyrite
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Igneous-contact
SHAPE: Irregular

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian Jurassic	Undefined Group	Reno	Nelson Intrusions

LITHOLOGY: Quartzite
Schist
Argillite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Contact
Plutonic Rocks
RELATIONSHIP:
PHYSIOGRAPHIC AREA: Selkirk Mountains
GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 5.4900 Grams per tonne
Gold 6.1700 Grams per tonne
Copper 0.0900 Per cent
Tungsten 0.0040 Per cent
Zinc 0.0100 Per cent
REFERENCE: Assessment Report 8652.

CAPSULE GEOLOGY

Granite of the Middle to Late Jurassic Nelson Intrusions intrude sediments of the Lower Cambrian Reno Formation (correlative with rocks of the Hamill Group). Quartzites, argillites and schists near the contact with the intrusives are silicified locally and contain pyrite, pyrrhotite, sphalerite and chalcopyrite.

These deposits are erratic in location and extent and carry low but consistent gold values. Grab samples from the dump carry gold in the range of 3 to 6 grams gold. One sample assayed 6.17 gram per tonne gold, 5.49 grams per tonne silver, 0.09 per cent copper, 0.01 per zinc and 0.004 per cent tungstic oxide (Assessment Report 8652).

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16; 1991-17

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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BIBLIOGRAPHY

GSC MAP 51-4A; *299A; 1090A; *1145A
GSC MEM 172, p. 87; 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/11

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW266**

NATIONAL MINERAL INVENTORY:

NAME(S): **BEAVER CREEK**, RELIANCE, RELY 1

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 082F03W
 BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 12 21 N
 LONGITUDE: 117 27 35 W
 ELEVATION: 985 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5450439
 EASTING: 466514

LOCATION ACCURACY: Within 500M

COMMENTS: Location of adit on Rely 1 claim (Assessment Report 12762).

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Pyrite Gold Pyrrhotite Galena Sphalerite

Chalcopyrite

ASSOCIATED: Quartz

ALTERATION: Silica Garnet Epidote Calcite

COMMENTS: Hornfels developed at intrusive contacts.

ALTERATION TYPE: Skarn Silicific'n

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated

Shear

CLASSIFICATION: Igneous-contact

Hydrothermal

Skarn

TYPE: K04 Au skarn

K02

Epigenetic
 Pb-Zn skarn

K01 Cu skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Lower Jurassic
 Jurassic

GROUP

Rossland

FORMATION

Archibald

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY:

Hornfels
 Sill
 Greywacke
 Sandstone
 Basalt Flow
 Limestone
 Diorite Augite Porphyry
 Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

METAMORPHIC TYPE: Contact

Plutonic Rocks

RELATIONSHIP: Syn-mineralization

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE:

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1984

SAMPLE TYPE: Grab

COMMODITY

COMMODITY	GRADE	
Silver	130.0000	Grams per tonne
Gold	13.0000	Grams per tonne
Copper	0.0100	Per cent
Lead	0.2700	Per cent
Zinc	0.0300	Per cent

COMMENTS: A 3 metre sample.
 REFERENCE: Assessment Report 12762.

CAPSULE GEOLOGY

The area is underlain by argillite, greywacke, sandstone and minor limestone lenses and basaltic flows of the Lower Jurassic Archibald Formation, Rossland Group. Granodiorite of the Middle to Lower Jurassic Nelson Intrusion occupies most of the area to the north of the occurrence. A plug or sill of dioritic augite porphyry of the Rossland Group also intrudes the strata.

Mineralization is restricted to a north trending zone of gossanous hornfels in argillite and wacke, and recrystallized limestone, an area roughly 60 by 500 metres along the contact with the dioritic feldspar porphyry. Pyrite and pyrrhotite occur

CAPSULE GEOLOGY

throughout the gossanous zone as disseminations or seams. Minor galena, sphalerite and rare chalcopyrite accompany pyrite in siliceous southeast trending small shears containing discontinuous lenses of quartz up to 0.5 metres width and probably no more than 10 metres in length. Several such siliceous zones occur. The limestone is locally altered to weak garnet-epidote-calcite skarn. Some free gold has been observed in the area.

One sample reported as a 3 metre grab sample assayed 130.0 grams per tonne silver, 13 grams per tonne gold, 0.01 per cent copper, 0.27 lead and 0.03 per cent zinc (Assessment Report 12762).

The old Beaver Creek prospect was staked in 1910 and has a similar description to that of the Relay property of the 1980's. These two deposits are thought to be the same. The Reliance past producer, in the same general area, has no description but is recorded as having 55 tonnes of production in 1940 and 1941 with recovery totalling 560 grams of gold and 4976 grams of silver.

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1145A
GSC MEM 172, p. 86; 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/17

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW267**

NATIONAL MINERAL INVENTORY:

NAME(S): **ARMSTRONG (L.5483)**, LAW MAC, BLACK KNIGHT (L.5486)

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 082F03W
 BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 11 38 N
 LONGITUDE: 117 22 04 W
 ELEVATION: 1000 Metres

NORTHING: 5449075
 EASTING: 473204

LOCATION ACCURACY: Within 500M

COMMENTS: The workings are on the north side of Beaver Valley about 2.5 kilometres west of Erie and about 1 kilometre from the highway (Minister of Mines Annual Report 1928, page 338).

COMMODITIES: Silver Lead Zinc Gold

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au 109 Stibnite veins and disseminations
 SHAPE: Regular
 MODIFIER: Faulted Fractured
 DIMENSION: STRIKE/DIP: 305/50N TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic			Nelson Intrusions

LITHOLOGY: Granite
 Basic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Quesnel Plutonic Rocks PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: WORKINGS REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1928
 SAMPLE TYPE: Chip

<u>COMMODITY</u>	<u>GRADE</u>	
Silver	459.4300	Grams per tonne
Gold	0.6900	Grams per tonne
Lead	3.7000	Per cent
Zinc	0.5000	Per cent

COMMENTS: From a 30 centimetre sample.
 REFERENCE: Minister of Mines Annual Report 1928, page 338.

CAPSULE GEOLOGY

At the Armstrong occurrence, granite of the Middle to Late Jurassic Nelson Batholith contains four widely spaced, parallel, silicified fracture zones which strike 305 degrees and dip about 50 degrees northeast.
 The principle working consists of a silicified zone or vein that is coincident with and on the footwall of a basic dyke about 0.7 metres thick. Galena, sphalerite, pyrite, and arsenopyrite are sparsely disseminated throughout the silicified zone and stibnite is streaked on fracture surfaces. The mineralized fracture zone is in the order of 2 metres thick. A 30-centimetre sample assayed 0.69 grams per tonne gold, 459.43 grams per tonne silver, 3.7 per cent lead and 0.5 per cent zinc (Minister of Mines Annual Report 1928, page 338).
 Prior to 1902, four adits are known to have been driven on the zones of the Black Knight Crown grant. The adits were cleaned out in 1928 with apparently only minor underground development occurring at that time. In 1939, 13 tonnes of ore were shipped from the mine and

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CAPSULE GEOLOGY

31 grams of gold and 871 grams silver were recovered.

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 299A; 1090A; 1145A
GSC MEM *172, p. 87; 308
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/18

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
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PAGE: 1570
REPORT: RGEN0100

MINFILE NUMBER: **082FSW268**

NATIONAL MINERAL INVENTORY:

NAME(S): **MEADOWS, KEY**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 11 54 N
LONGITUDE: 117 23 32 W
ELEVATION: 1000 Metres

NORTHING: 5449578
EASTING: 471426

LOCATION ACCURACY: Within 500M

COMMENTS: About 1.5 kilometres north of Meadows siding (Assessment Report 10155 (map)).

COMMODITIES: Molybdenum Silver Gold

MINERALS

SIGNIFICANT: Molybdenite
ASSOCIATED: Quartz
ALTERATION: Quartz Sericite
ALTERATION TYPE: Silicific'n Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stockwork Disseminated
CLASSIFICATION: Porphyry Hydrothermal
TYPE: L05 Porphyry Mo (Low F- type) I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Nelson Intrusions

LITHOLOGY: Granite
Aplite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Meadows showing lies at the western end of an elongate granite plug of the Middle to Late Jurassic Nelson Intrusions. The intrusive is cut by several steeply dipping faults, striking about 110 degrees, and two quartz-eye porphyritic aplite dykes. The granite is cut by a weak quartz-sericite stockwork and molybdenite occurs as selvages within the stockwork, painted on fracture surfaces and as minor disseminations in the granite. It also occurs within the aplite at a few points. The granite is weakly altered while the aplite dykes appear relatively fresh. Minor tungsten and copper have also been reported. One sample assayed 0.0035 per cent molybdenum and another assayed 7.8 grams per tonne silver and 0.17 grams per tonne gold (Assessment Report 10155).

In 1967, an 18 metre adit was driven. Below the adit a 90 metre open cut was made.

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EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 50-19A; *299A; 1090A; 1145A
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/18

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW268**

MINFILE NUMBER: **082FSW269**

NATIONAL MINERAL INVENTORY:

NAME(S): **ACORN**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 27 08 N
LONGITUDE: 117 24 39 W
ELEVATION: 914 Metres

NORTHING: 5477810
EASTING: 470224

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located in gravels on Fortynine Creek, downstream from the Royal Canadian (082FSW088) occurrence (Bulletin 10, page 155).

COMMODITIES: Tungsten Gold

MINERALS

SIGNIFICANT: Scheelite Gold
MINERALIZATION AGE: Recent

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Placer
TYPE: C01 Surficial placers

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

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

LITHOLOGY: Gravel

HOSTROCK COMMENTS: Recent gravels along Fortynine Creek.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Overlap Assemblage

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Acorn showing is located on Fortynine Creek, downstream from the Royal Canadian and Nevada occurrence (082FSW088). Scheelite was reported to be found within the gravels along Fortynine Creek on the Acorn group. In 1942, a shaft was sunk in the creek bed to a depth of 35 metres and encouraging amounts of gold and scheelite were recovered in a sluice operation. No other information is available.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16; 1991-17; 1999-3
GSC MAP 1504A
GSC P 79-26
EMPR BULL 109

DATE CODED: 1987/10/07
DATE REVISED: 1991/06/06

CODED BY: LLC
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1572
REPORT: RGEN0100

MINFILE NUMBER: **082FSW270**

NATIONAL MINERAL INVENTORY:

NAME(S): **LUCKY-BILL-TAG**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 29 40 N
LONGITUDE: 117 23 24 W
ELEVATION: 600 Metres

NORTHING: 5482496
EASTING: 471758

LOCATION ACCURACY: Within 500M

COMMENTS: On Kootenay River near CPR bridge at Sproule Creek.

COMMODITIES: Uranium

MINERALS

SIGNIFICANT: Uraninite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic Pegmatite
TYPE: O02 Rare element pegmatite - NYF family

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Nelson Intrusions

LITHOLOGY: Pegmatite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Pegmatite within granite of the Middle to Late Jurassic Nelson Intrusions contains uraninite.

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EMPR FIELDWORK 1977, pp. 61-62, pp. 106-107; 1979, 131-142; 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 22; 7685G; RGS 1977; 8480G
EMPR OF 1988-1; 1989-11; *1990-32; 1991-16
GSC EC GEOL *Ser. No. 16 (2nd Ed.), p. 234
GSC MAP 1090A
GSC OF 551
EMPR BULL 109

DATE CODED: 1987/07/10
DATE REVISED: 1990/10/15

CODED BY: LDJ
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW270**

MINFILE NUMBER: **082FSW271**

NATIONAL MINERAL INVENTORY:

NAME(S): **GIBSON CREEK**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F05E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 22 50 N
LONGITUDE: 117 38 14 W
ELEVATION: 1370 Metres

NORTHING: 5469957
EASTING: 453748

LOCATION ACCURACY: Within 500M

COMMENTS: Ridge summit between Gibson Creek and Pass Creek tributary.

COMMODITIES: Uranium Thorium

MINERALS

SIGNIFICANT: Uraninite
ASSOCIATED: Quartz Feldspar
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic Pegmatite
TYPE: O02 Rare element pegmatite - NYF family

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Jurassic

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Granite
Pegmatite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: PIT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Channel

YEAR: 1955

COMMODITY	GRADE
Thorium	0.0210 Per cent
Uranium	0.0900 Per cent

COMMENTS: A 0.6 metre channel sample taken from the south end of a pit.

REFERENCE: Minister of Mines Annual Report 1955, page 50.

CAPSULE GEOLOGY

Pegmatite in granitic rock of the Middle to Late Jurassic Nelson Intrusions contains disseminated uraninite. A 0.6-metre channel sample assayed 0.09 per cent uranium and 0.021 per cent thorium oxide (Minister of Mines Annual Report 1955, page 50).

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EMPR BULL 41
EMPR FIELDWORK 1977, pp. 61-62, pp. 106-107; 1979, 131-142; 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1990, pp. 291-300
EMPR MAP 22; 7685G; RGS 1977; 8484G
EMPR OF *1990-32; 1991-16
GSC EC GEOL Ser. #16 (2nd Ed.), p. 232
GSC MAP 1090A
GSC OF 551
EMPR BULL 109

DATE CODED: 1987/07/08
DATE REVISED: 1990/10/15

CODED BY: LDJ
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

process of differentiation and concentration of metal-rich volatile phases in the roof of the intrusive body (Assessment Report 14652).

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EMPR BULL 41
EMPR EXPL 1986-C52
EMPR FIELDWORK 1977, pp. 61-62, pp. 106-107; 1979, 131-142; 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1990, pp. 291-300
EMPR MAP 22, 7685G; RGS1977; 8484G
EMPR OF *1990-32; 1991-16
EMPR PF (Eastwood, G.E.P., (1956): Esovoloff's Uranium Prospect; Metcalfe, S., (1967): Assays of the M.C. claims in Uranium Commodity File)
GSC EC GEOL #16, (2nd Ed.), p. 234; #29, pp. 72,134
GSC MAP 1090A
GSC OF 551
GSC P *87-2, pp. 13-20
EMPR BULL 109

DATE CODED: 1987/07/06
DATE REVISED: 1990/10/15

CODED BY: LDJ
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW273**

NATIONAL MINERAL INVENTORY:

NAME(S): **U308**, CHINA CREEK CONSORTIUM, MOTA

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 14 10 N
LONGITUDE: 117 41 34 W
ELEVATION: 854 Metres

NORTHING: 5453935
EASTING: 449569

LOCATION ACCURACY: Within 500M
COMMENTS:

COMMODITIES: Uranium

MINERALS

SIGNIFICANT: Uraninite Pyrite Pyrrhotite
ASSOCIATED: Feldspar Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Disseminated
CLASSIFICATION: Pegmatite
TYPE: O02 Rare element pegmatite - NYF family

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous			Castlegar Gneiss

ISOTOPIC AGE: 87 +/- 8 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon
Upper Cretaceous

Kinnaird Orthogneiss

LITHOLOGY: Pegmatite
Gneiss
Schist

HOSTROCK COMMENTS: The age date is from Geological Survey of Canada Paper 87-2, p. 16.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Undivided Metamorphic Assembl.
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Bulk Sample
COMMODITY

YEAR: 1978

Uranium 0.0156 Per cent

COMMENTS: The sample consisted of 4 drums weighing approximately 1.36 tonnes.
REFERENCE: Assessment Report 7609.

CAPSULE GEOLOGY

Disseminated grains of uraninite are reported to occur within pegmatoid material associated with the Upper Cretaceous Kinnaird Orthogneiss (Castlegar gneiss). The pegmatitic horizons occur as 1 metre thick sheets within micaceous schists and gneiss. Some drag-folds in the layering have been observed on the northeast side of China Creek. Uraninite occurs within feldspar crystals which commonly have a rusty halo on weathered surfaces; it is associated with smoky quartz. Some pyrite and pyrrhotite is also present. Four drums of sample were analysed and contained an average of 0.0156 per cent uranium (Assessment Report 7609).

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EMPR EXPL *1976-E35; 1977-E44; 1979, pp. 58-59
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1908-8; 1990-9; 1991-2; 1991-16
EMPR PF (see 082FSW212, A.C. Skerl, 1968: Special Report)
EMR MP CORPFILE (China Creek Uranium Consortium Inc.; Norex Resources Ltd.; Stampede International Resources Ltd.; Golden Granite Mines Limited; Tandem Resources Ltd.; Hogan Mines Ltd.)

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1577
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 7-1962; 1090A; 1504A
GSC MEM 308
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N MINER Feb. 16, 1978
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Inquiry, Health and Environmental Protection Uranium Mining,
Vol. I, p. 35
Chevron File
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/01/31

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW274**

NATIONAL MINERAL INVENTORY:

NAME(S): **JOSIE (L.3925)**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 27 56 N
LONGITUDE: 117 24 02 W
ELEVATION: 1100 Metres

NORTHING: 5479289
EASTING: 470976

LOCATION ACCURACY: Within 1 KM
COMMENTS: Centre of Lot 3925 (NTS Map 082F06).

COMMODITIES: Gold Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION: 10 Metres STRIKE/DIP: 090/45S TREND/PLUNGE:
COMMENTS: Mineralized quartz vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

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

LITHOLOGY: Dioritic Rock
Pyroxenite

HOSTROCK COMMENTS: Pseudodiorite and pyroxenite of unknown affinity (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1899
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 240.0000 Grams per tonne
Gold 15.0000 Grams per tonne
Copper 5.0000 Per cent

COMMENTS: Recorded for 1899, no sample details are available, grab is assumed.
REFERENCE: Minister of Mines Annual Report 1899, page 601.

CAPSULE GEOLOGY

The Josie showing is located on the south side of Kootenay River, south-southeast of Beasley. The claim was crown granted in 1900. An old portal was reopened and open cuts were developed in 1976.

The area is underlain by Jurassic pseudodiorite and pyroxenite of unknown affinity.

An east-west striking quartz vein, dips 45 degrees to the south and hosts scattered chalcopyrite. The vein is about 10 metres in width and cuts psuedodiorite.

The Minister of Mines Annual Report for 1899 (page 601) records an assay from this Crown Grant as 5 per cent copper, 240 grams per tonne silver and about 15 grams per tonne gold (\$10.00/ton).

No other information is available.

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EMPR ASS RPT 14149, 15331
EMPR BULL 41
EMPR EXPL *1976-E36; 1980-66
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1579
REPORT: RGEN0100

BIBLIOGRAPHY

GSC MAP 1090A
GSC MEM 308
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/06

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW275**

NATIONAL MINERAL INVENTORY:

NAME(S): **JACKASS**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F05E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 28 05 N
LONGITUDE: 117 33 14 W
ELEVATION: 915 Metres

NORTHING: 5479637
EASTING: 459868

LOCATION ACCURACY: Within 500M

COMMENTS: Pegmatite zone, high radioactivity (Assessment Reports 6748, 7132).

COMMODITIES: Uranium

MINERALS

SIGNIFICANT: Uraninite
ASSOCIATED: Plagioclase Quartz Biotite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Magmatic Pegmatite
TYPE: O02 Rare element pegmatite - NYF family 115 Classical U veins

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Nelson Intrusions

LITHOLOGY: Monzonite
Gneiss
Granite
Pegmatite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Jackass showings consist of three pegmatite rich areas within the Middle to Late Jurassic Nelson Intrusions and Valhalla complex plutonic rocks on the southeast flank of the Passmore Dome. The granitic intrusions have background radioactivity in the order of 30 to 50 counts per second by scintillometer (GRS 101A). Flat lying pegmatite sills, consisting of about 50 per cent plagioclase, 25 to 30 per cent quartz and lesser amounts of muscovite, biotite, garnet and opaques, contain erratic zones of radioactivity up to 5000 counts per second near the hanging wall contacts in relation to coarser-grained pegmatite sections. Disseminated uraninite is the primary uranium mineral, which is generally associated with biotite within the pegmatite.

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EMPR ASS RPT 6748, *7132
EMPR BULL 41
EMPR EXPL 1978-E55
EMPR FIELDWORK 1977, pp. 61-62, pp. 106-107; 1979, 131-142; 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8484G
EMPR OF *1990-32; 1991-16
EMPR PF (*Addie, G. (1977): Report)
GSC BULL 129
GSC MAP 1090A
GSC MEM 308
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1990/10/15

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW276**

NATIONAL MINERAL INVENTORY:

NAME(S): **NORTH STAR (L.4149)**, NORTHSTAR, GREAT WESTERN GROUP

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 26 14 N
LONGITUDE: 117 18 45 W
ELEVATION: 1463 Metres

NORTHING: 5476108
EASTING: 477344

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of workings at the northwest corner of Lot 4149 (Assessment Report 8614).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
ALTERATION: Silica
COMMENTS: Iron oxides.
ALTERATION TYPE: Silicific'n Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Shear Concordant Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins 105 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 12 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Shear zone is over 12 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Silver King Porphyry

LITHOLOGY: Schistose Volcanic
Schist
Augite Basalt Flow
Flow Breccia
Lamprophyre Dike
Plagioclase Porphyry
Sub Volcanic Intrusive

HOSTROCK COMMENTS: Units Je4 and Je7f of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks PHYSIOGRAPHIC AREA: Selkirk Mountains
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SHEAR REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1932
SAMPLE TYPE: Grab
COMMODITY: Gold GRADE: 9.2600 Grams per tonne
COMMENTS: The sample width is 2.44 metres. The assay represents the average of 5 samples.
REFERENCE: Minister of Mines Annual Report 1932, page 183.

CAPSULE GEOLOGY

The North Star showing is located about 6 kilometres southwest of Nelson on the south slopes of Morning Mountain. Old workings date back to the early 1900's.

The area is underlain by schistose volcanic rocks comprising augite basalt flows, flow breccias, subvolcanic intrusions and mafic tuff of the Lower Jurassic Elise Formation, Rossland Group. These are intruded by plagioclase porphyry of the Jurassic Silver King Porphyry. The Silver King shear zone, trending northwest, is immediately to the south and west.

A pyritized and silicified shear zone over 12 metres wide parallels the strike and dip of the schistose volcanics. The best mineralized section is 2.4 metres wide between the hanging wall and a

CAPSULE GEOLOGY

0.6-metre thick lamprophyre dyke. Locally the vein parallels the contact. Host rocks to the sheared vein are locally highly silicified.

The best mineralized section averaged 9.26 grams per tonne gold while a 6 metre section of rusty, weathered rock on the footwall side of the lamprophyre dyke assayed about 3.4 grams per tonne gold (Minister of Mines Annual Report 1932, page 183).

Diamond drilling (three holes) was conducted on the claim in 1980, the results are unknown (Property File - Lectus Developments Ltd., Prospectus, Aug. 4, 1987).

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EMPR ASS RPT *8614, 19492, 19503, 20063
EMPR BULL 41, 109
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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
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GSC MAP *52-13A; 1090A; 1091A
GSC MEM 308
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GSC P 52-13
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
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DATE CODED: 1985/07/24
DATE REVISED: 1991/06/06

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW277**

NATIONAL MINERAL INVENTORY: 082F6 Ag4

NAME(S): **FREE SILVER (L.2902)**, RUBY (L.2904), ROYAL (L.5322),
STEWART 3, STEWART, VICTOR,
GALENA, SILVER FR.

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 15 49 N
LONGITUDE: 117 15 14 W
ELEVATION: 1494 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Showing at the western border of Lot 2902 (Assessment Report 12251).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5456792
EASTING: 481528

COMMODITIES: Silver Lead Zinc Copper Molybdenum

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Galena Sphalerite Molybdenite
Sylvanite Chalcopyrite
COMMENTS: Sylvanite occurs in calcite filled vugs in volcanics with trace
chalcopyrite and galena.
ASSOCIATED: Quartz Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 3 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Veins are up to 3 metres wide and generally trend east-west.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Eocene			Coryell Intrusions
Tertiary			Unnamed/Unknown Informal

LITHOLOGY: Andesite
Epiclastic
Argillite
Quartzite
Rhyolite Dike
Quartz Monzonite Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Free Silver showing is located about 4 kilometres southwest of Ymir. It is just west of the May Blossom (082FSW070) showing. The claim was staked in 1896 and trenching is the only work reported on the property.

The area is underlain by volcanic rocks of the Lower Jurassic Elise Formation, Rossland Group which have been intruded by Tertiary rhyolite dykes and monzonite of the Middle Eocene Coryell Intrusions.

A number of relatively parallel veins occur near the contact of the volcanic rocks with the quartz monzonite porphyry. The veins vary from 0.1 to 3 metres wide and trend in a general east-west direction. Mineralization varies from massive pyrite-pyrrhotite to galena with subordinate pyrite and sphalerite. Minor molybdenite is reported locally within the veins.

Sylvanite was found in calcite filled vugs in an andesite host (occurring as a xenolith in monzonite) and appear to be associated with trace amounts of chalcopyrite and galena.

The property is located at 1371.6 metres elevation on the west side of the Salmo River, 3.5 kilometres southwest of Ymir.

The Free Silver claim (Lot 2902) was staked in June 1896 by J.M. McLaren and Crown-granted in 1902 to P.W. Thompson and associates. Adjacent ground was subsequently staked as the Ruby, Silver Fr., Victor, Royal, and Galena claims (Lots 2904 - 2906, 5322, 4553 respectively). Further activity was reported in 1908 and 1915 when the property was owned by T. Bennett, J.H. Schofield and associates; the only work reported is trenching.

CAPSULE GEOLOGY

The May Blossom claim (Lot 5666), which adjoins and lies east of the Free Silver claim, was staked in May 1897 by W. Birmingham. Subsequent staking included the May Day (Lot 13468), May Flower, Big Diamond, and Electric claims. Early development work was by American interests under the name May Blossom Mining & Milling Company. By 1915, the claims were held by J.F. Harbottle and associates. Development work to date included a 12-metre vertical shaft and a 69-metre adit on the May Blossom claim.

Washington interests, under the name Gibraltar Mining Company, optioned the May Blossom and Free Silver groups in 1921 but no work was reported. Harbottle and associates held the May Blossom group until 1930 or later.

The Free Silver claim was owned in 1977 by R. Spain, of Trail; prospecting of old trenches was reported.

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EMPR BULL 9, p. 47; 41
EMPR EXPL 1977-E46; 1978-E55; 1979-57; 1980-51; 1983-65; 1984-40
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 175A; 1090A
GSC MEM 76; 94; 308
GSC OF 1195
GSC P 49-22; 52-13
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Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/13

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW278**

NATIONAL MINERAL INVENTORY:

NAME(S): **KEITH**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 30 N
LONGITUDE: 117 03 19 W
ELEVATION: 1830 Metres

NORTHING: 5458028
EASTING: 495979

LOCATION ACCURACY: Within 500M

COMMENTS: Exposures at the center of the Keith claim.

COMMODITIES: Flagstone Dimension Stone Building Stone Quartzite Aggregate

MINERALS

SIGNIFICANT: Quartz
COMMENTS: Commodity is quartzite.
MINERALIZATION AGE: Lower Cambrian

DEPOSIT

CHARACTER: Stratiform Stratabound Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R08 Flagstone R15 Crushed rock

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian Unnamed/Unknown Group Quartzite Range

LITHOLOGY: Quartzite
Argillaceous Quartzite
Conglomerate
Schist
Marble

HOSTROCK COMMENTS: Quartzite Range Formation is correlative with rocks of the Hamill Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Quartzite is quarried for flagstone on the Keith claim at the headwaters of Porcupine Creek, 19 kilometres northeast of Salmo. This area is underlain by a sequence of metamorphosed carbonates and clastic sediments of Lower Paleozoic age. These rocks have been folded into a series of north trending anticlines and synclines that have steep to near vertical limbs. The quarried stone is quartzite, with some interbedded schist, marble, argillaceous quartzite and conglomerate of the Lower Cambrian Quartzite Range Formation (correlative with rocks of the Hamill Group). These beds strike north and dip 80 to 84 degrees west. Jointing of moderate intensity is developed perpendicular to bedding. Individual quartzite beds display various colours including white, blue, pink, golden, brown and green. Only the top 6 metres of the deposit is quarried because of an undesirable colour change below this depth. Well developed micaceous partings enable the quartzite to be split into layers as thin as 1.3 centimetres. This flagstone is reported to be of excellent quality with good tooling characteristics (A. Gerun, personal communication, 1991). Quartzite has been quarried here since 1978. The deposit is currently being operated on a seasonal basis (1 to 2 months per year) by Gerex Developments Ltd. of Nelson. The stone is hand split along micaceous partings to produce flagstone of variable thickness. Thin flagstone (up to 5 centimetres thick) is sold for building facings, patio walkways and fireplaces. Thicker flagstone (wallrock) is used in the construction of retaining walls. Some material is also crushed for aggregate. Annually, 500 to 1000 tonnes of flagstone are produced and sold throughout western Canada by Gerex Developments (A. Gerun, personal communication, 1991).

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EMPR EXPL 1977-249, 1979-331

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1586
REPORT: RGEN0100

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EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR INF CIRC 1986-1, p. 67; 1987-1, p. 75; 1988-6, p. 26
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; 1090A; 1144A
GSC MEM 94
GSC OF 1195
GSC P *51-4

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/28

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW279**

NATIONAL MINERAL INVENTORY:

NAME(S): **KOOTENAY STONE, SALMO, PORCUPINE QUARTZITE,
PORCUPINE, SALMO QUARTZITE, PORCUPINE CREEK**

STATUS: Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:
LATITUDE: 49 15 30 N
LONGITUDE: 117 03 29 W
ELEVATION: 1525 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of the Porcupine claims on the north side of Porcupine Creek.

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5456176
EASTING: 495776

COMMODITIES: Flagstone Building Stone Dimension Stone Silica Quartzite

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Quartzite.
MINERALIZATION AGE: Proterozoic-Cambrian

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R08 Flagstone R07 Silica sandstone
DIMENSION: 300 x 30 Metres STRIKE/DIP: 360/90 TREND/PLUNGE:
COMMENTS: Quartzite outcrop.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Proterozoic-Cambrian	Hamill	Quartzite Range	

LITHOLOGY: Quartzite
Argillaceous Quartzite
Conglomerate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Quartzite is quarried for flagstone on the Porcupine claims on the north side of Porcupine Creek, 17.5 kilometres northeast of Salmo.

This area is underlain by a sequence of metamorphosed carbonates and clastic sediments of Lower Paleozoic age. These have been folded into a series of north trending anticlines and synclines that have steep to near vertical limbs.

An outcrop, 300 metres long and 30 metres wide, of the Hadrynian-Lower Cambrian Quartzite Range Formation (Hamill Group) occurs on the claims. The outcrop comprises vertically dipping, thinly bedded quartzite with some interbedded argillaceous quartzite and conglomerate. Well-developed micaceous partings enable the stone to be split into plates ranging from less than 1 to 5 centimetres thick. Individual quartzite beds exhibit various colours including buff, red, grey, green, beige and brown, over widths ranging from 6 to 15 metres. A sample of quartzite assayed 99.6 per cent SiO₂ (I. Bakken, personal communication, 1991).

Jim Bakken and Associates began quarrying this deposit in 1964. The quarry is currently being operated by Porcupine Mines Ltd. (subsidiary of the Kootenay Stone Centre). The quartzite is sold in western Canada and used in building facings and various other decorative and architectural purposes.

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EMPR BULL 41
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EMPR GEM 1969-384; 1970-491; 1972-580,581; 1973-541
EMPR INF CIRC 1986-1, p. 67; 1987-1, p. 75; 1988-6, p. 26; 1991-1, p. 71; 1995-1, p. 9; 1996-1, p. 10; 1997-1, p. 13; 1998-1, p. 15
EMPR MAP 65 (1989)

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1588
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR MINING 1986-1987 p. 82; 1988 p. 81
EMPR OF 1988-1; *1989-11; 1991-16; 1992-1; 1992-9; 1994-1
GSC MAP *51-4A; 1090A; 1145A
GSC MEM 94
GSC OF 1195
GSC P 51-4

DATE CODED: 1985/07/24
DATE REVISED: 1996/11/13

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW280**

NATIONAL MINERAL INVENTORY:

NAME(S): **M.U.T.**, MUT

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 35 N
LONGITUDE: 117 11 46 W
ELEVATION: 1515 Metres

NORTHING: 5435966
EASTING: 485678

LOCATION ACCURACY: Within 500M

COMMENTS: Located south of Lost Creek. Refer to Molly (082FSW021) also.

COMMODITIES: Molybdenum Tungsten Uranium

MINERALS

SIGNIFICANT: Scheelite Molybdenite Pyrite Pyrrhotite Uranophane
 Autunite Sphalerite
ASSOCIATED: Quartz Fluorite
ALTERATION: Garnet Diopside Powellite
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Skarn Hydrothermal Igneous-contact
TYPE: K05 W skarn L05 Porphyry Mo (Low F- type)
 L07 Porphyry W I15 Classical U veins

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Ordovician	Undefined Group	Active	
Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Limestone
Hornfels
Granite
Aplite Dike
Skarn

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Kootenay Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE: Hornfels

CAPSULE GEOLOGY

The main areas of interest on the property are underlain by argillites, limy argillites and limestones of the Lower to Middle Ordovician Active Formation adjacent to the contact of the Lost Creek stock of the Middle to Late Nelson Intrusions. Disseminated molybdenite and scheelite associated with pyrite and pyrrhotite and traces of powellite occur within small garnet-diopside skarns within hornfelsed areas of the sediments. Tungsten is erratic but spot highs of 0.5 per cent or greater occur. Molybdenite and scheelite also occur as disseminations in quartz veins within the sediments and aplite dykes. Minor sphalerite and anomalous fluorite are associated with the quartz veining. The main showings are within the Mut adit on Lost Creek and west of the Molly mine (082FSW021) and also at the top of the ridge on what is referred to as Mut Hill. Mineralization is scattered throughout the claims and part of the Lost Creek granite stock is postulated to underlie the Active Formation sediments within the claim group. Autunite or uranophane is reported to occur within argillites (Assessment Report 7041, plan 10).

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EMPR MEIP 78/79 (Report on MUT Group for Benson Mines, by J.R. Poloni, June 23, 1978 & Dec 1978)
EMPR OF 1988-1; 1989-11; 1991-16; 1991-17

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
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PAGE: 1590
REPORT: RGEN0100

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GSC MAP 1090A; 1145A
GSC MEM 94; 172; 191; 308
GSC OF 1195
GSC P 49-22; 50-19; 52-13
GCNL #115, 1978; #50, #109, #216, 1979
N MINER July 2, 1981
Prospector, July 1979, p. 9
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/26

CODED BY: GSB
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW281**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHILOH (L.3847)**, ROYAL (L.4610)

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 17 10 N
LONGITUDE: 117 12 13 W
ELEVATION: 915 Metres

NORTHING: 5459282
EASTING: 485193

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of west adit on Lot 3847 (Assessment Report 8924).

COMMODITIES: Gold Zinc Lead

MINERALS

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

DEPOSIT

CHARACTER: Vein Breccia Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 2 Metres STRIKE/DIP: 310/50N TREND/PLUNGE:
COMMENTS: Mineralized shear zone, up to 2.1 metres wide, strikes 310 degrees and dips about 50 degrees north.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

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

LITHOLOGY: Argillite
Gouge
Siltstone
Wacke
Grit
Granitic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Shiloh showing is located 1.5 kilometres east of Ymir. The Shiloh and Royal claims were Crown Granted sometime prior to 1917. Two adits occur on the Shiloh claim, only one of which (the western one) was driven on mineralization.

The area is underlain by argillite, siltstone, chert, wacke and grit of the Lower Jurassic Ymir Group. Middle to Late Jurassic granitic rocks of the Nelson Intrusions occur to the east and west.

A mineralized shear zone from 1.2 to 2.1 metres wide crosscuts argillites. The shear strikes north 310 degrees and dips about 50 degrees northeast. It contains crushed country rocks with veinlets of quartz containing pyrite, sphalerite and galena and some calcite.

A sample taken across 1.4 metres of the shear zone in the west adit containing minor pyrite and sphalerite mineralization assayed 1.03 grams per tonne gold, trace silver, 0.03 per cent zinc and trace lead (Assessment Report 8924).

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MEM 94, p. 65; 191, p. 25
GSC OF 1195

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1592
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/06

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW282**

NATIONAL MINERAL INVENTORY: 082F6 Cu2

NAME(S): **MONARCH (L.2082)**, ELK (L.2081), STEL 10,
STEL 1-10, NELPLAT

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 29 36 N
LONGITUDE: 117 29 04 W
ELEVATION: 1220 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Skarn zone on boundary of Lots 2081 and 2082 (Assessment Report 8661).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5482412
EASTING: 464918

COMMODITIES: Copper Zinc Silver Gold Molybdenum Lead

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Molybdenite Galena
Sphalerite Magnetite
ASSOCIATED: Quartz
ALTERATION: Garnet Epidote Magnetite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Massive
CLASSIFICATION: Skarn
TYPE: K04 Au skarn K01 Cu skarn
K05 W skarn K02 Pb-Zn skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Ymir	Unnamed/Unknown Formation	
Lower Jurassic	Rosslund	Elise	
Jurassic			Nelson Intrusions
Jurassic			Unnamed/Unknown Informal

LITHOLOGY: Limestone
Quartzite
Argillite
Volcanic Rock
Granodiorite
Basic Dike
Garnet Epidote Skarn
Skarn

HOSTROCK COMMENTS: Pseudodiorite and pyroxenite of unknown affinity.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Syn-mineralization
GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1918
SAMPLE TYPE: Bulk Sample
COMMODITY GRADE
Silver 201.6000 Grams per tonne
Gold 3.4280 Grams per tonne
Copper 3.0000 Per cent

COMMENTS: From 153 tonne sample.
REFERENCE: Minister of Mines Annual Report 1918, pages 173, 174, 197.

INVENTORY

ORE ZONE: MAIN SHOWING

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

106.3000

Grams per tonne

Gold

1.0300

Grams per tonne

Copper

7.8900

Per cent

COMMENTS: Grab sample from main showing.

REFERENCE: Assessment Report 8661.

CAPSULE GEOLOGY

This property is located at the 1219-metre elevation between Falls and Garrity creeks, about 14.4 kilometres west of Nelson. The Iron King group is north of and adjoining this property.

The Monarch claim (Lot 2082) was Crown-granted to M.C. Monaghan, and the Elk claim was Crown-granted to Alex McDonald, in 1904. Early exploration work consisted of open cuts and a 9-metre shaft.

During 1917-18 the Spokane Mining & Development Corporation carried out exploration work on the property under the management of C.M. Mohr. At about this time the property was acquired by the Sterling Trust Corporation of Toronto, for which Mr. Mohr was agent. The Falls Creek Mining Company reportedly worked the property in 1919; further work was reported done in 1922 under the directions of Mr. Mohr. Development work during this period consisted of a tunnel driven 30 metres at a vertical depth of 76 metres below the surface exposure. A mechanics lien was filed against the Monarch and Elk claims in 1924. The defendants specified were the Spokane Mining & Development Company, the Sterling Trust and Middle States Holding Company.

The Sterling Trust Corporation held the property until it was allowed to go on tax sale in 1927; the claims were purchased by M.C. Monaghan.

Queen Victoria Consolidated Mines Limited, reportedly formed to develop the Queen Victoria property located about 1.6 kilometres to the east, is reported to have held the Monarch and Elk claims in 1928, however no work was reported at this time.

The Monarch prospect is located 10 kilometres west-northwest of Nelson. The claim was Crown Granted in 1904 and several shafts and adits were developed at about that time. The property was held by Great West Mining Corporation Ltd. in 1962. Gerhardi Holdings Limited prospected the property in 1980.

The area is underlain by argillites, quartzite and limestone of the Lower Jurassic Ymir Group and mafic to intermediate volcanic rocks of the Lower Jurassic Elise Formation, Rosslund Group. These are intruded by granodiorite and quartz diorite of the Middle to Late Jurassic Nelson Intrusions and Jurassic pseudodiorite and pyroxenite of unknown affinity.

Skarn zones are developed in Ymir Group sediments and Elise Formation volcanics near the contact with granodiorite of the Nelson batholith. Chalcopyrite and pyrite occur in a garnet-epidote skarn. Some molybdenite is associated with epidote in fractures. Traces of galena and sphalerite were noted in exposures immediately north of the main showing. The garnet zone, occurring along the northeast striking granitic contact, is mineralized with chalcopyrite, pyrrhotite and pyrite disseminated in irregular patches. Near one of the basic dykes that intrudes the garnet zone a narrow band of magnetite has been exposed.

In 1918, a 153 tonne sample assayed 3 per cent copper, 201.6 grams per tonne silver and 3.428 grams per tonne gold (Minister of Mines Annual Report 1918, pages 173, 174, 197). In 1980, a grab sample from the main showing assayed 1.02 grams gold, 106.3 grams silver and 7.89 per cent copper (Assessment Report 8661).

Although little geological data is available it is believed that the mineralization at Monarch is similar geologically to the Queen Victoria mine (082FSW082) to the east.

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- EMPR INDEX 3-206

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1595
REPORT: RGEN0100

BIBLIOGRAPHY

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Victoria Consolidated Mines, Limited)
GSC MAP 1956-3; *52-13A; 62A; 1090A; 1091A
GSC OF 1195
GSC P 49-22; 52-13
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious
Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland
Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C.
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Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral
deposits of the Lower Jurassic Rossland Group, southeastern
British Columbia; abstract in Twelfth District 6 Meeting, Canadian
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/18

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW283**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALLOUEZ**, LOST CABIN (?)

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 44 N
LONGITUDE: 117 17 25 W
ELEVATION: 1250 Metres

NORTHING: 5441824
EASTING: 478823

LOCATION ACCURACY: Within 500M

COMMENTS: Adit plotted on Geological Survey of Canada Map 1145A.

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz
COMMENTS: Probable malachite.
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION:
COMMENTS: Shear zone

STRIKE/DIP: 233/60N

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Augite Porphyry
Granite
Granodiorite

HOSTROCK COMMENTS: Wallack Creek pluton

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: OPENCUT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Rock
COMMODITY

YEAR: 1922

COMMODITY	GRADE	
Silver	425.2000	Grams per tonne
Gold	2.7400	Grams per tonne
Copper	6.1000	Per cent

COMMENTS: Sample from an opencut.

REFERENCE: Minister of Mines Annual Report 1922, page 208.

CAPSULE GEOLOGY

The workings are in sheared, decomposed augite porphyry of the Elise Formation of the Lower Jurassic Rossland Group. The shear or fault zone averages 0.5 metres in width, with a strike of 233 degrees and a 60 degree northwest dip. The zone is erratically mineralized with quartz which contains some disseminated pyrite, chalcopyrite, and copper staining (malachite?). The vein is about 400 metres from the Wallack Creek pluton of the Middle to Late Jurassic Nelson Intrusions and is possibly related to the Waneta fault. The pluton is composed of granite and granodiorite. A sample from an opencut is reported to grade 2.74 grams gold, 425.2 grams silver, and 6.1 per cent copper (Minister of Mines Annual Report 1922, page 208).

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1990, pp. 9-31

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1597
REPORT: RGEN0100

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GSC MAP 299A; 1090A; *1145A
GSC MEM *172, pp. 88-89
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/21

CODED BY: GSB
REVISED BY: BG

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW284**

NATIONAL MINERAL INVENTORY:

NAME(S): **NEW YORK CENTRAL (L.7352)**, TWILIGHT FR.

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 06 N
LONGITUDE: 117 11 02 W
ELEVATION: 1373 Metres

NORTHING: 5457302
EASTING: 486622

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Lot 7352 (NTS Map 082F06).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Pyrite
COMMENTS: Gold values are not reported. Galena and sphalerite may be present but are not documented.

ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Shear Epigenetic
DIMENSION: 1 Metres
COMMENTS: Vein is 0.45 to 1.0 metre wide.

STRIKE/DIP: 015/50W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE: Lower Jurassic
Jurassic

GROUP: Ymir

FORMATION: Undefined Formation

IGNEOUS/METAMORPHIC/OTHER: Nelson Intrusions

LITHOLOGY: Quartzite
Argillite
Granite

HOSTROCK COMMENTS: Roof pendants of Ymir Group sediments occur in the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The New York Central showing is located on the slopes of Jubilee Mountain, 3 kilometres southeast of Ymir. The main working on the claim is an old tunnel.

The area is underlain by quartzites and argillites of the Lower Jurassic Ymir Group which occur as roof pendants within Late to Middle Jurassic granite of the Nelson Intrusions (Nelson batholith).

A sheared, pyritic quartz vein, 0.45 to 1.0 metre wide, occurs along the contact of the granite with the sediments. The trend is generally northeast about 015 degrees with a westerly dip of about 50 degrees.

This showing is reported to be similar to the Iowa (082FSW065) and Nevada (082FSW064) occurrences which have pyrite as well as sphalerite and galena, however, sulphide mineralogy and metal grades are not documented.

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EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; *175A; 1090A; 1144A
GSC MEM *94, p. 122
GSC OF 1195
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/07

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1599
REPORT: RGEN0100

MINFILE NUMBER: **082FSW285**

NATIONAL MINERAL INVENTORY:

NAME(S): **CRISTINE (L.1219)**, GOLD KING (L.1229)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek

LATITUDE: 49 04 33 N
LONGITUDE: 117 50 55 W
ELEVATION: 1371 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5436233
EASTING: 438025

LOCATION ACCURACY: Within 500M

COMMENTS: Located east of the Snowdrop mine (082FSW115), on the lower slopes of Mt. Roberts, 4.0 kilometres west of Rossland.

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Quartz Carbonate
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>
Pennsylvan.-Permian	Undefined Group	Mount Roberts	

LITHOLOGY: Siltstone
Sandstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain
METAMORPHIC TYPE: Contact

Quesnel
RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE: Hornfels

CAPSULE GEOLOGY

The area of the Cristine occurrence is underlain by dark grey siltstone and sandstone of the Pennsylvanian (and possibly Permian) Mount Roberts Formation. Discontinuous veins or lenses of quartz and carbonate host gold values with minor sulphides which include pyrite and chalcopyrite. The mineralization on the claims is probably associated with discontinuous gold mineralization in the Snowdrop mine (082FSW115) which is adjacent to the claims.

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GSC MAP 1518; 1090A; 1504A
GSC MEM 77
GSC P 79-26
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/27

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW285**

MINFILE NUMBER: **082FSW286**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVERINE (L.732)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 05 35 N
LONGITUDE: 117 47 46 W
ELEVATION: 1200 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5438106
EASTING: 441879

LOCATION ACCURACY: Within 500M

COMMENTS: Located approximately 2.0 kilometres north of Rossland, north of the peak of Monte Cristo Mountain.

COMMODITIES: Gold Silver Copper Bismuth

MINERALS

SIGNIFICANT: Pyrrhotite Arsenopyrite Chalcopyrite Pyrite Gold

Bismuth Magnetite

MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	

LITHOLOGY: Siltstone
Argillite
Hornfels
Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Silverine veins are part of the north belt zone of discontinuous veins. On a regional scale, the veins appear to be continuous but in detail they are lenticular and offset by northerly trending faults. On the claim the veins are hosted by the Lower Jurassic Elise Formation, Rossland Group siltstone, argillite and hornfelsic siltstone. The hornfelsed siltstone is due to thermal metamorphism related to the Early Jurassic Rossland monzonite to the south and the Middle to Late Jurassic Trail pluton to the north.

Mineralization consists of vein infillings hosting pyrrhotite, arsenopyrite, magnetite, pyrite and minor chalcopyrite. Between 1934 and 1944, 82 tonnes of ore was mined from the showings and produced 1493 grams gold, and 2178 grams silver.

In 1967, Thorpe described mineralization north of Monte Cristo (082FSW101) as hosting native gold and bismuth associated with arsenopyrite and magnetite in the Intermediate zone.

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GSC MAP 260; 1518; 1090A; 1504A
GSC MEM 77, Fig. 13
GSC P 79-26
*Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland, B.C., Ph.D. Thesis, University of Wisconsin
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/16

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW286**

MINFILE NUMBER: **082FSW287**

NATIONAL MINERAL INVENTORY:

NAME(S): **KIRKUP**, GOLD STAR (L.1191), ARGENTINE (L.1507),
MR 4, SANTA CRUZ (L.1676), ME

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 45 N
LONGITUDE: 117 49 04 W
ELEVATION: 1550 Metres

NORTHING: 5442137
EASTING: 440341

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the headwaters of Little Rock Creek, a tributary of Hanna
Creek; 6.4 kilometres north of Rossland.

COMMODITIES: Copper Molybdenum Tungsten

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Molybdenite Scheelite Pyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Disseminated Podiform
CLASSIFICATION: Hydrothermal Porphyry
TYPE: L03 Alkaic porphyry Cu-Au L07 Porphyry W

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Pennsylvan.-Permian	Undefined Group	Mount Roberts	
Jurassic			Nelson Intrusions
Jurassic			Trail Pluton

LITHOLOGY: Hornfels
Greenstone
Granodiorite
Monzonite
Sandstone
Volcanic Conglomerate
Volcanic Breccia
Siltstone
Limestone
Greywacke

HOSTROCK COMMENTS: The mineralization is hosted in hornfelsed rock that is either of the
Elise or Mount Roberts formations.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

Plutonic Rocks

CAPSULE GEOLOGY

The Kirkup showing is mainly underlain by Lower Jurassic Rossland Group (Elise Formation) volcanic breccia, volcanic conglomerate, sandstone and greenstone. Underlying these are siltstone shales, limestone and greywacke of the Pennsylvanian to Permian Mount Roberts Formation. Intruding the strata are granodiorite of the Jurassic Nelson Intrusions (Trail pluton). East of the area, the Rossland Group rocks are intruded by monzonite of the Middle Eocene Coryell Intrusions.

The showings lie within the zone of thermal metamorphism associated with the intrusion of the Trail pluton. Mineralization, within an old shaft on the Gold Star Crown grant, consists of massive bands and/or pods of pyrrhotite, pyrite and minor chalcopyrite in volcanics (Elise Formation) or hornfelsed sediments of the Mount Roberts Formation. Also, an adit was driven westwards into granodiorite for approximately 30.5 metres; material on the dump shows disseminated molybdenite and scheelite.

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1990, pp. 9-31

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1602
REPORT: RGEN0100

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/04

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW288**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHEEP CREEK QUARTZITE**, SHEEP CREEK

STATUS: Past Producer Open Pit

MINING DIVISION: Nelson

REGIONS: British Columbia

NTS MAP: 082F03E

UTM ZONE: 11 (NAD 83)

BC MAP:

LATITUDE: 49 08 39 N

NORTHING: 5443491

LONGITUDE: 117 08 13 W

EASTING: 490012

ELEVATION: 945 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Confluence of Sheep and Waldie creeks.

COMMODITIES: Flagstone

Building Stone

Dimension Stone

Quartzite

MINERALS

SIGNIFICANT: Unknown

COMMENTS: Quartzite

MINERALIZATION AGE: Proterozoic-Cambrian

DEPOSIT

CHARACTER: Massive

CLASSIFICATION: Sedimentary

Industrial Min.

TYPE: R08 Flagstone

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Proterozoic-Cambrian

GROUP

Hamill

FORMATION

Quartzite Range

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Micaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Ancestral North America

METAMORPHIC TYPE: Regional

RELATIONSHIP: Syn-mineralization

GRADE:

CAPSULE GEOLOGY

Micaceous quartzite of the Hadrynian-Lower Cambrian Quartzite Range Formation (Hamill Group) was quarried between 1966 and 1971 from talus slopes in the vicinity of the confluence of Sheep and Waldie creeks, 12 kilometres southeast of Salmo.

Quartzite of various colours including buff, brown, green, red and grey was hand-sorted before being sold to local markets as facing stone. Well-developed micaceous partings enabled the stone to be split into slabs ranging from 1.3 to 10 centimetres thick.

A total of 453 tonnes of quartzite was quarried between 1966 and 1969.

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GSC MAP 51-4A; 3-1956; 1145A
GSC MEM 308
GSC OF 1195
GSC P 51-4
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/15

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW289**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHEEP CREEK MARBLE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 09 35 N
LONGITUDE: 117 10 55 W
ELEVATION: Metres

NORTHING: 5445228
EASTING: 486735

LOCATION ACCURACY: Within 5 KM

COMMENTS: Located 6.0 kilometres east of Salmo River, on the south side of Sheep Creek.

COMMODITIES: Marble Limestone Dimension Stone Building Stone

MINERALS

SIGNIFICANT: Calcite
COMMENTS: Limestone

ASSOCIATED: Quartz
MINERALIZATION AGE: Ordovician

ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Graptolites

DEPOSIT

CHARACTER: Stratabound Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R04 Dimension stone - marble
DIMENSION: Metres
COMMENTS: Limestone

STRIKE/DIP: R09 Limestone
020/65E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u> Ordovician	<u>GROUP</u> Undefined Group	<u>FORMATION</u> Active	<u>IGNEOUS/METAMORPHIC/OTHER</u>
DATING METHOD: Fossil			
MATERIAL DATED: Graptolites			

LITHOLOGY: Limestone
Marble
Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Limestone was once quarried for marble on the south side of Sheep Creek, 6 kilometres west of its confluence with the Salmo River.

The quarry is developed in limestone, with some interbedded quartzite, of the Lower(?) and Middle Ordovician Active Formation (correlative in part with the Glenogle Formation of the western Rocky Mountains). The limestone strikes 020 degrees and dips between 60 and 70 degrees east. The band can be traced southwest from Sheep Creek up the valley side to a considerable height above the valley floor. It is badly shattered and in places cut by quartz veinlets. An irregular set of joints strike 075 degrees. The limestone produced from the quarry is fine to coarse grained and white to grey banded.

A small amount of limestone, quarried by W. McArthur before 1914, was used in the Nelson Post Office.

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GSC MEM 308
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/13

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW290**

NATIONAL MINERAL INVENTORY:

NAME(S): **KATIE, JIM**

MINING DIVISION: Nelson

STATUS: Prospect
 REGIONS: British Columbia
 NTS MAP: 082F03W
 BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 53 N
 LONGITUDE: 117 20 13 W
 ELEVATION: 1420 Metres

NORTHING: 5443969
 EASTING: 475428

LOCATION ACCURACY: Within 500M

COMMENTS: Located at the headwaters of Hellroaring Creek, approximately 8.0 kilometres southwest of Salmo (Assessment Report 20331).

COMMODITIES: Copper Gold Zinc Molybdenum

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Bornite Pyrrhotite Sphalerite
 Tetrahedrite Chalcocite Molybdenite Arsenopyrite Specularite

COMMENTS: Trace bornite.

ASSOCIATED: Quartz Magnetite

COMMENTS: Also biotite, malachite and azurite.

ALTERATION: K-Feldspar Albite Quartz Epidote Sericite
 Chlorite Carbonate Goethite

COMMENTS: Also malachite.

ALTERATION TYPE: Potassic Propylitic Oxidation

MINERALIZATION AGE:

DEPOSIT

CHARACTER: Disseminated Stockwork
 CLASSIFICATION: Porphyry
 TYPE: L03 Alkaline porphyry Cu-Au

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Rosslund	Elise	Nelson Intrusions
Jurassic			

LITHOLOGY: Monzodiorite
 Monzonite
 Monzonitic Gabbro
 Gabbro
 Andesitic Tuff
 Basaltic Tuff
 Latite Tuff
 Rhyolite
 Feldspar Porphyry Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Quesnel Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1989
 SAMPLE TYPE: Drill Core

COMMODITY	<u>GRADE</u>	
Gold	0.2000	Grams per tonne
Copper	0.2400	Per cent

COMMENTS: Sample across 6-metre shear zone.
 REFERENCE: Assessment Report 20331.

CAPSULE GEOLOGY

The Katie alkaline porphyry deposit is located seven kilometers southwest of Salmo. The earliest recorded work on the property occurred in 1980 when Amoco Canada outlined a 0.5 by 1 kilometre soil copper anomaly on their Jim claims. The claims lapsed and in 1985, Ken Murray staked the Katie claim group to cover the Amoco copper anomaly and was able to define a coincident gold soil anomaly. In 1988 Balloil Lassiter Petroleum Limited optioned the property and conducted geological and geophysical surveys and a four-hole, 305-metre diamond drilling program in 1989. The best hole, KT-89-4 intersected 6 meters grading 0.24 per cent copper and 0.2 gram per

CAPSULE GEOLOGY

tonne gold (Assessment Report 20331). In 1990, Yellowjacket Resources Limited acquired Balloil's interest and formed a joint venture with Hemlo Gold and Brenda Mines. As operator, Noranda Exploration Company drilled 8,260 metres in 34 core holes. The soil anomaly was expanded to an area of 1.5 by over 2 kilometres and geophysics included comprehensive grid magnetics and IP surveys. In 1992, Yellowjacket drilled an additional 4,477 metres in 18 holes. John A. Chapman and KGE Management LTD. restaked the property in 2001.

The Salmo area is underlain by an arcuate belt of sedimentary and volcanic rocks of the Lower Jurassic Rossland Group, in fault contact with Paleozoic Kootenay Terrane rocks to the south and the late Jurassic Nelson Batholith to the north, east and west. The Rossland Group includes the Archibald Formation clastic sediments, a thick sequence of volcanic and epiclastic rocks of the Elise Formation and Hall Formation clastics. They are cut by synvolcanic intrusives, Middle Jurassic to Cretaceous granitic intrusions of the Nelson Batholith, the Middle Eocene Coryell intrusions and felsic to mafic Tertiary dikes.

The Katie claims cover intermediate to mafic flows and tuffs of the Elise Formation. These include andesite to basalt flow breccia, lapilli tuff and crystal tuff and latite fine tuff. Synvolcanic intrusive rocks underlie a large portion of the property and range in composition from monzonite to monzodiorite through to monzogabbro and gabbro. Younger intrusive rocks include feldspar porphyry, rhyolite, lamprophyre and diabase.

Drilling has outlined widespread alkaline porphyry copper-gold mineralization within a 1.75 by 2.5 kilometre area, focused on three zones: Main, West and 17. From one percent to greater than 10 percent pyrite and chalcocopyrite occur as disseminations, fracture fillings and veins associated with contacts between monzodiorite dikes and volcanics. Weathering effects have been noted to a depth of 20 metres or more, with secondary malachite, azurite and local chalcocite. Traces of bornite, pyrrhotite, sphalerite and tetrahedrite have also been noted.

Potassic core zones, with copper grades up to one percent and gold in the range of 0.5 gram per tonne are characterized by pervasive, vein and stockwork K-feldspar, with biotite, quartz, chlorite and sometimes coarse magnetite grains. These are enveloped by broad areas of propylitic alteration including pervasive and fracture controlled epidote, chlorite, albite, hematite (goethite) calcite, sericite and magnetite. The potassic and propylitic alteration largely obliterates primary textures, with the exception of feldspar and pyroxene phenocrysts.

Mineralization and alteration are controlled by northwesterly oriented structures and are zoned outwards from highest copper and gold in the potassic cores, followed by lower grade values in the propylitic zone. A late stage of mineralization includes strongly deformed quartz-carbonate-sulphide veins within mylonitic shear structures. Sulphides include pyrite, chalcocopyrite, tetrahedrite, molybdenite and arsenopyrite. Specular hematite has been tentatively identified.

Katie shows two styles of mineralization. One is an alkalic porphyry copper-gold and a later shear hosted gold-silver-copper-antimony-arsenic stage (EMPR Bulletin 109).

The porphyry mineralization (of Lower Jurassic age, consists mainly of pyrite, lesser chalcocopyrite and bornite, and traces of pyrrhotite, sphalerite, tetrahedrite and ? chalcocite. Sulphides occur both disseminated in hosting volcanic beds or intrusive sills or in veins with quartz, calcite, potash feldspar, chlorite and epidote. Magnetite is widespread except in highly altered potash feldspar zones. Propylitic alteration is mainly a mixture of chlorite, epidote, sericite and actinolite. Local calcite epidote and pyrite stringers cut this zone. Potassic alteration is shown by potash feldspar and secondary biotite. The later shear and mylonites with local enrichment of gold, copper, arsenic and antimony cut the earlier porphyritic mineralization. The age of these shears are either pre Middle Jurassic or Eocene in age.

The Main zone is northwest striking, steeply northeast dipping, 70 to 135 metres thick and at least 500 metres long. It is open in both directions and to depth. Copper grades average from 0.25 to 0.3 per cent while gold values range from 0.15 to 0.45 gram per tonne. The 17 zone is geologically similar to the Main Zone and is located 670 metres to the south. It strikes northwest, dips gently to the east and has been outlined by limited drilling over an area 110 by 300 metres. Average grades are 0.28 per cent copper and 0.3 grams per tonne gold (Carlson, 2002 (Property File)).

The drilling has been mostly directed to the northwest, parallel to the main controlling structure. The identified higher grade

CAPSULE GEOLOGY

potassic core zones have not been fully tested. The Main Zone is open to the northwest and southeast, while the best results from drill holes in both the West and 17 zones are on the edge of the areas tested. Soil geochemistry and IP define extensions to these zones as well as a number of other untested targets.

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CIMM Special Volume *46, pp. 666-673
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GSC MEM 172; 308
GCNL #53(Mar.15),#223(Dec.19),#242(Dec.14), 1990; #54(Mar.18),
#140(Jul.22),#189(Oct.1), 1991; #69(Apr.7),#72(Apr.10),#83
(Apr.29),#95(May 15),#107(June 3),#149(Aug.4), 1992
N MINER Jul.8, Sept.16, 1991; Apr. 27, 1992; May 11, 1992
EMPR BULL 109

DATE CODED: 1987/10/09
DATE REVISED: 2002/02/01

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW291**

NATIONAL MINERAL INVENTORY:

NAME(S): **GUS**, SWIFT

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 29 N
LONGITUDE: 117 21 10 W
ELEVATION: 1675 Metres

NORTHING: 5441381
EASTING: 474261

LOCATION ACCURACY: Within 500M

COMMENTS: Located near the headwaters of Swift Creek (Assessment Report 17296).

COMMODITIES: Gold Silver Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L03 Alkalic porphyry Cu-Au 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>
Lower Jurassic	Rossland	Elise	Nelson Intrusions
Jurassic			

LITHOLOGY: Basaltic Tuff
Basalt
Flow Breccia
Agglomerate
Augite Porphyry
Argillite
Granodiorite
Syenite Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: DRILLHOLE

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Drill Core

YEAR: 1987

COMMODITY

GRADE

Gold

1.8300

Grams per tonne

COMMENTS: From a 10-metre drill interval.

REFERENCE: Assessment Report 17296.

CAPSULE GEOLOGY

The Gus (Swift) area is underlain mainly by basaltic volcanics of the Lower Jurassic Rossland Group, Elise Formation comprised of flow breccia, massive flows, agglomerate, tuff and sill-like intrusives (augite porphyry). A minor amount of laminated, tuffaceous siltstone and shale occurs as interbeds. These are overlain by argillites and quartzites of the Rossland Group, Hall Formation and underlain by black argillaceous siltstone and arenaceous argillite of the Rossland Group, Archibald Formation. The Rossland Group rocks are intruded by the Middle to Late Jurassic Nelson Intrusions comprised of a mass of granodiorite and associated dykes.

Quartz veins fill irregular fractures, ranging from less than 1 centimetre up to 30 centimetres, that cut carbonatized and locally silicified mafic tuffs. Late syenite dykes occur near zones of alteration. The veins contain up to 10 per cent chalcopyrite, sphalerite and galena. Significant gold and silver values were encountered in variably altered tuffs, silicified tuffs and quartz veins.

CAPSULE GEOLOGY

A 2-metre trench sample (trench 21) assayed 100.2 grams per tonne gold and 18.0 grams per tonne silver; another nearby 2-metre sample gave 8.5 grams per tonne gold (Assessment Report 16901, page 13). The sample high in gold consisted of carbonatized tuff and a 0.4 metre wide quartz vein containing chalcopyrite, galena, pyrite and possibly sphalerite. A drill program in 1987 encountered 10 metres grading 1.83 grams per tonne gold (Assessment Report 17296, page i).

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EMPR PF (Unpublished Report)
GSC MAP 1090A; 1145A
GSC MEM 172; 308
EMPR BULL 109

DATE CODED: 1987/10/09
DATE REVISED: 1991/03/20

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW292**

NATIONAL MINERAL INVENTORY:

NAME(S): **PEND D'OREILLE**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W 082F04E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 02 49 N
LONGITUDE: 117 28 59 W
ELEVATION: 640 Metres

NORTHING: 5432787
EASTING: 464701

LOCATION ACCURACY: Within 5 KM

COMMENTS: Location centered on sample site 9231 (Sample 5A) on north side of Pend D'Oreille River, as plotted on Map 299A (Energy, Mines and Petroleum Resources Industrial Mineral File).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
ASSOCIATED: Dolomite Silica
MINERALIZATION AGE: Paleozoic
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Various fossils

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION: 900 Metres
COMMENTS: The limestone band is 120 to 900 metres thick.

STRIKE/DIP: R10 Dolomite TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u> Paleozoic	<u>GROUP</u> Pend D'Oreille	<u>FORMATION</u> Undefined Formation	<u>IGNEOUS/METAMORPHIC/OTHER</u>
<u>DATING METHOD:</u> Fossil			
<u>MATERIAL DATED:</u> Various fossils			

LITHOLOGY: Limestone
Argillite
Slate
Phyllite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: OUTCROP

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab
YEAR: 1955

<u>COMMODITY</u> Limestone	<u>GRADE</u> 53.8000	<u>Per cent</u>
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COMMENTS: Grade given for calcium oxide. Grade is in per cent.
REFERENCE: Industrial Mineral File (Fyles, J.T., 1956-Sample 9231).

CAPSULE GEOLOGY

A 120 to 900 metre wide band of limestone of the Silurian (?) to Carboniferous "Pend d'Oreille Sequence" trends east-northeast along the north side of the Pend d'Oreille River for 7.9 kilometres. The band is bounded to the north and south by argillite, slate and phyllite. The entire sequence lies in fault contact with andesite, basalt, tuff and breccia of the Lower Jurassic Elise Formation to the north. The limestone member dips approximately 50 degrees south. The Pend d'Oreille Sequence is correlated to the Attwood Formation of the Greenwood area to the west.

The carbonate is generally composed of massive, light grey, white to light blue weathering limestone. The limestone is commonly siliceous. In places, buff weathering dolomite masses, up to a hundred metres in diameter are present. A sample of chips collected at random over a 4 square metre area along the limestone bluffs near the Nelway-Waneta road, 317 metres west of Charbonneau Creek contained 52.90 per cent CaO, 2.36 per cent MgO and 0.84 per cent insolubles (J.T. Fyles, 1956, Sample 9230). A similar sample 712 metres east of the creek contained 53.80 per cent CaO, 1.83 per cent

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1611
REPORT: RGEN0100

CAPSULE GEOLOGY

MgO and 0.56 per cent insolubles (J.T. Fyles, 1956, Sample 9231).

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GSC MAP 299A; 1090A; 1145A; 1504A
GSC MEM 308
GSC OF 1195, pp. 9,10
GSC P 79-26, pp. 8.9
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/11

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW293**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROSSLAND GRANITE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 07 N
LONGITUDE: 117 46 16 W
ELEVATION: 824 Metres

NORTHING: 5435369
EASTING: 443677

LOCATION ACCURACY: Within 500M

COMMENTS: Quarry site located at derailing switch, east of Rossland.

COMMODITIES: Granite Dimension Stone Building Stone

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Commodity is granite.
ASSOCIATED: Hornblende Orthoclase Plagioclase Mica
ALTERATION: Hornblende
MINERALIZATION AGE: Jurassic

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic			Rossland Monzonite

LITHOLOGY: Porphyritic Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Dark coloured monzonite has been produced for monumental stone and building purposes from two small quarries at the north end of a northwest trending ridge close to the derailing switch along the railway line east of Rossland. The quarries are developed in the Early Jurassic Rossland monzonite, an east-trending monzonite stock 8 kilometres long with a width of up to 3 kilometres.

The monzonite consists of dark greenish glistening hornblende phenocrysts up to 8 millimetres in diameter and smaller black glistening mica flakes set in a light coloured matrix of orthoclase and plagioclase. The stone displays uniform texture and is susceptible to polishing, but on weathering it dulls over a few years and turns reddish over longer periods. The monzonite is cut by a pronounced joint set striking 130 degrees and dipping steeply east, together with a sheeting, spaced up to 1.2 metres apart that follows the contours of the ridge, dipping gently east on the east flank and west on the west flank. A sample analyzed as follows (CANMET Report 452, page 119, sample 1515):

PHYSICAL PROPERTIES	
Specific gravity	2.882
Pore space (per cent)	1.304
Crushing strength (dry) (lbs/sq.in.)	28,167
Transverse strength (lbs/sq.in.)	1,692
Shearing strength (lbs/sq.in.)	1,053

The stone was quarried during the early 1900's up to about 1915. The monzonite was used in the base of the Bank of Montreal in Rossland and in the lower storey of the Rossland Post Office.

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP *1504A
GSC OF 1195
GSC P 79-26

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1613
REPORT: RGEN0100

BIBLIOGRAPHY

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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/02/18

CODED BY: GSB
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW294**

NATIONAL MINERAL INVENTORY:

NAME(S): **TOUGHNUT (L.199)**, GREAT WESTERN STAR, TOUGH NUT

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 26 11 N
LONGITUDE: 117 20 35 W
ELEVATION: 1770 Metres

NORTHING: 5476025
EASTING: 475128

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Lot 199 (Assessment Report 19503).

COMMODITIES: Gold Silver Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite Tetrahedrite
ASSOCIATED: Quartz Carbonate
ALTERATION: Carbonate Sericite Chlorite Silica K-Feldspar
ALTERATION TYPE: Carbonate Sericitic Potassic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear Concordant
CLASSIFICATION: Epigenetic Hydrothermal
TYPE: L03 Alkalic porphyry Cu-Au I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Sheared
DIMENSION: STRIKE/DIP: 120/75S TREND/PLUNGE:
COMMENTS: Veins parallel regional foliation.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Rossland Elise
Jurassic Silver King Porphyry

LITHOLOGY: Tuff
Quartz Feldspar Porphyry
Augite Porphyritic Mafic Flow
Intermediate Flow
Breccia
Lamprophyre Dike

HOSTROCK COMMENTS: Units Je1 and Je4 in the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Channel
COMMODITY GRADE
Silver 1.7000 Grams per tonne
Gold 6.2000 Grams per tonne
Copper 0.0026 Per cent
Lead 0.0015 Per cent
Zinc 0.0045 Per cent

COMMENTS: Sample 5496 across 2 metres, highest assay from trenching program.
REFERENCE: Assessment Report 19503.

CAPSULE GEOLOGY

The Toughnut showing is located on Toad Mountain, 7 kilometres southeast of Nelson and 2 kilometres southeast of the Star showings (082FSW083). Old open pits, shafts and trenches occur on the property. This is probably a "conformable gold" occurrence. The area, in the Silver King shear zone, is underlain by volcanic rocks of the Lower Jurassic Elise Formation, Rossland Group. These comprise mafic to intermediate flows, tuffs, breccia and quartz feldspar porphyry intruded by lamprophyre dykes. The showing consists of widely disseminated pyrite in volcanic rocks, and quartz veins hosting galena, chalcopyrite, sphalerite and rare tetrahedrite. Mineralization is associated with carbonate,

CAPSULE GEOLOGY

sericite and potassically altered volcanic rocks. The alteration appears to be most prevalent in the tuffs.

The veins are 0.10 to 1 metre wide and many are parallel to the regional foliation, striking 120 degrees and dipping 75 degrees south. One vein, on which the workings were developed, can be traced discontinuously for at least 120 metres.

The highest assay from the 1989 trenching program was 6.2 grams per tonne gold, 1.7 grams per tonne silver, 0.0026 per cent copper, 0.0015 per cent lead and 0.0045 per cent zinc across 2 metres (Assessment Report 19503). Diamond-drilling in 1990 reported variable results (Assessment Report 20063).

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EMPR BULL 109

DATE CODED: 1991/03/08
DATE REVISED: 1991/03/08

CODED BY: DEJ
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW295**

NATIONAL MINERAL INVENTORY:

NAME(S): **MITZIE 1**, LONESTAR (L.4675), VERUNA,
MITZIE 2, MOUNTAIN TRAIL (L.4078), SUNSET (L.6563)

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F04W
 BC MAP:
 LATITUDE: 49 00 26 N
 LONGITUDE: 117 51 14 W
 ELEVATION: 990 Metres

MINING DIVISION: Trail Creek
 UTM ZONE: 11 (NAD 83)
 NORTHING: 5428610
 EASTING: 437554

LOCATION ACCURACY: Within 500M
 COMMENTS: Showing on Mitzie #1, 150 metres south of the southeast boundary of Lot 4078 (Mountain Trail Crown grant) on the east slope of Mt. Sophia, 1.5 kilometres west of Little Sheep Creek near the Canada-U.S.A. International boundary.

COMMODITIES: Silver Lead Zinc Copper Gold

MINERALS

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

DEPOSIT

CHARACTER: Shear Vein Disseminated
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION: 3 Metres STRIKE/DIP: 005/75E TREND/PLUNGE:
 COMMENTS: Zone.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Elise	

LITHOLOGY: Andesite
 Tuff
 Agglomerate
 Breccia
 Siltstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Quesnel
 METAMORPHIC TYPE: Regional
 PHYSIOGRAPHIC AREA: Selkirk Mountains
 RELATIONSHIP:
 GRADE:

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1983
SAMPLE TYPE: Chip	
<u>COMMODITY</u>	<u>GRADE</u>
Silver	27.4000 Grams per tonne
Gold	0.1700 Grams per tonne
Copper	0.2900 Per cent
Lead	2.8400 Per cent
Zinc	1.6300 Per cent

COMMENTS: The sample width is 3.5 metres.
 REFERENCE: Assessment Report 12643.

CAPSULE GEOLOGY

The Mitzie 1 property is underlain by the Lower Jurassic Rossland Group, Elise Formation, comprised of andesitic flows, tuff, agglomerate, breccia and black siltstone. The showing, located 150 metres south of the Mountain Trail Crown Grant (Lot 4078), consists of a 3.5 metre wide zone which strikes 005 degrees and dips 75 degrees east in andesite. Mineralization is disseminated and in stringers with quartz in a shear zone and consists of galena, sphalerite, pyrite, chalcopyrite and pyrrhotite. Fine-grained, disseminated pyrite occurs on the surface and is pervasive in the wallrock. Silicification extends for 2 to 3 metres beyond both walls of the shear as a hydrothermal alteration halo. In 1983, a chip sample across 3.5 metres assayed 0.17 grams per tonne gold, 27.4

CAPSULE GEOLOGY

grams per tonne silver, 0.29 per cent copper, 2.84 per cent lead, and 1.63 per cent zinc (Assessment Report 12643).

According to the recent assessment reports, shafts were sunk along iron stained and weakly mineralized shears which strike 330 degrees on the Mountain Trail Crown Grant. Apparently, around 1946, 58 tonnes of ore were shipped and produced 239 grams gold, 1131 grams silver and 3538 kilograms of copper with the average grade of the ore approximately 3.7 grams per tonne gold, 17.4 grams per tonne silver and 0.6 per cent copper. These statistics may be associated with mineralized shear zones near the margins of a granitic intrusive and limestone contact on the Sunset property, Lot 6563 (082FSW160).

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1090A; *1504A
GSC MEM 308
GSC P 63-13; 79-26
EMPR BULL 109

DATE CODED: 1987/10/13
DATE REVISED: 1991/03/25

CODED BY: LLC
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW296**

NATIONAL MINERAL INVENTORY:

NAME(S): **NELSON CLAY**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 29 30 N
LONGITUDE: 117 18 04 W
ELEVATION: 535 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5482158
EASTING: 478194

COMMODITIES: Clay

MINERALS

SIGNIFICANT: Clay
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Residual
TYPE: B06 Fireclay

Massive
Sedimentary

Industrial Min.
E07 Sedimentary kaolin

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

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

LITHOLOGY: Clay

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Nelson clay deposit occurs on the banks of Graham Narrows near the airfield in Nelson and covers an area up to 1 kilometre long.

Limited deposits of silty clay, close to lake level, occur in the vicinity of Nelson. The clay has been used in the past for the manufacture of common brick but no production figures are available. The clay may have originated as lake or glacial deposits.

The clay forms a mass of good plasticity with 28 per cent water and an air shrinkage of five per cent. When wet-moulded the clay burned to a hard, not very dense, brick of red color. The clay is past vitrification at cone 1 and fuses at cone 3.

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GSC OF 1195
Placer Dome File
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/01/10

CODED BY: GSB
REVISED BY: PF

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1620
REPORT: RGEN0100

CAPSULE GEOLOGY

all other ASTM standards.

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EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
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DATE CODED: 1985/07/24
DATE REVISED: 1991/01/10

CODED BY: GSB
REVISED BY: LLC

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW298**

NATIONAL MINERAL INVENTORY:

NAME(S): **HELEN (LOT 1151), MALDE**

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F04W
 BC MAP:

Underground

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 12 N
 LONGITUDE: 117 46 35 W
 ELEVATION: 1310 Metres

NORTHING: 5428117
 EASTING: 443217

LOCATION ACCURACY: Within 500M

COMMENTS: Located 8.0 kilometres south of Rossland, on the west side of Grouse Ridge and the east side of Malde Creek near the Canada-U.S.A. International boundary.

COMMODITIES: Gold Molybdenum Silver Chromium Copper Nickel Lead Zinc

MINERALS

SIGNIFICANT: Unknown
 ASSOCIATED: Quartz
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
 CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.
 TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION: 270 Metres STRIKE/DIP: 270/75N
 COMMENTS: Two parallel mineralized quartz veins. The type of minerals were not reported.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Eocene			Sheppard Intrusion

LITHOLOGY: Granite
 Monzodiorite
 Argillaceous Quartzite
 Shale
 Conglomerate
 Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Kootenay
 METAMORPHIC TYPE: Contact

Quesnel
 RELATIONSHIP:

PHYSIOGRAPHIC AREA: Selkirk Mountains

GRADE:

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1979
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Silver	20.6000 Grams per tonne
Gold	54.7000 Grams per tonne
Copper	0.1500 Per cent
Molybdenum	0.0150 Per cent
Lead	0.2700 Per cent

REFERENCE: Assessment Report 7796.

CAPSULE GEOLOGY

The area of the Helen occurrence is underlain predominantly by leucocratic granite of the Middle Eocene Sheppard Intrusions that has intruded into rocks of the Lower Jurassic Elise Formation, Rossland Group. The intruded rocks are argillites and argillaceous quartzites, on the east side of Grouse Ridge, and minor pockets of red shales with some minor radioactivity near the north end of the ridge. The red shales are in contact with a large mass of conglomerate to the north.

Swarms of quartz veins were found in the leucocratic granite, ranging from a few centimetres to a few metres in width, and hosting traces of gold. Two parallel veins near the International boundary, striking 270 degrees and dipping steeply to the north, were found to

CAPSULE GEOLOGY

carry gold values. The veins are traceable for 275 metres and range up to 30 centimetres in width. Laboratory analyses of this sample assayed 192.9 grams per tonne gold, 98.7 grams per tonne silver with spectrochemical analysis indicating 0.15 per cent lead, 0.01 per cent zinc and 0.02 per cent copper (Assessment Report 7796). Another sample from the quartz veins assayed 54.2 grams per tonne gold, 20.6 grams per tonne silver, 0.27 per cent lead, 0.15 per cent copper, and 0.015 per cent molybdenum (Assessment Report 7796). Up to 0.1 per cent molybdenum was obtained from samples.

In 1979, a sample from the property described as monzodiorite, assayed 2.0 grams per tonne gold, 0.7 grams per tonne silver, 0.01 per cent nickel, 0.02 per cent chromium, 0.015 per cent niobium with 3 parts per million uranium and 28 parts per million thorium (Assessment Report 7796).

Most of the above samples appear to have been taken on the Helen No. 2 Crown Grant (Lot 1151). Before the turn of the century, a vein ranging from 0.5 to 3.7 metres in width was reported to occur on the Helen group of 3 claims on Grouse Mountain. By 1987, an incline shaft was down 24 metres and was to connect with a 61 metre tunnel at a depth of 91 metres (Hodges, 1897). The adit was reported to show from 0.3 to 0.6 metres of ore assaying high in gold and containing some silver and lead.

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1990, pp. 9-31
- EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
- GSC MAP 1090A; *1504A
- GSC MEM 77; 308
- GSC P 79-26
- *Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page
129
- EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/22

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW299**

NATIONAL MINERAL INVENTORY:

NAME(S): **RACHEL**, RACHEL 5-6, GRASSY MOUNTAIN,
DONNA ROSE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 17 34 N
LONGITUDE: 117 27 30 W
ELEVATION: 1920 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Adit on south slope of Grassy Mountain (Assessment Report 19021).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5460104
EASTING: 466673

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Pyrite Galena Gold
ASSOCIATED: Quartz
ALTERATION: Clay Chlorite Sericite
ALTERATION TYPE: Argillic Chloritic Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Folded
DIMENSION: 25 Metres STRIKE/DIP:
COMMENTS: Vein, exposed over a 25 metre length, strikes north-northeast and dips steeply. TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Jurassic Nelson Intrusions

LITHOLOGY: Granodiorite
Aplite Dike
Lamprophyre Dike

HOSTROCK COMMENTS: Hosted in the Bonnington pluton.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: ADIT REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 331.5000 Grams per tonne
Gold 174.5000 Grams per tonne
Lead 10.0500 Per cent
COMMENTS: From the middle of the adit.
REFERENCE: Assessment Report 19021.

CAPSULE GEOLOGY

The Rachel showing is located 22 kilometres southwest of Nelson. The area has been extensively explored since the 1800's; this vein was discovered in 1954.

The area is underlain by a granodiorite pluton, the Bonnington pluton, of the Lower to Middle Jurassic Nelson Intrusions. The granodiorite is locally cut by aplite and lamprophyre dykes and quartz veins 0.5 to 3.0 centimetres wide generally trending north and dipping steeply. The granodiorite exhibits two sets of jointing.

The Rachel vein is a north-northeast striking "saddle" vein exposed in an adit on the south side of Grassy Mountain. The vein is 10 to 40 centimetres wide over a strike length of 25 metres and follows the 2 sets of joints to their junction. The vein comprises quartz with lenses and disseminations of galena, free gold as flakes and traces of pyrite. A zone of argillic alteration occurs adjacent to the south side of the vein, and some chloritization and

CAPSULE GEOLOGY

sericitization occur in the wallrock.

In 1980, Kimberley Gold Mines removed 14 tonnes of high grade ore from the adit, yielding an average assay of 66.64 grams per tonne gold, 271.5 grams per tonne silver, and 9.42 per cent lead (Assessment Report 19021). A grab sample taken in 1989 from the middle of the adit assayed 174.5 grams per tonne gold, 331.5 grams per tonne silver and 10.05 per cent lead (Assessment Report 19021).

An extension of the west limb of the vein is exposed 15 metres to the west of the adit. A grab sample taken in 1984 assayed 4.94 grams per tonne gold, 65.13 grams per tonne silver, 2.42 per cent lead (Assessment Report 19021).

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EMPR IR 1984-2, p. 101
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16; 1994-8
GSC MAP 52-13A; 1090A; 1144A; 1571A
GSC MEM 94; 308; 191
GSC OF 1195
GSC P 52-13
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/04/08

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW300**

NATIONAL MINERAL INVENTORY: 082F6 Pb1

NAME(S): **BEN HASSEN (L.3663)**, JUNE 5

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 15 57 N
LONGITUDE: 117 21 54 W
ELEVATION: 1495 Metres

NORTHING: 5457072
EASTING: 473445

LOCATION ACCURACY: Within 500M

COMMENTS: Workings located near the south-central claim boundary of Lot 3663 (Assessment Report 18478).

COMMODITIES: Silver Lead Zinc Gold Copper

MINERALS

SIGNIFICANT: Pyrite Galena Chalcocopyrite Sphalerite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic Porphyry

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 5 Metres

STRIKE/DIP: TREND/PLUNGE:

COMMENTS: Zone of mineralization.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Archibald	
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions

LITHOLOGY: Slate
Argillite
Hornfels
Quartzite
Quartz Monzonite
Granodiorite
Dike
Volcanic

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Chip

COMMODITY

GRADE

COMMODITY	GRADE	UNIT
Silver	259.8000	Grams per tonne
Gold	0.3050	Grams per tonne

COMMENTS: The sample was taken from a 2.0-centimetre quartz vein located at the north shaft.

REFERENCE: Assessment Report 15510.

CAPSULE GEOLOGY

The Ben Hassen showing is located on the west side of Erie Creek, about 11 kilometres southwest of Ymir. This showing, along with the Copper King (082FSW213), the Arnold (082FSW301) and the Hattie (082FSW226) showings, occur on the Erie Creek property.

The area is underlain by Archibald Formation sediments and Elise Formation volcanics, both of the Lower Jurassic Rossland Group. The Rossland Group rocks are intruded by granodiorite and quartz monzonite of the Middle to Late Jurassic Nelson Intrusions, locally known as the Erie stock. The Erie stock is comprised of a light grey quartz monzonite with associated aplitic and feldspar porphyry dykes. Biotite hornfels is apparently a contact metamorphic effect related to both the Nelson batholith and the Erie Creek dyke swarm. Hornfels is mainly developed in argillite and siltstone. Chlorite occurs mainly on fractures and in shear veins in augite andesite and

CAPSULE GEOLOGY

hornfels.

Mineralization on the property occurs roughly in four concentric zones. An inner quartz-molybdenum plus scheelite zone followed by a chalcopyrite zone, a pyrite-pyrrhotite zone and an outer sphalerite-galena zone. The inner zone is approximately 600 metres in diameter and is centered on the east side of Erie Creek (Hattie). The host rocks are quartz monzonite dykes, stocks and white rhyolite. The chalcopyrite zone occurs over an area of 1.5 to 2 kilometres and occurs in quartz and sulphide veinlets as fracture coatings and in shear veins with pyrite, pyrrhotite and minor amounts of scheelite. The best copper values obtained, up to 1.3 per cent, were from vein and dump samples mainly from old workings on the west side of Erie Creek (Drum Lummon, Cooper King, Dora, Homestake). Pyrite and pyrrhotite, in an area about 1.5 by 2.5 kilometres, occur finely disseminated and as fracture coatings. Sphalerite and galena with some gold occur in shear veins beyond the inner zone, such as the Arnold and Ben Hassen showings.

Slate, near the contact with granodiorite, hosts pyrite, galena and minor chalcopyrite. The mineralization occurs as disseminations and stringers in a zone 4 to 5 metres wide. In 1987, sphalerite and galena were found in shear veins on the Ben Hassen Reverted Crown Grant. Quartz vein material with galena, pyrite and chalcopyrite taken from the south shaft on the claim assayed 223.9 grams per tonne silver and 1.68 grams per tonne gold (Assessment Report 15510). A sample from a 2.0-centimetre wide quartz vein from the north shaft assayed 259.8 grams per tonne silver and 0.305 gram per tonne gold (Assessment Report 15510).

The mineralization is believed to be part of a zoned porphyry type deposit which has a central quartz vein stockwork zone containing molybdenum-copper-tungsten mineralization and a peripheral zone with veins containing copper-lead-zinc-silver mineralization. This showing is interpreted as occurring in the outer zone.

The claim is located at the 1524 metre elevation about 1.6 kilometres east of Erie Creek, opposite Grassy Creek, some 24 kilometres southsoutheast of Nelson.

Early work on the claim, dating from 1896 or earlier, includes a 7-metre shaft and 3-metre drift. The Ben Hassen claim (Lot 3663) was Crown-granted in 1900 to The New North Fork Mining Company, Limited. The Epoch, Titanic and Young Grouse claims (Lots 2328, 2455 and 2456 respectively) were Crown-granted in 1898 to F. Riffle. These claims are located about 1.6 kilometres south of the Ben Hassen on the east side of Young Grouse Creek, a tributary of Burnt Creek.

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EMPR OF 1988-1; *1989-11; 1991-16
EMPR PF (Kootenay King Resources Inc., Prospectus, Sept. 16, 1987)
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GSC MEM 308
GSC OF 1195
GSC P 49-22; 52-13
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/23

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW301**

NATIONAL MINERAL INVENTORY: 082F6 Cu4

NAME(S): **ARNOLD (L.4079)**, JUNE 3

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 58 N
LONGITUDE: 117 24 04 W
ELEVATION: 1402 Metres

NORTHING: 5458969
EASTING: 470828

LOCATION ACCURACY: Within 500M

COMMENTS: Workings near the centre of Lot 4079 on the west slope of Erie Creek (Assessment Report 18478).

COMMODITIES: Silver Gold Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Sphalerite

ASSOCIATED: Quartz

COMMENTS: There is a "zone" of altered volcanics.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Porphyry
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>
Lower Jurassic	Rossland	Elise	
Lower Jurassic	Rossland	Archibald	
Jurassic			Nelson Intrusions

LITHOLOGY: Altered Volcanic
Granodiorite
Quartz Monzonite
Hornfels
Siltstone
Argillite
Augite Porphyry
Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1987

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

67.3000

Grams per tonne

Gold

0.0320

Grams per tonne

COMMENTS: Sample from a quartz vein.

REFERENCE: Assessment Report 15510.

CAPSULE GEOLOGY

The Arnold showing is located on the west side of Erie Creek, about 13 kilometres west of Ymir. This showing, along with the Copper King (082FSW213), the Ben Hassen (082FSW300) and the Hattie (082FSW226) showings, occur on the Erie Creek property.

The area is underlain by sediments of the Archibald Formation and minor volcanics of the Elise Formation, both of the Lower Jurassic Rossland Group. The Rossland Group rocks are intruded by granodiorite and quartz monzonite of the Middle to Late Jurassic Nelson Intrusions, locally known as the Erie stock. The Erie stock is comprised of a light grey quartz monzonite with associated aplitic and feldspar porphyry dykes. Biotite hornfels is apparently a contact metamorphic effect related to both the Nelson batholith and the Erie Creek dyke swarm. Hornfels is mainly developed in argillite and siltstone. Chlorite occurs mainly on fractures and in shear veins in augite andesite and hornfels.

Mineralization on the property occurs roughly in four concentric

CAPSULE GEOLOGY

zones. An inner quartz-molybdenum plus scheelite zone followed by a chalcopyrite zone, a pyrite-pyrrhotite zone and an outer sphalerite-galena zone. The inner zone is approximately 600 metres in diameter and is centered on the east side of Erie Creek (Hattie). The host rocks are quartz monzonite dykes, stocks and white rhyolite. The chalcopyrite zone occurs over an area of 1.5 to 2 kilometres and occurs in quartz and sulphide veinlets as fracture coatings and in shear veins with pyrite, pyrrhotite and minor amounts of scheelite. The best copper values obtained, up to 1.3 per cent, were from vein and dump samples mainly from old workings on the west side of Erie Creek (Drum Lummon, Cooper King, Dora, Homestake). Pyrite and pyrrhotite, in an area about 1.5 by 2.5 kilometres, occur finely disseminated and as fracture coatings. Sphalerite and galena with some gold occur in shear veins beyond the inner zone, such as the Arnold and Ben Hassen showings.

Cominco drilled several holes in this area in 1926-1927. Old reports document galena, pyrite, sphalerite and chalcopyrite in a poorly defined "zone" of altered volcanics. In 1987, sphalerite and galena were found in shear veins on the Arnold Reverted Crown Grant. Two samples from a quartz vein in an old adit at elevation 1402 metres assayed 41.4 grams per tonne silver, 0.049 grams per tonne gold and 67.3 grams per tonne silver, 0.032 grams per tonne gold, respectively (Assessment Report 15510).

The mineralization is believed to be part of a zoned porphyry type deposit which has a central quartz vein stockwork zone containing molybdenum-copper-tungsten mineralization and a peripheral zone with veins containing copper-lead-zinc-silver mineralization. This showing is interpreted as occurring in the outer zone.

The Arnold claim is located at the 1371.6 metres elevation on the west side of Erie Creek some 22.5 kilometres south-southwest of Nelson. An early settlement about 3.2 kilometres to the south was known as Craigtown or Green City.

Workings on the Arnold claim in 1896 included a 7.6 metre shaft and 16 metres drift. The claim was Crown-granted (Lot 4079) to W.A. Arnold in 1902.

The Arnold and adjacent Gracie R, Rosebud Fr. and Arnold Fr. claims were owned from about 1920 by W. Connolly. The Consolidated Mining and Smelting Company of Canada Limited optioned the property and carried out diamond drilling in 1926-27 on the Arnold and Gracie R claims, and on the St. Louis (Lot 12176) about 1.6 kilometres to the south. The drilling indicated wide zones of mineralization but failed to locate commercial ore.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
EMPR PF (In 82FSW300: Kootenay King Resources Inc., Prospectus Sept. 16, 1987)
GSC MEM 308
GSC OF 1195
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EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/05/23

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW302**

NATIONAL MINERAL INVENTORY:

NAME(S): **RHEA, REAH OGG,**
TETRAHEDRITE/EXTENSION, O.G.G. 1-7, DAVENPORT,
MOLINE, MURRAY, HIAWATHA

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W

UTM ZONE: 11 (NAD 83)

BC MAP:
LATITUDE: 49 23 22 N
LONGITUDE: 117 23 02 W
ELEVATION: 1981 Metres

NORTHING: 5470821
EASTING: 472141

LOCATION ACCURACY: Within 500M
COMMENTS: Rhea vein on O.G.G. 1 claim (Assessment Report 18741).

COMMODITIES: Gold Silver Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Tetrahedrite Arsenopyrite Pyrrhotite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Sheared
DIMENSION: 300 x 1 Metres STRIKE/DIP: 047/76E TREND/PLUNGE:
COMMENTS: Rhea vein.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Tuff
Plagioclase Crystal Tuff
Lapilli Tuff
Granodiorite
Quartz Monzonite
Aplite Dike
Volcanic

HOSTROCK COMMENTS: Unit Je8, Je8x and Je8l of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Grab
COMMODITY
Silver 25.3700 Grams per tonne
Gold 1.3700 Grams per tonne
COMMENTS: Rhea vein, sample 3337B.
REFERENCE: Assessment Report 14280.

CAPSULE GEOLOGY

The Rhea (or Reah) showings are located in the Copper Mountain Lookout area, 13 kilometres southwest of Nelson. The earliest known work was done before the 1920's.

The area is underlain by volcanic rocks of the Lower Jurassic Elise Formation, Rossland Group which have been intruded by granodiorite to quartz monzonite of the Middle to Late Jurassic Nelson Intrusions. The Red Mountain fault occurs to the east of the claims area. The volcanic rocks comprise tuffs, plagioclase crystal tuffs, lapilli tuffs and andesite tuffs. The volcanic stratigraphy is intruded by aplite dykes and small stocks.

Several quartz veins occur conformable to the local foliation on

CAPSULE GEOLOGY

the southwestern flank of Copper Mountain. The white quartz veins have been sheared and host erratic metal values. Mineralization consists of pyrite, pyrrhotite, tetrahedrite, chalcopyrite, malachite and arsenopyrite.

The Rhea vein, in a strong vertical shear, is 0.3 to 1.5 metres wide and has been traced for 300 metres. It strikes 47 degrees and dips 76 degrees east. Reported gold values vary from trace to about 1.6 grams per tonne with equally low and erratic base metal values. A sample of high grade material taken from the dump assayed 9939.0 grams per tonne silver, 2.48 per cent copper, 0.15 per cent lead and 0.28 per cent zinc (Assessment Report 12720). Sampling of the vein itself in 1985 resulted in a best assay of 1.37 grams per tonne gold and 25.37 grams per tonne silver (Assessment Report 14280).

The Tetrahedrite or Extension vein, just to the south of the Rhea, is similar in mineralization and trend. This vein, however, dips 40 to 50 degrees east. It has been exposed for 50 metres. The highest assay was 16.45 grams per tonne gold, 1585.8 grams per tonne silver, 0.2 per cent copper, 0.78 per cent lead and 0.04 per cent zinc (Assessment Report 14280).

The O.G.G. vein outcrops about 800 metres to the north and east of the Rhea vein and is parallel to it.

BIBLIOGRAPHY

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 52-13A; 1090A; 1144A, 1517A
GSC MEM 308
GSC OF 1195
GSC P 49-22; 52-13
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/03/28

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW303**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROOT, TRUE FISSURE, ROOT 1-4,
CONNERS GOLD**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 24 35 N
LONGITUDE: 117 28 42 W
ELEVATION: 1420 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Adits (Assessment Report 12142).

Underground
MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5473114
EASTING: 465301

COMMODITIES: Gold Silver Lead Zinc Copper
Cobalt Nickel

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Arsenopyrite Galena
Sphalerite
ALTERATION: Silica Chlorite
ALTERATION TYPE: Silicific'n Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stratabound Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 111 x 6 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Main Root showing.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Ymir Unnamed/Unknown Formation Nelson Intrusions
Jurassic

LITHOLOGY: Limestone
Argillite
Siltstone
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Contact
PHYSIOGRAPHIC AREA: Selkirk Mountains
Plutonic Rocks
RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1984
SAMPLE TYPE: Drill Core
COMMODITY Gold GRADE 12.4500 Grams per tonne
COMMENTS: The sample width is 10 centimetres. No other metals were assayed for.
Drill hole 84-4.
REFERENCE: Assessment Report 12937.

CAPSULE GEOLOGY

The Root showing is located 15 kilometres southwest of Nelson. Old workings comprise a shaft, several shallow trenches and some short adits.

The area is underlain by argillite, siltstone and limestone of the Lower Jurassic Ymir Group which have been intruded by granodiorite of the Late to Middle Jurassic Nelson Intrusions near the Bonnington pluton.

The main Root showing appears stratabound on a large scale but locally there is evidence of crosscutting relationships and brecciation within the chloritic and silicified sediments. Mineralization is in the form of bands of semi-massive and massive pyrite, pyrrhotite, chalcopyrite and arsenopyrite intercalated with silicified sediments containing disseminated sulphides. The main showing is 3 to 6 metres wide and 111 metres long. The close spatial relationship of pyrite bearing granodiorite is observed at every mineralized outcrop on the Root property.

CAPSULE GEOLOGY

The True Fissure is a fissure vein, hosted in schist, on the same property. The nearly vertical vein exposed on surface is a nearly continuous streak of ore material for 30 metres. Mineralization consists of galena and sphalerite. A sample across 0.06 metre on the surface assayed 4.11 grams per tonne gold, 6982.84 grams per tonne silver, 15.3 per cent lead and 32 per cent zinc (Minister of Mines Annual Report 1927, page 318). In 1927, 23.6 tonnes of ore were shipped but the grade is not recorded. Some skarn material was observed in old drill core but the actual location of the drill holes is not recorded.

The highest assay from drilling in 1984 came from drill hole 84-4 which intersected chloritic silicified limestone with minor intersections of porphyritic intrusive and graphitic schist. Mineralization was observed as zones of disseminated to massive pyrite, pyrrhotite and chalcopyrite in silicified limestone and disseminated pyrrhotite and pyrite within chloritic limestone. The highest assay of 12.45 grams per tonne gold was from an intersection of 0.10 metre (Assessment Report 12937).

Eagle Plains Resources Ltd. and Miner River Resources Ltd. hold the property. Samples from road cuts returned values up to 5.7 per cent zinc, 1 per cent lead, 0.3 per cent copper, 0.35 per cent cobalt, 0.09 per cent nickel and 0.5 grams per tonne gold (Eagle Plains Resources Ltd. Website, February, 1999).

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EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A
GSC MEM 191; 308
GSC OF 1195
GSC P 49-22; 52-13
GCNL #57, #130, 1984; #198, 1985
IPDM Mar/Apr, 1984
V STOCKWATCH Nov. 30, 1987
WWW <http://www.eagleplains.bc.ca/bc.htm>; <http://www.infomine.com/>
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
EMPR BULL 109

DATE CODED: 1985/07/24
DATE REVISED: 1991/06/07

CODED BY: GSB
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW304**

NATIONAL MINERAL INVENTORY:

NAME(S): **LASCA 1**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 27 55 N
LONGITUDE: 117 03 08 W
ELEVATION: 1900 Metres

NORTHING: 5479182
EASTING: 496216

LOCATION ACCURACY: Within 500M

COMMENTS: Vein number 1 (Assessment Report 12940).

COMMODITIES: Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Galena Sphalerite

COMMENTS: Minor galena and rare sphalerite.

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION: 390 x 1 Metres

STRIKE/DIP: 146/53E

TREND/PLUNGE:

COMMENTS: Vein number 1.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Lower Jurassic
Lower Cambrian
Jurassic

GROUP

Ymir
Unnamed/Unknown Group

FORMATION

Undefined Formation
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Quartzite
Para Gneiss
Hornblende Granodiorite
Argillite
Siltstone

HOSTROCK COMMENTS: Roof pendants of Ymir Group and Lower Cambrian sediments occur in the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Lasca 1 showing is located near the headwaters of Lasca Creek, 15 kilometres east of Nelson. Several trenches and adits have been developed on this showing.

The area is underlain by porphyritic hornblende granodiorite of the Nelson batholith of the Late to Middle Jurassic Nelson Intrusions. Small rafts and roof pendants consisting of Lower Jurassic Ymir Group and Lower Cambrian metamorphosed sediments occur in the batholith.

The Lasca number 1 vein is hosted in micaceous quartzites and paragneiss. The vein, 1 to 1.5 metres wide, strikes 146 to 150 degrees, dips 40 to 53 degrees north and has been traced for 390 metres. Mineralization consists of pyrite, pyrrhotite, some galena and rare sphalerite within a quartz gangue. Base and precious metal values from sampling are very low.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 52-13A; 1090A; 1144A
GSC MEM 308
GSC OF 1195
GSC P 49-22; 52-13

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1634
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 109

DATE CODED: 1986/12/04
DATE REVISED: 1991/06/07

CODED BY: BG
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW305**

NATIONAL MINERAL INVENTORY:

NAME(S): **ASPEN SHOWING**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 10 20 N
LONGITUDE: 117 11 09 W
ELEVATION: 1250 Metres

NORTHING: 5446618
EASTING: 486455

LOCATION ACCURACY: Within 500M

COMMENTS: East of Aspen Creek and south of old Aspen Crown Grants.

COMMODITIES: Lead Zinc Silver Gold

MINERALS

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

DEPOSIT

CHARACTER: Shear Disseminated Massive
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: J01 Polymetallic manto Ag-Pb-Zn
DIMENSION: 180 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Mineralized zone.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Ordovician Undefined Group Active

LITHOLOGY: Argillite
Limestone

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1984
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 272.0000 Grams per tonne
Gold 1.2900 Grams per tonne
Lead 6.7000 Per cent
Zinc 7.4000 Per cent

COMMENTS: Highest assay values.
REFERENCE: Assessment Report 12985.

CAPSULE GEOLOGY

Grab samples from silicified shear zones in Lower to Middle Ordovician Active Formation argillites were collected from a series of old trenches on the Aspen showing. Sulphide mineralization ranges from disseminated to massive and consists of galena, sphalerite and pyrite. Limonite staining is common. The length of the zone of mineralization is reported to be 180 metres.

Samples assayed as high as 6.7 per cent lead, 7.4 per cent zinc, 272 grams silver and 1.29 grams gold (Assessment Report 12985).

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EMPR BULL 41
EMPR EXPL 1984-36
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43
EMPR OF 1988-1; 1989-11
GSC MAP 299A; 1090A; 1145A
GSC MEM 172; 308
GSC OF 1195
GSC P 49-22; 50-19; 52-13
GCNL #210, 1983

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1636
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 109

DATE CODED: 1986/07/08
DATE REVISED: 1991/03/17

CODED BY: BG
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

CAPSULE GEOLOGY

At one location a 1-metre wide quartz-clay-lithic breccia sulphide vein is exposed in a trench. It is hosted in a shear trending 168 degrees and dipping 72 degrees north within silicified, variably gossanous andesite. Pyrite, chalcopyrite, galena and sphalerite occur in stringers parallel to the veins margins, as well as isolated blebs and disseminations. A 0.5-metre chip sample (SRR-030) assayed 1.59 grams per tonne gold, 4.9 grams per tonne silver, 0.34 per cent copper, 0.33 per cent lead and 0.14 per cent zinc (Property File - Uptown Industries Corp., Prospectus, May 9, 1989, page 14).

Similar mineralization to the previous sample is exposed along five metres in andesite outcrop located about 700 metres to the northwest. An exposure of quartz-feldspar porphyry is found 10 metres south of this area. A 1-metre chip sample (SRR-036) of the porphyry assayed 0.122 per cent tungsten (Property File - Uptown Industries Corp., Prospectus, May 9, 1989, page 14). About 1.5 kilometres to the northwest on Santa Rosa Creek, about 200 metres upstream from the Swehaw Creek confluence, is another tungsten showing. A zone of pyritized and silicified pods occur, up to 10 cubic centimetres in volume. These zones are hosted by andesite that is cut by granitoid dykes. A grab sample (SRR-101) assayed 0.178 per cent tungsten (Property File - Uptown Industries Corp., Prospectus, May 9, 1989, page 15).

In 1943, Cominco was reported to have prospected a tungsten property located west of Big Sheep Creek about 1.5 kilometres south of the Cascade highway (Minister of Mines Annual Report 1943, page 79). Twenty three metres of trenching was done near an igneous contact that apparently hosted minor disseminated scheelite.

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1990, pp. 9-31
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EMPR PF (*Uptown Industries Corp., Prospectus, May 9, 1989)
GSC EC GEOL #17, p. 98
GSC MAP 1090A; 1504A
GSC P 79-26
EMPR BULL 109

DATE CODED: 1987/10/14
DATE REVISED: 1991/05/29

CODED BY: LLC
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW307**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOST CREEK, IMASCO**

STATUS: Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 54 N
LONGITUDE: 117 14 31 W
ELEVATION: 884 Metres

NORTHING: 5436563
EASTING: 482333

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on portal of adit (Industrial Mineral File - Z.D. Hora).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Carbonate

MINERALIZATION AGE: Lower Cambrian

DEPOSIT

CHARACTER: Stratabound
CLASSIFICATION: Sedimentary
TYPE: R09 Limestone
SHAPE: Tabular
MODIFIER: Folded

Massive
Industrial Min.

DIMENSION:
COMMENTS: Limestone unit

STRIKE/DIP: 060/45S

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	

DATING METHOD: Fossil
MATERIAL DATED: Archaeocyathids

LITHOLOGY: Limestone

HOSTROCK COMMENTS: The Reeves Member (Laib Formation) is correlative with the Lower Cambrian Badshot Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: LOST CREEK

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1985

SAMPLE TYPE: Grab

COMMODITY

GRADE

Limestone

52.8000

Per cent

COMMENTS: Grade given for calcium oxide. Brightness is 94.85 per cent.

REFERENCE: Fieldwork 1985, page 240.

CAPSULE GEOLOGY

Limestone is mined underground on the north side of Lost Creek, 2.85 kilometres northeast of its confluence with the South Salmo River.

The mine is developed in limestone of the Reeves Member of the Lower Cambrian Laib Formation. The unit strikes 060 degrees and dips 45 degrees southeast.

The deposit consists mostly of massive, sugary textured, fine-grained (1 millimetre), white limestone mottled in places with a slight yellow colour. Zones of light to dark grey banded limestone, occasionally with rusty streaks, were encountered in the mine. A sample of fresh fragments contained 52.8 per cent CaO, 0.82 per cent MgO, 1.31 per cent SiO₂, 1.29 per cent Al₂O₃, 0.15 per cent Fe₂O₃, 0.055 per cent MnO, 0.02 per cent TiO₂ and 43.25 per cent ignition loss (Geological Fieldwork 1985, page 240). The ground limestone is reported to have a brightness of 94.85 per cent.

Limestone has been mined here by International Marble & Stone Company since late 1983 after abandoning the quarry on Swift Creek (082FSW215). Between 1984 and 1987, 26,379 tonnes of limestone were mined by IMASCO. The limestone is trucked to Sirdar where it is

CAPSULE GEOLOGY

crushed and ground for a variety of products, including filler applications.

BIBLIOGRAPHY

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EMPR EXPL 1985-A48; 1996-A13; 1997-51
EMPR FIELDWORK *1985, p. 240
EMPR INF CIRC 1995-1, p. 9; 1996-1, p. 9; 1997-1, p. 12;
1998-1, p. 13
EMPR MAP 65 (1989)
EMPR MINING 1981-1985, p. 62; 1986-1987 p. 90; 1988 p. 90
EMPR OF 1992-1; 1992-9; 1994-1
EMPR PF (Hora, Z.D. (1985): Field notes)
GSC MAP 3-1956A; 299A; 1090A; 1145A
GSC MEM 308, pp. 30-35
GSC OF 481; 1195, pp. 6,7
EMPR BULL 109

DATE CODED: 1986/03/14
DATE REVISED: 1991/02/22

CODED BY: ZDH
REVISED BY: PSF

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **082FSW308**

NATIONAL MINERAL INVENTORY:

NAME(S): **FLYING DUTCHMAN (L.5146)**, RAINBOW HILL, PHOEBUS (L.5147),
GOLD COINAGE, ACTINOLITE 6

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 23 36 N
LONGITUDE: 117 18 25 W
ELEVATION: 1700 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Sample HTR12A at the southwest corner of Lot 5146 (Assessment Report 18939).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5471228
EASTING: 477727

COMMODITIES: Gold Silver Copper Lead

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite Galena Bornite Gold
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION:
COMMENTS: Strike varies from 10 to 50 degrees, dip 65 to 75 degrees. STRIKE/DIP: 010/70W TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions

LITHOLOGY: Augite Porphyry
Granite
Augite Basalt Flow
Flow Breccia
Andesite

HOSTROCK COMMENTS: Unit Je1 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
Plutonic Rocks
RELATIONSHIP: Post-mineralization GRADE:

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1989
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 1.8000 Grams per tonne
Gold 0.2200 Grams per tonne
Copper 0.2300 Per cent
COMMENTS: Sample of quartz veining and stockwork containing disseminated pyrite and chalcopyrite.
REFERENCE: Assessment Report 18939.

CAPSULE GEOLOGY

The Flying Dutchman is located on the northern side of Hall Creek, about 12 kilometres southwest of Nelson. Development in the 1800's included a 10.7-metre drift at the 1541.2-metre level and a 36.58-metre drift at the 1524.3-metre level. The area is underlain by augite basalt flows and flow breccias of the Lower Jurassic Elise Formation, Rossland Group. These have been intruded by granitic rocks of the Middle to Late Jurassic Nelson Intrusions. Quartz veins, up to 4 metres wide, occur in shear zones in augite porphyry. The Flying Dutchman vein is about 1 metre (?) in width and hosts erratic gold values. The vein strikes between 010 and 050 degrees and dips between 65 and 75 degrees. Mineralization, similar to other showings in the area (such as H.B. - 082FSW181), consists of quartz gangue hosting pyrite, chalcopyrite, free gold,

CAPSULE GEOLOGY

bornite and traces of galena. Pyrite is the dominant sulphide and mineralization is reported to be strongest on the hanging wall side of the vein. Sampling of the vein on the No. 2 level workings resulted in assays ranging from trace to 13.7 grams per tonne gold across 0.45 to 1.46 metres (Minister of Mines Annual Report 1934, page E5).

A sample ((HTR12A)) of quartz veining and stockwork with disseminated pyrite and chalcopyrite in fine-grained andesite (basalt ?) was taken from the southwest corner of Lot 5146. The sample assayed 0.22 grams per tonne gold, 1.8 grams per tonne silver and 0.23 per cent copper (Assessment Report 18939).

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
EMPR PF (VSE Registration Statement, Liberty-Lorne Gold Mines Ltd., 1933; Brown, T. (1935): Interim Report on Flying Dutchman and H.B. Groups, see also Map and Statement of Material Facts; Liberty-Lorne Gold Mines Ltd., Prospectus, 1933, 1936, 1938; Map of workings on Flying Dutchman; Starr, C.C. (1934): Report on the Flying Dutchman and H.B. Groups, 7 p.; H.B. and Flying Dutchman Groups, location sketch showing workings, 1934)
GSC MAP 52-13A; 1090A; 1091A
GSC MEM 94; 172; 191; 308
GSC OF 1195
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
EMPR BULL 109

DATE CODED: 1986/07/09
DATE REVISED: 1991/04/08

CODED BY: BG
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW309**

NATIONAL MINERAL INVENTORY:

NAME(S): **STAR OF THE WEST (L.1311)**, NEW BICYCLE, TEE,
MAS, COT, STAR OF THE EAST (L.1312)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 26 31 N
LONGITUDE: 117 17 09 W
ELEVATION: 1465 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Centre of Crown Grant Lot 1311 (Assessment Report 14064).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5476626
EASTING: 479279

COMMODITIES: Silver Lead Zinc Gold

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite
ASSOCIATED: Quartz Magnetite
ALTERATION: Limonite Chlorite
ALTERATION TYPE: Oxidation Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Stratabound Massive
CLASSIFICATION: Epithermal Epigenetic Hydrothermal
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION:
COMMENTS: Attitude of sheared tuffs hosting mineralized stringers up to 1 centi-
metre wide. STRIKE/DIP: 140/55W TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Altered Tuff
Augite Porphyry
Augite Basalt Flow
Flow Breccia
Plagioclase Crystal Tuff
Agglomerate
Granodiorite
Quartz Monzonite

HOSTROCK COMMENTS: Units Je4 and Je8x in the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1985
SAMPLE TYPE: Grab
COMMODITY GRADE
Silver 96.8000 Grams per tonne
Gold 0.1250 Grams per tonne
Lead 2.6800 Per cent
Zinc 3.6300 Per cent

COMMENTS: Sampling from a 4 metre trench at the Main showing on Lot 1311.
REFERENCE: Assessment Report 14064.

CAPSULE GEOLOGY

The Star of the West showing is located 5 kilometres south of Nelson on Lot 1311. The claim was Crown Granted in 1897 and workings comprise a 6-metre long adit, a 4-metre trench and a few small pits.

The area is underlain by volcanic rocks of the Lower Jurassic Elise Formation, Rossland Group which have been intruded by granodiorite and quartz monzonite of the Middle to late Jurassic Nelson Intrusions. The volcanic rocks comprise augite porphyry, augite porphyry basalt flows, flow breccias and plagioclase crystal tuffs.

The New Bicycle or main showing consists of slightly

CAPSULE GEOLOGY

crosscutting pyrite-galena-sphalerite-magnetite veins or stringers hosted by dark green, sheared, chloritized tuffs. The tuffs strike 140 degrees and dip 50 to 60 degrees northwest.

The veins or stringers are up to 1 centimetre wide and locally contain massive, fine-grained quartz or massive fine-grained pyrite with some limonite staining. The veins appear stratabound locally but are accompanied by anomalous geochemical values for mercury which may indicate an epithermal environment. The veins carry insignificant gold and low amounts of silver. Grab samples from the 4-metre trench at the main showing assayed up to 3.63 per cent zinc and 2.68 per cent lead with up to 96.8 grams per tonne silver and 0.125 grams per tonne gold (Assessment Report 14064).

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EMPR ASS RPT *14064, 15074, *15573, 15606
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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 52-13A; 1090A; 1571A
GSC MEM 308
GSC OF 1195
GSC P 49-22; 52-13
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EMPR BULL 109

DATE CODED: 1986/07/10
DATE REVISED: 1991/03/29

CODED BY: BG
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW310**

NATIONAL MINERAL INVENTORY: 082F3 Zn1

NAME(S): **EMERALD**, IRON MOUNTAIN, JERSEY

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 06 30 N
LONGITUDE: 117 13 19 W

NORTHING: 5439523
EASTING: 483802

ELEVATION: 1342 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: The Emerald lead zinc mine is located on the southern flank of Iron Mountain about 800 metres north of the Jersey mine (082FSW009), (Bulletin 41, Figure 9). The production appears to be that which is recorded under the Jersey mine for the period of 1906 to 1925, inclusive.

COMMODITIES: Lead Silver Zinc Molybdenum

MINERALS

SIGNIFICANT: Sphalerite Galena Pyrite Pyrrhotite Molybdenite
ASSOCIATED: Calcite
ALTERATION: Dolomite
ALTERATION TYPE: Carbonate
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratabound Massive Disseminated
CLASSIFICATION: Sedimentary Exhalative Skarn
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag K05 W skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian Undefined Group Laib

LITHOLOGY: Limestone
Dolomite
Skarn

HOSTROCK COMMENTS: Mineralization occurs in dolomitized limestone of the Reeves Member, which is correlative with the Badshot Formation.

GEOLOGICAL SETTING

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

CAPSULE GEOLOGY

This property lies on the summit between Sheep & Lost Creeks, about 11.2 kilometres southeast of Salmo. Although the Emerald has in recent years been a tungsten producer (082FSW010), its early history as a lead-zinc producer is mentioned here because the Jersey (082FSW009) workings were later extended into Emerald ground and production figures for the two have not been recorded separately.

Production of lead-zinc ore from the Emerald was begun in 1906 by the owner, J. Waldbesen. In 1917 Iron Mountain Ltd. was formed to operate the mine and a 23 tonne mill was put into operation. The Emerald was a small but steady producer of lead-zinc ore from 1906 to 1925.

A small amount of shallow development work was done on the Jersey claim (082FSW009) from 1916 to 1919 and some ore was shipped, however the main ore deposit was not discovered at this time.

Canadian Exploration Ltd., while operating the Emerald tungsten mine, carried out an extensive diamond drilling program on the Jersey during 1948 and a large tonnage of lead-zinc ore was outlined. During 1948-49 the Emerald tungsten operation was closed down and the mill, beside the Nelson-Nelway Highway, was converted to a lead-zinc operation and production from the Jersey began in March 1949. The mine has operated continuously since that time, development work being done on all seven ore zones. Track mining has been used in A, C, and D zones and trackless mining in A, D, E, F, and G zones. The A zone has been developed from the south end of the Jersey zone to a point north of the Emerald, a distance of 1524 metres.

Ore reserves as of April 1, 1965 are reported at 671,075 tonnes grading 1.2 per cent lead and 4.1 per cent zinc.

The Emerald lead-zinc ores are similar in nature to the HB deposits (082FSW004) except that lead predominates. Galena

CAPSULE GEOLOGY

runs over 40 per cent with about 6 per cent zinc and 50 grams of silver. There is evidence to suggest the Emerald ores are controlled more by flat shears than vertical ones.

The galena-sphalerite-pyrite-pyrrhotite ores occur in several parallel zones and are characterized by their banded nature. They are hosted by dolomitized Reeves Member limestones of the Lower Cambrian Laib Formation.

Skarn with minor molybdenum was noted during underground development in 1915. Records indicate that over 50,000 tonnes of ore were shipped between 1906 and 1925 but details are not available. However, the production data, as recorded for the adjacent Jersey mine (082FSW009), indicates a distinct period of production during the 1906 to 1925 period in which 25,850 tonnes of ore were mined and 705,292 grams of silver, 6,788,936 kilograms of lead and 19,771 kilograms of zinc were recovered.

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GSC EC GEOL Vol. 49, 1954, pp. 625,638
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GSC OF 1195
GSC P 50-19
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W MINER Feb. 1979
WWW http://www.infomine.com/index/properties/JERSEY_EMERALD_MINE.html
EMPR OF 2000-22
EMPR BULL 109

DATE CODED: 1986/07/08
DATE REVISED: 1991/02/20

CODED BY: BG
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW311**

NATIONAL MINERAL INVENTORY: 082F6 W1

NAME(S): **ARROW TUNGSTEN**, STEWART 13, STEWART 2,
STEWART, SCHEELITE, ARROW

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 17 40 N
LONGITUDE: 117 16 00 W
ELEVATION: 1400 Metres

NORTHING: 5460223
EASTING: 480611

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of the adit on the north side of Stewart Creek
(Assessment Report 12251).

COMMODITIES: Tungsten Molybdenum Zinc Copper Lead

MINERALS

SIGNIFICANT: Scheelite Molybdenite Sphalerite Chalcopyrite Galena
ALTERATION: Diopside Garnet
ALTERATION TYPE: Skarn Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Layered
CLASSIFICATION: Skarn
TYPE: K05 W skarn K02 Pb-Zn skarn
SHAPE: Irregular
MODIFIER: Folded Faulted
DIMENSION: 150 x 2 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: The northern section of the best mineralization is 150 metres long and
up to 2.5 metres wide.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Rosslund Hall Nelson Intrusions
Jurassic

LITHOLOGY: Argillite
Siltstone
Sandstone
Conglomerate
Limestone
Skarn
Garnet Diopside Skarn
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel Plutonic Rocks
METAMORPHIC TYPE: Contact RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: TRENCHES REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1980
SAMPLE TYPE: Chip
COMMODITY GRADE
Tungsten 0.5000 Per cent

COMMENTS: Commodity is Wo3. Sampling of 3 ore shoots with an aggregate length
of 188 metres, across an average of 1.6 metres.
REFERENCE: National Mineral Inventory Card 082F6 W1.

CAPSULE GEOLOGY

The property is located at approximately 1524 metres elevation on the south side of Stewart Creek 3.2 kilometres west-northwest of Ymir.

Early work on the showings, for which there is no record, included a 7-metre adit. Drysdale, 1917 (GSC Memoir 94) reported molybdenum on a claim towards the headwaters of Stewart Creek.

The Stewart group of 8 claims and the Stewart No. 2 group of 13 claims were staked in 1942 by E.P. Harkedahl, O.P. Anderson, and E. Emilson of Ymir. Premier Gold Mining Company, Limited optioned the property in July of that year. Work by the company included

CAPSULE GEOLOGY

prospecting, stripping, trenching, reopening the old adit, and sampling. The option was given up in November of that year.

The Consolidated Mining and Smelting Company of Canada Limited optioned the property in 1943 and sampled the showings. A bulk sample was taken for a mill test. The option was dropped in July of that year.

The showings were restaked by Harkedahl and associates in about 1948 as the Scheelite and Scheelite 2-6 claims and the adjacent N.H. group of 8 claims. The 14 claims were optioned to K.J. Springer and associates who incorporated Arrow Tungsten Mines Limited in March 1951 to acquire the property. Mineralization in trenched zones A, B and C was estimated at 330 tons per vertical foot averaging 0.50% WO₃. If this continued down dip for 61 metres the probable reserve would be 66,000 tons (DM Cannon 5/04/51 in Arrow Tungsten Mines Limited Prospectus 30/04/51). The company drove an adit southerly for 140 metres. At 58 metres from the portal a raise was driven 27 metres to old surface workings. Diamond drilling at right angles to the adit was done in 3 holes to the east and 7 to the west. Only spotty scheelite and powellite was found in the narrow skarn band which the adit followed for 62 metres when it became indistinguishable. No mineralization was reported encountered by the diamond drilling. Work ceased in March 1952.

The property was held in 1978 as the Stewart 1-4 claims (66 units) by Eric and Jack Denny, of Nelson. A geochemical soil and silt survey was carried out over Stewart 1-3.

The Arrow Tungsten occurrence is located on the north side of Stewart Creek, 3.2 kilometres west-northwest of Ymir. The claims were staked in 1942, but an adit was already present on the property at that time. The occurrence is immediately north of the Phase II Breccia zone of the Stewart 2 (082FSW229) occurrence.

The area is underlain by siltstone, sandstone, conglomerate, argillite and minor limestone units of the Lower Jurassic Hall Formation, Rossland Group. Granitic rocks of the Early to Middle Jurassic Nelson Intrusions outcrop in the area. The area is situated on the eastern limb on the Hall Creek syncline and just north of the Stewart Creek fault.

Fine-grained disseminated scheelite mineralization occurs in skarn bands interbedded with argillite and other sediments. The skarn predominantly comprises diopside with locally abundant garnet. Mineralization also includes minor sphalerite, trace molybdenite and rare chalcopyrite and galena. The mineralization may occur across the entire band or as one or more bands within it.

The skarn averages about 1.5 metres in width but is developed erratically along a north trend, conformable to the regional stratigraphy, on the northwest margin of the intrusive complex that hosts the Stewart 2 occurrence. The best section is about 150 metres long and occurs 45 metres south of the adit. The northern part of this section is a skarn band 1 to 3 metres wide hosting mineralization across an average width of 1 metre. The southern portion is a skarn band 0.60 to 5 metres wide.

Tungsten values vary widely from 0.05 per cent to 0.5 per cent WO₃ with local highs up to two and three per cent. In 1951, mineralization in trenched zones (A,B,C) was estimated at 297 tonnes per vertical foot averaging 0.50 per cent Wo₃, but subsequent drilling failed to prove up these reserves. Drilling in 1980 (DDH 80-3) resulted in a sample that assayed 0.036 per cent Wo₃ across 57 metres (Assessment Report 12251). Sampling indicates 3 ore shoots with an aggregate length of 188 metres and an average grade of 0.50 per cent Wo₃ across 2 metres (National Mineral Inventory card 082F6 W1).

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GSC OF 1195
GSC P 49-22; 50-19; 52-13
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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1649
REPORT: RGEN0100

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WWW http://www.infomine.com/index/properties/STEWART-_EMGOLD.html
EMPR BULL 109

DATE CODED: 1986/07/11
DATE REVISED: 1991/05/13

CODED BY: BG
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW312**

NATIONAL MINERAL INVENTORY:

NAME(S): **CARIBOU SHOWING (L.1205)**, CARIBOO

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 47 N
LONGITUDE: 117 50 32 W
ELEVATION: 1280 Metres

NORTHING: 5436660
EASTING: 438496

LOCATION ACCURACY: Within 500M

COMMENTS: Four claims on west side of Little Sheep Creek and north of Rossland-Grand Forks Highway. Showing assumed to be at the centre of old Caribou Crown Grant Lot 1205. There are numerous references to the "Cariboo" showings or variations of the name.

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

DIMENSION: Vein.
COMMENTS:

STRIKE/DIP: 072/90

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Pennsylvanian

GROUP

Undefined Group

FORMATION

Mount Roberts

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Argillite
Quartzite
Siltstone
Quartz Dioritic Dike

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1932

SAMPLE TYPE: Chip

COMMODITY

GRADE

Silver

106.2900

Grams per tonne

Gold

4.4600

Grams per tonne

COMMENTS: Sample taken across 0.46 metres.

REFERENCE: Bulletin 1, page 123.

CAPSULE GEOLOGY

Argillite, quartzite and siltstone of the Pennsylvanian (and possibly Permian) Mount Roberts Formation host a narrow quartz vein, up to 0.4 metres thick, which contains pyrite and pyrrhotite. The vein is vertically dipping and strikes 072 degrees. A zone of crushed country rock occurs on the footwall side of vein. The vein is crosscut by a quartz diorite dyke striking across the vein at right angles. Gold and silver values are generally low but selected samples grade as high as 30 grams per tonne gold and 144 grams per tonne silver (Bulletin 1, page 123). One sample taken across 0.46 metres assayed 4.46 grams per tonne gold and 106.29 grams per tonne silver (Bulletin 1, page 123). Some underground development has occurred.

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REPORT: RGEN0100

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EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
GSC MAP 1090A
GSC MEM 77; 308
GSC P 79-26
EMPR BULL 109

DATE CODED: 1986/07/23
DATE REVISED: 1991/03/27

CODED BY: BG
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW313**

NATIONAL MINERAL INVENTORY:

NAME(S): **SUMMIT (L.4229)**, EDITOR (L.5861), MOSS,
EAGLE 3

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 21 13 N
LONGITUDE: 117 09 34 W
ELEVATION: 1555 Metres

NORTHING: 5466778
EASTING: 488421

LOCATION ACCURACY: Within 500M

COMMENTS: Portal at northwest corner of Lot 4229 (Assessment Report 18205).

COMMODITIES: Lead Zinc Manganese

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Manganite Galena Sphalerite

COMMENTS: Minor values in gold and silver reported.

ASSOCIATED: Quartz Manganite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Industrial Min.

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION: 700 x 4 Metres STRIKE/DIP: 060/70N TREND/PLUNGE:

COMMENTS: Strike varies from 050 degrees to 067 degrees.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Ymir	Undefined Formation	
Jurassic			Nelson Intrusions

LITHOLOGY: Argillite
Siltstone
Limestone
Wacke
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Summit showing is located 8 kilometres northeast of Ymir. The Summit claim was originally staked in 1896. The vein has been developed by 100 metres of underground workings.

The area is underlain by metamorphosed sediments comprising argillite, siltstone, limestone and wacke of the Lower Jurassic Ymir Group. The Middle to Late Jurassic Nelson Intrusions occur to the east (Nelson batholith) and west.

The Summit vein is a milky white, vuggy quartz vein 3 to 4-metres in width exposed over 700 metres along strike. The vein, hosted in argillite, carries minor values in gold, silver, lead, and zinc as pyrite, pyrrhotite, galena, and sphalerite. Manganese oxides occur parallel to the vein walls which vary in strike from 050 to 067 degrees and dip steeply north.

Recent work indicates that the vein, which has a similar attitude, may be part of a larger vein system which includes the Pathfinder, Old Timer (082FSW081) and Elise (082FSW192) veins.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP *175A; 1090A; *1144A; 1145A
GSC MEM 94, p. 98; 308
GSC OF 1195
GSC P 52-13

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1653
REPORT: RGEN0100

BIBLIOGRAPHY

EMPR BULL 109

DATE CODED: 1986/08/05
DATE REVISED: 1991/06/07

CODED BY: BG
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW314**

NATIONAL MINERAL INVENTORY:

NAME(S): **PINGREE (L.3685)**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 26 28 N
LONGITUDE: 117 22 26 W
ELEVATION: 1550 Metres

NORTHING: 5476561
EASTING: 472895

LOCATION ACCURACY: Within 500M
COMMENTS: Location from GSC Map 62A.

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
COMMENTS: Assumed.
ASSOCIATED: Quartz
COMMENTS: Quartz contains "black iron oxides".
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 1 Metres
COMMENTS: Vein is 0.30 to 1.2 metres wide.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic	Rossland	Elise	

LITHOLOGY: Schistose Volcanic
Augite Basalt Flow
Flow Breccia
Sub Volcanic Intrusive

HOSTROCK COMMENTS: Unit Je1 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Selkirk Mountains	
TERRANE: Quesnel		
METAMORPHIC TYPE: Regional	RELATIONSHIP:	GRADE: Greenschist

CAPSULE GEOLOGY

The Pingree showing is located near the headwaters of Eagle Creek, southwest of the Eureka mine (082FSW084). A small amount of ore was reportedly removed and shipped from this showing but no record of this exists.

The area, just west of the Silver King shear zone, is underlain by schistose volcanics comprising augite basalt flows, flow breccias and subvolcanic intrusions of the Lower Jurassic Elise Formation, Rossland Group.

In 1910, an adit intersected a sulphide zone in a small quartz vein with gold and copper values. The quartz vein is 0.30 to 1.2 metres wide, contains black iron oxides and is hosted in schistose material. Subsequent work failed to trace the continuation of the vein or to find further mineralization.

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pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
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GSC OF 1195
GSC P 49-22; 52-13
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Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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PAGE: 1655
REPORT: RGEN0100

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EMPR BULL 109

DATE CODED: 1986/08/15
DATE REVISED: 1991/06/10

CODED BY: BG
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW315**

NATIONAL MINERAL INVENTORY:

NAME(S): **CASTLEGAR JUNCTION**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F05E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 19 10 N
LONGITUDE: 117 39 04 W
ELEVATION: 430 Metres

NORTHING: 5463172
EASTING: 452682

LOCATION ACCURACY: Within 1 KM

COMMENTS: Along the banks of the Columbia River in Castlegar (Energy, Mines and Petroleum Resources Bulletin 30, page 52).

COMMODITIES: Clay

MINERALS

SIGNIFICANT: Clay
MINERALIZATION AGE: Quaternary

DEPOSIT

CHARACTER: Unconsolidated
CLASSIFICATION: Residual Industrial Min.
TYPE: B06 Fireclay E07 Sedimentary kaolin

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

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

LITHOLOGY: Clay

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Castlegar Junction clay deposit is located along the banks of the Columbia River in Castlegar.

Limited deposits of silty clay occur close to river level and may have originated as either lake or glacial deposits. The material near Castlegar has apparently been used in the past for the manufacture of brick and is similar to the Nelson Clay (082FSW296) deposit.

Northwest of Castlegar along the Arrow Lakes there is a bluish grey laminated clay which outcrops at water level but is covered by thick overburden.

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EMPR BULL 109

DATE CODED: 1986/10/28
DATE REVISED: 1991/05/07

CODED BY: BG
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW316**

NATIONAL MINERAL INVENTORY:

NAME(S): **BLUEBIRD**, APEX, ENDORA,
TAMARAC

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 25 35 N
LONGITUDE: 117 11 56 W
ELEVATION: 1752 Metres

NORTHING: 5474876
EASTING: 485577

LOCATION ACCURACY: Within 1 KM

COMMENTS: Workings (Minister of Mines Annual Report 1928, page 325). Location uncertain.

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Pyrite Galena
ASSOCIATED: Quartz
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION:

STRIKE/DIP: 320/53E

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Ymir

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Granite
Argillite
Siltstone
Wacke

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1928

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver

30.9000

Grams per tonne

Gold

31.2000

Grams per tonne

COMMENTS: Across 0.30 metres.

REFERENCE: Minister of Mines Annual Report 1928, page 325.

CAPSULE GEOLOGY

The Bluebird showing is located on the summit of Evening Ridge, about 9 kilometres southeast of Nelson.

The area is underlain by granite of the Late to Middle Jurassic Nelson Intrusions (Nelson batholith) near the contact with Lower Jurassic Ymir Group sediments.

A quartz vein about 0.25 metre wide has been traced along a strike of 320 degrees in granite. The vein dips 53 degrees north and contains rusty quartz gangue with disseminations of pyrite and galena. Gold assays are variable from 2 to 30 grams per tonne over widths of 20 to 30 centimetres and silver values vary from 13 to 50 grams per tonne (Minister of Mines Annual Report 1928, page 325).

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EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300

EMPR MAP 7685G; RGS 1977; 8480G

EMPR OF 1988-1; *1989-11; 1991-16

GSC MAP 51-4A; 1090A

GSC MEM 308

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

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BIBLIOGRAPHY

GSC OF 1195
EMPR BULL 109

DATE CODED: 1986/11/03
DATE REVISED: 1991/06/10

CODED BY: BG
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW317**

NATIONAL MINERAL INVENTORY:

NAME(S): **STERLING (L.2926)**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 19 18 N
LONGITUDE: 117 08 36 W
ELEVATION: 982 Metres

NORTHING: 5463225
EASTING: 489584

LOCATION ACCURACY: Within 1 KM

COMMENTS: Workings (Geological Survey of Canada Memoir 94, page 74). Location uncertain.

COMMODITIES: Lead

Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite

ASSOCIATED: Quartz Calcite

ALTERATION: Clay Graphite Pyrite Calcite

ALTERATION TYPE: Argillic

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au

DIMENSION:

STRIKE/DIP: 010/60E

TREND/PLUNGE:

COMMENTS: Shear zone hosting vein.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Ymir

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Schist
Granodiorite
Argillite
Siltstone
Lamprophyre Dike
Graphitic Schist

HOSTROCK COMMENTS: Roof pendants of Ymir Group metasediments occur within the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Sterling showing is located on the north side of Ymir Creek, 7 kilometres northeast of Ymir. The property was worked intermittently up to 1912. Workings consist of 137 metres of tunnels and several opencuts and pits.

The area is underlain by granodiorite of the Nelson batholith of the Late to Middle Jurassic Nelson Intrusions. Roof pendants of Lower Jurassic Ymir Group metasediments occur in the batholith.

Pyrite, sphalerite, and galena in quartz gangue with minor calcite occurs in a vein in a strongly sheared zone within a raft or roof pendant of metasediments. The vein is hosted in, and is parallel to, schist. The shear zone strikes 010 to 015 degrees and dips 060 degrees east to vertical. The zone is crosscut by a series of parallel lamprophyre dykes striking 283 degrees.

A fault zone contains a well developed, 1-metre wide gouge zone containing graphitic, decomposed schist with pyrite, calcite, and clay. Stringers of quartz are present in the footwall rocks of the shear and some stringers contain blue quartz with sulphides.

The Sterling vein is similar to the Blackcock (082FSW076) and Roanoke (082FSW071) veins.

BIBLIOGRAPHY

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BIBLIOGRAPHY

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EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; *175A; 1090A; 1091A
GSC MEM *94, pp. 74-75
GSC OF 1195
EMPR BULL 109

DATE CODED: 1986/11/07
DATE REVISED: 1991/06/10

CODED BY: BG
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW318**

NATIONAL MINERAL INVENTORY:

NAME(S): **LASCA 2**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 27 28 N
LONGITUDE: 117 04 35 W
ELEVATION: 1980 Metres

NORTHING: 5478350
EASTING: 494464

LOCATION ACCURACY: Within 500M

COMMENTS: Vein number 2 (Assessment Report 12940).

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Galena Sphalerite Tetrahedrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 402 x 1 Metres

STRIKE/DIP: 160/67W

TREND/PLUNGE:

COMMENTS: Vein number 2.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Ymir

FORMATION

Undefined Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Para Gneiss
Argillite
Quartzite
Meta Sediment/Sedimentary
Hornblende Granodiorite
Siltstone
Limestone

HOSTROCK COMMENTS: Ymir Group sediments occur as roof pendants within the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: NO. 2 VEIN

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1984

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	95.4000	Grams per tonne
Gold	0.1350	Grams per tonne
Lead	2.9000	Per cent
Zinc	0.0700	Per cent

COMMENTS: Sample from vein number 2 at an adit.

REFERENCE: Assessment Report 12940.

CAPSULE GEOLOGY

The Lasca 2 showing is located near the headwaters of Lasca Creek, 15 kilometres east of Nelson.

The area is underlain by porphyritic hornblende granodiorite of the Nelson batholith of the Late to Middle Jurassic Nelson Intrusions. Small rafts and roof pendants consisting of Lower Jurassic Ymir Group and Lower Cambrian metamorphosed sediments occur in the batholith.

The Lasca number 2 vein is a 0.6 to 1.5-metre wide quartz vein exposed for 402 metres along strike within Ymir Group metasediments. The vein at surface is, locally, only 1.4 metres from the contact with the granodiorite. The vein strikes from 160 to 175 degrees with a westerly dip of 35 to 67 degrees. A shear zone occurs up to 0.40 metre in width on each side of the vein. The vein contains less than 5 per cent pyrite, pyrrhotite, and rare sphalerite with possibly some

CAPSULE GEOLOGY

tetrahedrite. The sulphides are distributed erratically within the shear and quartz gangue. A sample from the vein at an adit assayed 2.9 per cent lead and 0.07 per cent zinc, 0.135 gram per tonne gold and 95.4 grams per tonne silver (Assessment Report 12940).

Nearby are a couple of associated and parallel veins from which 1983 samples assayed up to 21.7 grams per tonne gold and 364.74 grams per tonne silver, but these assays were not confirmed by 1984 sampling (Assessment Report 12940).

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EMPR ASS RPT *12940
EMPR BULL 41
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pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A
GSC MEM 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1986/12/04
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CODED BY: BG
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW319**

NATIONAL MINERAL INVENTORY:

NAME(S): **LASCA 3**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 28 22 N
LONGITUDE: 117 04 22 W
ELEVATION: 2255 Metres

NORTHING: 5480017
EASTING: 494727

LOCATION ACCURACY: Within 500M

COMMENTS: Vein number 3 (Assessment Report 12940).

COMMODITIES: Lead Silver Zinc

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

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

STRIKE/DIP: 360/60W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Ymir	Undefined Formation	Nelson Intrusions
Jurassic			

LITHOLOGY: Meta Sediment/Sedimentary
Quartzite
Para Gneiss
Hornblende Granodiorite
Argillite
Siltstone
Limestone

HOSTROCK COMMENTS: Roof pendants of Ymir Group metasediments occur in the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: NO. 3 VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1984

COMMODITY	GRADE	
Silver	37.4000	Grams per tonne
Lead	2.0000	Per cent
Zinc	0.2200	Per cent

COMMENTS: Sample containing pyrite, pyrrhotite and hematite from the probable extension of vein number 3 in an adit. Trace gold.

REFERENCE: Assessment Report 12940.

CAPSULE GEOLOGY

The Lasca 3 showing is located near the headwaters of Lasca Creek, 15 kilometres east of Nelson. The area is underlain by porphyritic hornblende granodiorite of the Nelson batholith of the Late to Middle Jurassic Nelson Intrusions. Small rafts and roof pendants consisting of Lower Jurassic Ymir Group and Lower Cambrian metamorphosed sediments occur in the batholith.

The Lasca number 3 vein is 0.5 to 0.75 metres wide and is enclosed in a long, northerly trending raft of metasediments. The vein strikes 360 degrees and dips 40 to 60 degrees west. Geochemistry indicates some minor arsenic but base and precious metal values are low.

A sample containing pyrite, pyrrhotite and hematite from the probable extension of the number 3 vein in an adit assayed 2.0 per cent lead, 0.22 per cent zinc, 37.4 grams per tonne silver and trace gold (Assessment 12940).

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pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A
GSC MEM 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1986/12/04
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FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
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REPORT: RGEN0100

MINFILE NUMBER: **082FSW320**

NATIONAL MINERAL INVENTORY:

NAME(S): **COMET (L.14761)**, CONTACT (L.14762), CALCITE (L.14763)

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 23 N
LONGITUDE: 117 13 57 W
ELEVATION: 1098 Metres

NORTHING: 5437456
EASTING: 483025

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the southwest flank of Iron Mountain (Assessment Report 8130).

COMMODITIES: Tungsten

MINERALS

SIGNIFICANT: Scheelite
ASSOCIATED: Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Disseminated
CLASSIFICATION: Skarn
TYPE: K05 W skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Undefined Group	Laib	

LITHOLOGY: Skarn
Limestone

HOSTROCK COMMENTS: Mineralization occurs in the Reeves Member of the Laib Formation.
The Reeves Member is correlative with the Badshot Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Scheelite is reported to occur as disseminations in skarnified limestones of the Reeves Member of the Lower Cambrian Laib Formation. The skarn is exposed the full length of the Calcite, Comet and Contact Crown grants. Scattered values of greater than 1 per cent WO3 were obtained from grab samples but most results of surface sampling were less than 0.5 per cent WO3.

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EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43
EMPR OF 1988-1; 1989-11; 1991-17
GSC MAP 1090A; 1145A
GSC MEM 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1986/12/05
DATE REVISED: 1991/02/24

CODED BY: BG
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW320**

MINFILE NUMBER: **082FSW321**

NATIONAL MINERAL INVENTORY:

NAME(S): **ALFIE (L.15091)**, CLUBINE, TUNGSTEN KING,
EMERALD TUNGSTEN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 05 09 N
LONGITUDE: 117 13 34 W
ELEVATION: 900 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Northeast area of Alfie Crown grant.

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5437022
EASTING: 483490

COMMODITIES: Tungsten

MINERALS

SIGNIFICANT: Scheelite
ASSOCIATED: Diopside Garnet Tremolite
ALTERATION: Diopside Garnet Tremolite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Skarn
TYPE: K05 W skarn

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Cambrian	Undefined Group	Laib	Nelson Intrusions
Jurassic			

LITHOLOGY: Limestone
Argillite
Skarn
Granite
Aplite
Dike

HOSTROCK COMMENTS: Mineralization occurs in the Reeves Member of the Laib Formation.
The Reeves Member is correlative with the Badshot Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay
METAMORPHIC TYPE: Contact
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Syn-mineralization
GRADE:

CAPSULE GEOLOGY

Dykes and irregular masses of the Middle to Late Jurassic Nelson Intrusions (Emerald stock) intrude limestones and argillites of the Lower Cambrian Laib Formation and the Lower to Middle Ordovician Active Formation.

Scheelite occurs as fine disseminated grains and narrow veinlets in a garnet-diopside skarn near the base of a grey and white crystalline limestone of the Reeves Member of the Laib Formation. About 300 metres to the northeast of the main showing are tremolitic black argillites and argillaceous limestones cut by aplitic intrusives of the Emerald stock.

BIBLIOGRAPHY

EMPR AR 1942-81; 1943-80; 1950-128; 1953-119; 1955-53; 1958-39;
1959-63; 1960-70; 1967-246
EMPR ASS RPT 9063, 9893, 24910
EMPR BULL 10 (Rev), p. 149; *41, p. 152
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-17
GSC MAP 299A; 1090A; *1145A
GSC MEM 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1986/12/08
DATE REVISED: 1991/02/24

CODED BY: BG
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW322**

NATIONAL MINERAL INVENTORY:

NAME(S): **TUNGSTEN KING 2**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 45 N
LONGITUDE: 117 13 43 W
ELEVATION: 793 Metres

NORTHING: 5436282
EASTING: 483305

LOCATION ACCURACY: Within 500M
COMMENTS: South side of Lost Creek.

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Galena Sphalerite
ASSOCIATED: Dolomite Calcite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Stratiform Disseminated Stratabound
CLASSIFICATION: Sedimentary Exhalative Syngenetic
TYPE: E14 Sedimentary exhalative Zn-Pb-Ag
DIMENSION: 2 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Dolomitic zone.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian Undefined Group Laib

LITHOLOGY: Limestone
Dolomite

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1959
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 3.4000 Grams per tonne
Lead 0.9400 Per cent
Zinc 0.1100 Per cent
COMMENTS: The sample width is 1.53 metres.
REFERENCE: Bulletin 41, page 153.

CAPSULE GEOLOGY

A narrow, siliceous zone of dolomite at the base of the Reeves Member limestone of the Lower Cambrian Laib Formation contains disseminated pyrite, pyrrhotite and minor sphalerite and galena. The dolomitic zone is about 1.8 metres thick near the portal of the old workings but it lenses out rapidly, within 6 metres, into limestone. A chip sample of the dolomite zone assayed trace gold, 3.4 grams per tonne silver, 0.94 per cent lead, and 0.11 per cent zinc (Bulletin 41, page 153).

BIBLIOGRAPHY

EMPR AR 1942-81; 1943-80; 1950-128; 1953-119; 1955-53; 1958-39; 1959-63; 1960-70; 1967-246
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EMPR BULL 10 (Rev), p. 149; *41, p. 152
GSC MAP 299A; 1090A; 1145A
GSC MEM 308
GSC OF 1195
EMPR OF 2000-22
EMPR BULL 109

DATE CODED: 1986/12/08
DATE REVISED: 1991/02/22

CODED BY: BG
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW323**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVERADO**

MINING DIVISION: Nelson

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F04E
 BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 33 N
 LONGITUDE: 117 34 48 W
 ELEVATION: 503 Metres

NORTHING: 5428637
 EASTING: 457585

LOCATION ACCURACY: Within 500M

COMMENTS: On the north side of Pend D'Oreille River (Assessment Report 10524).

COMMODITIES: Gold Silver Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite Chalcopyrite

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: 105 Polymetallic veins Ag-Pb-Zn±Au
 DIMENSION: 80 Metres

STRIKE/DIP: TREND/PLUNGE:

COMMENTS: Veinlets are traceable for about 80 metres along strike.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Lower Jurassic Eocene	Rossland	Elise	Coryell Intrusions

LITHOLOGY: Siltstone
 Augite Porphyry
 Syenite
 Slate
 Volcanic Rock
 Quartz Vein

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Kootenay Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 1982
SAMPLE TYPE: Rock	
COMMODITY	GRADE
Silver	548.5800 Grams per tonne
Gold	6.3400 Grams per tonne
Lead	0.0800 Per cent
Zinc	0.2800 Per cent

COMMENTS: The sample was collected from a gossanous zone.
 REFERENCE: Assessment Report 10524.

CAPSULE GEOLOGY

Several small quartz veinlets occur within sheared black slates adjacent to the highway on the north side of the Pend d'Oreille River. The claim is close to the Pend d'Oreille thrust and the Waneta thrust fault with associated faulting within units of the Lower Jurassic Elise Formation (Rossland Group) volcanics and adjacent to small syenitic intrusions of the Middle Eocene Coryell Intrusions.

The veinlets are described as being parallel to a northeast trending gossanous shear zone, vary in width from 5 to 80 centimetres and are traceable for about 80 metres along strike. The quartz gangue hosts galena, sphalerite, chalcopyrite and pyrite. Mineralization is erratic and tonnage potential is considered very limited. A sample collected from a gossanous zone assayed 548.58 grams per tonne silver, 6.34 grams per tonne gold, 0.08 per cent lead, and 0.28 per cent zinc in selected samples (Assessment Report 10524).

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BIBLIOGRAPHY

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1090A; *1504A
GSC MEM 308
GSC OF 1195
GSC P 79-26
EMPR BULL 109

DATE CODED: 1986/12/11
DATE REVISED: 1991/03/11

CODED BY: BG
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW324**

NATIONAL MINERAL INVENTORY:

NAME(S): **TEC GOLD**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 25 25 N
LONGITUDE: 117 23 34 W
ELEVATION: 1828 Metres

NORTHING: 5474623
EASTING: 471516

LOCATION ACCURACY: Within 500M

COMMENTS: Vein on logging road on the north slopes of Copper Mountain (Open File 1989-11).

COMMODITIES: Gold

Copper

MINERALS

SIGNIFICANT: Gold Bornite Tetrahedrite Pyrite

ASSOCIATED: Quartz Calcite

COMMENTS: Botryoidal turquoise.

ALTERATION: Chlorite Malachite

ALTERATION TYPE: Chloritic Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Concordant

CLASSIFICATION: Hydrothermal Epigenetic

TYPE: I01 Au-quartz veins I05 Polymetallic veins Ag-Pb-Zn±Au

SHAPE: Regular

DIMENSION: STRIKE/DIP: 125/77S TREND/PLUNGE:

COMMENTS: Vein parallels schistosity, is up to 0.15 metres wide and a few metres long.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Andesitic Fragmental Volcanic
Andesite
Chlorite Schist

HOSTROCK COMMENTS: Unit Je8x and Je8l in the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Quesnel

METAMORPHIC TYPE: Regional

RELATIONSHIP:

GRADE: Greenschist

CAPSULE GEOLOGY

The Tec Gold showing is located approximately 11 kilometres southwest of Nelson, on a logging road just south of the Referendum mine (082FSW177).

The area is underlain by volcanic rocks of the Lower Jurassic Elise Formation, Rossland Group. These have been intruded by granitic rocks of the Middle to Late Jurassic Nelson Intrusions.

A small, thin (up to 0.15 metres wide) discontinuous quartz-carbonate-chlorite vein has visible gold, bornite, malachite staining and botryoidal turquoise mineralization (Hoy, 1987). The gold appears to be associated with bornite. The vein is parallel to the foliation in altered andesitic fragmental volcanics. The vein, a few metres in length, strikes 125 degrees and dips 77 degrees south. On the same road further to the west, a 5-metre wide chlorite schist band hosts disseminated pyrite which is reported to assay 1.5 grams per tonne gold (Fieldwork 1985, page 333).

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EMPR OF 1988-1; 1989-11; 1991-16
GSC MAP 1090A; 1091A; 1145A
GSC MEM 308, p. 155
GSC OF 1195
GSC P 52-13

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MINFILE MASTER REPORT
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ENERGY AND MINERALS DIVISION

PAGE: 1671
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- Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
EMPR BULL 109

DATE CODED: 1987/06/09
DATE REVISED: 1991/03/15

CODED BY: KPA
REVISED BY: DEJ

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **082FSW325**

NATIONAL MINERAL INVENTORY: 082F5 Au1

NAME(S): **MAUD S.(L.1442)**, YELLOW JACKET (L.5203), TOUCH-ME-NOT (L.5202),
STANDARD, ERIC, SYRACUSE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F05E
BC MAP:
LATITUDE: 49 15 51 N
LONGITUDE: 117 31 51 W
ELEVATION: 1356 Metres
LOCATION ACCURACY: Within 1 KM
COMMENTS: Abandoned mine symbol on NTS Map 082F05.

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5456958
EASTING: 461379

COMMODITIES: Gold Copper Lead

MINERALS

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

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	Nelson Intrusions
Jurassic			

LITHOLOGY: Granite
Volcanic
Tuff
Andesite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The property is located at the 1432.5 metres elevation at the head of Champion Creek some 22.5 kilometres north-northeast of Trail. The claims were Crown Granted and worked at the turn of the century.

Exploration and development activity began on Champion Creek in 1896. The Maud S claim (Lot 1442) was Crown-granted to B.A. True, C.B. Etnier and David Crombie in 1897. By 1900 the property comprised 5 claim, the Maud S, Yellow Jacket, Touch-me-not, Standard, Eric, and Syracuse, held by The Onondaga Mining Company, of Breckenridge Colorado. About 157 metres of development work was carried out during the year and a 10 stamp-mill installed. No report is known on further activity. The adjacent Touch-me-not (Lot 5202) and Yellow Jacket (Lot 5203) fractional claims were Crown-granted to Louis Will in 1902.

The property was acquired in 1981 by Pearson, Gallagher Ltd., of Nelson.

The area is underlain by granite and granodiorite of the Late to Middle Jurassic Nelson Intrusions and small areas of volcanic rocks of the Lower Jurassic Elise Formation (Rossland Group).

The Maud S. occurrence, hosted in granite, is part of an "important system of siliceous ore-bearing fissure veins" (Minister of Mines Annual Report 1897, page 545). These veins host free gold, auriferous pyrite, chalcopyrite and galena. Values were reported as 20 dollars per ton in 1900 which is 33.4 grams per tonne based on 0.66 dollar per gram (Minister of Mines Annual Report 1900 page 846).

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EMPR MAP 7685G; RGS 1977; 8484G
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Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious
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WWW <http://www.infomine.com/>
EMPR BULL 109

DATE CODED: 1987/11/03
DATE REVISED: 1991/10/06

CODED BY: LLC
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW326**

NATIONAL MINERAL INVENTORY:

NAME(S): **KIMBARB**, SPUNKY, TULIP CREEK

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F05W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 22 00 N
LONGITUDE: 117 56 04 W
ELEVATION: 533 Metres

NORTHING: 5468638
EASTING: 432156

LOCATION ACCURACY: Within 500M

COMMENTS: Vein (Property File - Report on the Kimbarb Property).

COMMODITIES: Molybdenum Gemstones

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Magnetite Molybdenite Garnet

ALTERATION: Olivine Garnet Olivine Calcite

ALTERATION TYPE: Skarn
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Skarn Industrial Min. Epigenetic
TYPE: L05 Porphyry Mo (Low F- type) K08 Garnet skarn

COMMENTS: Sulphide vein trend 315 degrees and dip about 60 degrees.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian	Undefined Group	Mount Roberts	Valhalla Complex
Lower Cretaceous			Coryell Intrusions
Eocene			

LITHOLOGY: Granodiorite
Skarn
Limestone
Granite
Pegmatite Dike

HOSTROCK COMMENTS: The Ladybird granite of the Valhalla complex.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains

TERRANE: Ancestral North America
METAMORPHIC TYPE: Contact

RELATIONSHIP: Syn-mineralization GRADE:

CAPSULE GEOLOGY

The Kimbarb showing is located near the mouth of Tulip Creek about 24 kilometres north of Castlegar, just north of Lower Arrow Lake.

The area is underlain by the Ladybird granite of the Lower Cretaceous (?) Valhalla complex. The complex, comprising granite and granodiorite is cut by pegmatite dykes related to the Middle Eocene Coryell Intrusion.

A sulphide vein, trending 315 degrees and dipping about 60 degrees, cuts the granodiorite. Sulphides consist mainly of pyrrhotite, pyrite and minor magnetite. Minor molybdenite flakes are associated with the mineralization and are disseminated in the granodiorite near the pegmatite dykes.

Xenoliths of skarn were found within the granite. The xenoliths are thought to be remnants of the Pennsylvanian to Permian (?) Mount Roberts Formation limestone now altered to skarn by the intrusives. Garnet, olivine and calcite are reported to be well developed in the skarn and apparently a previous owner used this skarn as a source for semi-precious gemstones (garnet and olivine).

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EMPR MAP 7685G; RGS 1977; 8484G
EMPR OF 1991-16

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PAGE: 1675
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GSC BULL 129, p. 128
GSC MAP 1090A
GSC MEM 308, p. 205
GSC P 87-2, pp. 13-20
EMPR BULL 109

DATE CODED: 1988/04/05
DATE REVISED: 1991/05/07

CODED BY: LLC
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW327**

NATIONAL MINERAL INVENTORY:

NAME(S): **YMIR GRAPHITE**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 17 00 N
LONGITUDE: 117 02 34 W
ELEVATION: 1740 Metres

NORTHING: 5458954
EASTING: 496889

LOCATION ACCURACY: Within 500M

COMMENTS: Slate units within the Nelway Formation, exact location uncertain
(Geological Survey of Canada Paper 51-4).

COMMODITIES: Graphite

MINERALS

SIGNIFICANT: Graphite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Disseminated
CLASSIFICATION: Industrial Min. Replacement
TYPE: P04 Crystalline flake graphite

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Middle Cambrian	Undefined Group	Nelway	

LITHOLOGY: Black Slate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Ymir Graphite showing is located along the north fork of Porcupine Creek, 16.5 kilometres east of Ymir.

The area is underlain by black slate, black limestone, calcareous argillite and quartzite of the Middle Cambrian Nelway Formation. In the black slates, a well developed, steeply dipping cleavage parallels the northerly trend of the creek.

These slates contain fine flakes of mica and locally flakes of graphite on cleavage surfaces. It is considered that the graphite grade and tonnage potential is much too low to be of economic interest.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP *51-4A; 1090A; 1144A
GSC OF 1195
GSC P 49-22; *51-4, p. 18; 52-13
EMPR BULL 109

DATE CODED: 1986/12/02
DATE REVISED: 1991/06/10

CODED BY: BG
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW328**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARBLE EDGE (L.2354)**, BELLE (L.2353), RAPID (L.5302)

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 29 45 N
LONGITUDE: 117 23 09 W
ELEVATION: 550 Metres

NORTHING: 5482649
EASTING: 472060

LOCATION ACCURACY: Within 500M

COMMENTS: Centre of Lot 2354 (NTS Map 082F06).

COMMODITIES: Molybdenum

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic Pegmatite Magmatic
TYPE: L05 Porphyry Mo (Low F- type)

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Unnamed/Unknown Informal
Jurassic			Nelson Intrusions

LITHOLOGY: Pegmatite
Dioritic Rock
Pyroxenite
Granite
Granodiorite

HOSTROCK COMMENTS: Pseudodiorite and pyroxenite of unknown affinity (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Belle showing is located east of Taghum, approximately 8 kilometres west of Nelson. The area is underlain by Jurassic pseudodiorite and pyroxenite of unknown affinity. Late to Middle Jurassic Nelson Intrusions consisting mainly of non-porphyrific granite and granodiorite occur to the north. Locally, the rocks comprise coarse pegmatite. Visible mineralization consisting of disseminated molybdenite and pyrite is found within fractures and quartz veins usually associated with the pegmatite.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A
GSC MEM 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1988/06/08
DATE REVISED: 1991/06/10

CODED BY: LLC
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW329**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD QUEEN (L.1075)**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 15 30 N
LONGITUDE: 117 11 07 W

NORTHING: 5456191
EASTING: 486519

ELEVATION: 808 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate location of shaft at the northeast corner of Crown Grant Lot 1075 (Assessment Report 9531).

COMMODITIES: Silver Gold Lead Zinc

MINERALS

SIGNIFICANT: Galena Sphalerite Pyrite
ASSOCIATED: Quartz Muscovite
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Cambrian
Lower Jurassic
Jurassic

GROUP

Unnamed/Unknown Group
Ymir

FORMATION

Unnamed/Unknown Formation
Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Granite
Granodiorite
Argillite
Argillaceous Quartzite
Schist
Limestone
Slate
Quartzite
Sandstone

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1980

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	1.7100	Grams per tonne
Gold	0.1370	Grams per tonne
Lead	0.0200	Per cent
Zinc	0.0200	Per cent

COMMENTS: Sample taken from old shaft in granitic rock with quartz and muscovite.

REFERENCE: Assessment Report 9531.

CAPSULE GEOLOGY

The Gold Queen showing is located about 3.0 kilometres east of the Salmo River and Porcupine Creek junction, 0.5 kilometres north of Porcupine Creek. The Crown Grant was located in 1896 and workings comprise a shaft, 2 open pits, and an adit.

The area is underlain by granite and granodiorite of the Late to Middle Jurassic Nelson Intrusions near the contact with Lower Jurassic Ymir Group sediments to the west and Lower Cambrian metasediments to the east. The sediments and metasediments comprise quartzite, schist, argillite, slate, siltstone, sandstone and conglomerate.

In 1980, samples were taken from an old shaft on the Gold Queen, Reverted Crown Grant (Lot 1075). The samples were collected from

CAPSULE GEOLOGY

granitic rock containing quartz veins with associated muscovite and fracture fillings which host disseminated pyrite, galena and sphalerite. One of these samples assayed 0.02 per cent lead, 0.02 per cent zinc, 1.71 grams per tonne silver and 0.137 gram per tonne gold (Assessment Report 9531). Other samples assayed 8.9 grams per tonne silver, 0.103 gram per tonne gold and 4.7 grams per tonne silver, 0.103 gram per tonne gold, respectively (Assessment Report 9531). Mineralization is also reported in the altered Ymir Group sediments within the igneous contact zone (refer to the Dewey (Lot 14431) occurrence 082FSW198).

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EMPR BULL 41
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EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A; 1091A; 1144A
GSC MEM 191; 308
GSC OF 1195
EMPR BULL 109

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DATE REVISED: 1991/06/03

CODED BY: LLC
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW330**

NATIONAL MINERAL INVENTORY:

NAME(S): **MARILYN 1-12**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 01 N
LONGITUDE: 117 08 56 W

NORTHING: 5457142
EASTING: 489168

ELEVATION: 1586 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Old adit within mineralized zone on Jubilee Mountain. The workings may be part of the Oxide showing (082FSW022).

COMMODITIES: Silver Lead Zinc

MINERALS

SIGNIFICANT: Galena
ASSOCIATED: Quartz
ALTERATION: Dolomite
ALTERATION TYPE: Carbonate Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
DIMENSION: 60 x 30 Metres
COMMENTS: Vein.

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Ordovician	Undefined Group	Active	
Lower Cambrian	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Limestone
Dolomite
Quartzite

HOSTROCK COMMENTS: Mineralization localized at a dolomite-limestone contact, believed to be part of the Active Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1980
SAMPLE TYPE:	Grab		
COMMODITY	GRADE		
Silver	447.7600	Grams per tonne	
Lead	6.6500	Per cent	
Zinc	0.3000	Per cent	

COMMENTS: Sample taken along mineralized limestone-dolomite contact.
REFERENCE: Assessment Report 9094.

CAPSULE GEOLOGY

The Marilyn 1-12 occurrence is located about 5 kilometres southeast of Ymir, 1.0 kilometre north of Porcupine Creek. An old adit and several open cuts are present on the property. The area lies along the faulted contact between Lower Cambrian sediments (possibly correlative with the Hamill Group) and what is believed to be limestones and dolomites of the Ordovician Active Formation. The mineralized showings lie south-southwest of the Oxide showing (082FSW022). Mineralization occurs along a limestone-dolomite contact near faulted contact with white quartzite. Within the mineralized zone is a 30.5 metre long quartz vein which is traceable for approximately 60 metres. Disseminated galena is present in a quartz vein within the old workings. In 1980, a sample from the old adit assayed 173.48 grams per tonne silver and 1.68 per cent lead. Another sample taken

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CAPSULE GEOLOGY

along the limestone-dolomite contact assayed 447.76 grams per tonne silver, 6.65 per cent lead and 0.3 per cent zinc (Assessment Report 9094). Samples from an old dump assayed 246.85 grams per tonne silver and 7.6 per cent lead (Assessment Report 9094).

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EMPR BULL 41
EMPR EXPL 1980-68
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43
EMPR OF 1988-1; 1989-11; 1991-16
GSC MAP 51-4A; 1090A; 1144A
GSC MEM 308
GSC P 51-4A
EMPR BULL 109

DATE CODED: 1988/06/06
DATE REVISED: 1991/06/20

CODED BY: LLC
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW331**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHAFT, CAT, KENA,
MAGPIE, ELDORADO, DOLLY**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 25 55 N
LONGITUDE: 117 16 43 W
ELEVATION: 1372 Metres

NORTHING: 5475512
EASTING: 479798

LOCATION ACCURACY: Within 500M

COMMENTS: Workings located on the northwest side of Gold Creek about 6 kilometres south of Nelson (Assessment Report 26503).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Chalcopyrite
ASSOCIATED: Pyrite Magnetite Pyrrhotite
ALTERATION: Chlorite Epidote Carbonate Malachite Sericite
ALTERATION TYPE: Propylitic Oxidation
MINERALIZATION AGE: Lower Jurassic

DEPOSIT

CHARACTER: Disseminated Stockwork
CLASSIFICATION: Porphyry
TYPE: L03 Alkalic porphyry Cu-Au
COMMENTS: EMPR Bulletin 109, page 23.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Middle Jurassic			Silver King Porphyry

LITHOLOGY: Diorite
Diorite Sill
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY:	Assay/analysis	YEAR:	1999
SAMPLE TYPE:	Chip		
COMMODITY	GRADE		
Gold	5.6000	Grams per tonne	
Copper	0.9500	Per cent	

COMMENTS: Shaft trench sampling over 12 metres.
REFERENCE: Assessment Report 26503.

CAPSULE GEOLOGY

The Shaft and Cat showings are located approximately 6 kilometres south of Nelson and are a part of the larger Kena property of Sultan Minerals Inc. Old trenches and adits on the property are believed to have been excavated between 1900 and 1904.

The Kena property hosts a number of porphyry style, gold and gold-copper occurrences. The property lies on the eastern limb of the Hall Creek Syncline, a south-plunging fold associated with intense shearing that dominates the structure of the Nelson map area. The syncline incorporates volcanic and lesser sedimentary rocks of the Lower Jurassic Elise Formation (Rossland Group) which are intruded by a synvolcanic monzodiorite complex and by the younger? Middle Jurassic Silver King Intrusions comprising a coarse grained plagioclase porphyry stock with related dikes and sills.

The area is underlain by basaltic tuffs, andesite flows and augite porphyry of the upper Elise Formation intruded by a complex of fine to medium grained diorite sills. The rocks have been extensively sheared, with foliation dominantly striking northwest and dipping southwest.

CAPSULE GEOLOGY

The Shaft and Cat showings are situated 800 metres apart along a northwest trending diorite unit that cuts Elise Formation volcanics. Mineralization is widespread within this area and is comprised of chalcopyrite, pyrite and magnetite as disseminations and fracture fillings in brecciated and altered andesite and subvolcanic diorite sills in a northwest trending zone of shearing adjacent to the contact of the Silver King porphyry. Two showings are exposed in trenches, the Shaft and the Cat, and if mineralization is continuous between these two, the implied strike length of the zone is in excess of 800 metres. In 2000, Sultan Minerals relogged drill core and conducted sampling which traced this dioritic unit for an additional 700 metres to the south, giving the zone a possible minimum strike length of 1500 metres.

At the Shaft showing, the diorite is locally brecciated and extensively altered to a chlorite-epidote-carbonate assemblage that contains magnetite, chalcopyrite and pyrite. Gold and copper mineralization appear to be associated with malachite and chalcopyrite which occur in the diorite complex as disseminations, patches and fracture fillings. In 1999, trench confirmation sampling by Sultan Minerals yielded 1.14 grams per tonne gold and 0.66 per cent copper over 10.25 metres in the Cat trench, and 5.6 grams per tonne gold and 0.95 per cent copper over 12 metres in the Shaft trench (Assessment Report 26503).

At the Cat showing, sulphides are concentrated within the matrix of a crackle breccia. The mineralization is lensey in nature over 9 by 5.5 metres. Assays from this showing averaged 1.37 grams per tonne gold and 0.7 per cent copper (Property File - South Pacific Gold Corp., June 1988).

Mineralization in the Kena property area was first described in a report by G.M Dawson in Geological Survey of Canada Annual Report for 1888-89. Little is known about exploration on the claim area prior to 1973. Post-1973 exploration, however, has identified old prospect pits and trenches, as well as several old adits indicating periods of exploration activity in the early part of the century. Numerous exploration companies carried out geological, geochemical, geophysical surveys, trenching and drilling on the property from 1974-91. These companies explored the Elise Formation volcanics for gold and copper mineralization and discovered the Kena Gold zone (082FSW237), Kena Copper zone (082FSW332) and the Shaft/Cat zones (this description). The Kena Gold zone underwent the most thorough exploration with the Kena Copper and Shaft/Cat zones only being tested minimally. No additional work was done until 1999 when Sultan Minerals Inc. acquired and amalgamated several properties under the name Kena property. Recent exploration work and data compilation by Sultan Minerals have identified four gold-bearing zones on the Kena property. These are: the newly discovered Gold Mountain (082FSW379), Kena Gold, Shaft/Cat, and South Gold soil anomaly located about 1000 metres south of the Kena Copper zone.

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GSC MEM 308
GSC OF 1195
GSC P 49-22; 52-13
PR REL Sultan Minerals Inc. Jan.14, 2000
V STOCKWATCH Aug.28, 1989
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RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1684
REPORT: RGEN0100

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Sultan Minerals Inc. Annual Report *2000

DATE CODED: 1989/02/14
DATE REVISED: 2002/01/31

CODED BY: KPEA
REVISED BY: GO

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **082FSW332**

NATIONAL MINERAL INVENTORY:

NAME(S): **KENA COPPER**, KENA, KENA (SOUTH GOLD),
 KENA 20-25, K-GROUP, COTTONWOOD,
 HALL, SCHIST

MINING DIVISION: Nelson

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F06E 082F06W

UTM ZONE: 11 (NAD 83)

BC MAP:
 LATITUDE: 49 24 41 N
 LONGITUDE: 117 14 57 W

NORTHING: 5473219

EASTING: 481926

ELEVATION: 1524 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Showing located 1500 metres south of Cottonwood Lake, about 9 kilometres south of Nelson (Assessment Report 26503).

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT:	Chalcopyrite	Pyrite					
ASSOCIATED:	Quartz	Magnetite					
ALTERATION:	Sericite	Limonite	Chlorite	Epidote	Carbonate		
ALTERATION TYPE:	Malachite	Biotite	Propylitic	Silicific'n	Oxidation	Potassic	
MINERALIZATION AGE:	Sericitic						
	Unknown						

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Middle Jurassic			Silver King Porphyry

LITHOLOGY: Monzodiorite
 Basaltic Andesitic Tuff

GEOLOGICAL SETTING

TECTONIC BELT: Omineca	PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel	
METAMORPHIC TYPE: Regional	RELATIONSHIP:
	GRADE:

INVENTORY

ORE ZONE: SAMPLE	REPORT ON: N
CATEGORY: Assay/analysis	YEAR: 2000
SAMPLE TYPE: Grab	
COMMODITY	GRADE
Gold	2.8700 Grams per tonne
Copper	3.9900 Per cent
REFERENCE: Assessment Report 26503.	

CAPSULE GEOLOGY

The Kena Copper showing is located about 9 kilometres south of Nelson and is part of the larger Kena property of Sultan Minerals Inc. The Kena property hosts a number of porphyry style, gold and gold-copper occurrences. The property lies on the eastern limb of the Hall Creek Syncline, a south-plunging fold associated with intense shearing that dominates the structure of the Nelson map area. The syncline incorporates volcanic and lesser sedimentary rocks of the Lower Jurassic Elise Formation (Rossland Group) which are intruded by a synvolcanic monzodiorite complex and by the younger? Middle Jurassic Silver King Intrusions comprising a coarse grained plagioclase porphyry stock with related dikes and sills.

In the Kena Copper zone, alkalic porphyry style copper-gold mineralization occurs in the southeast section of the property. It is spatially related to a large monzodiorite complex, and to the borders of the complex. Chalcopyrite and pyrite occur as disseminations, fracture fillings and in quartz veinlets in the intrusive rocks, and as weaker disseminations and fracture fillings in basaltic to andesitic tuffaceous rocks of the Elise Formation. The copper mineralization commonly includes malachite. The area is

CAPSULE GEOLOGY

marked by sericitic and limonitic shear zones parallel to foliation, and by zones of moderate to intense fracturing that are variably altered by propylitic assemblages of chlorite, epidote and carbonate. Magnetite occurs as disseminations and fracture fillings, and biotite is locally conspicuous and may be part of a broader zone of potassic alteration centred on the complex.

The area has been variably silicified by quartz veins that both cross and follow the foliation. They vary from weak to strong and occur as narrow fracture fillings, weak stockworks or rarely thick veins up to 0.5 metre wide. Some of the veins are coarse grained and appear barren of sulphide. Others are vuggy and crystalline, contain calcite, and are mineralized with pyrite and chalcopyrite. The nature of the veining combined with results from analytic data appear to reflect more than one period of emplacement.

Sections of the mineralized area have been examined by short underground workings and a few drillholes. This work has resulted in a number of wide intercepts of low grade copper mineralization with low gold content. Typical examples include an 82.0 metre adit that grades 0.16 per cent copper and a nearby drillhole that intersected 0.18 per cent copper over 45 metres. In 1990, drilling by Noramco Mining Corp. resulted in a best intersection of 0.27 per cent copper and 0.2 gram per tonne gold over 57 metres (George Cross News Letter No.30, 1991). A grab sample collected in 2000 yielded 3.99 per cent copper and 2.87 grams per tonne gold. Exploration work has not been sufficiently detailed or comprehensive to either delimit the area of interest, or to determine whether significant ore-grade sections may be present (Assessment Report 26503). The South Gold zone is 1000 metres of the Kena Copper zone and follows the contact between Elise Formation volcanics and Silver King porphyry intrusive rocks. The zone is a large gold-in-soil geochemical anomaly that trends parallel to this contact (Sultan Minerals Inc. Annual Report 2000).

Mineralization in the Kena property area was first described in a report by G.M Dawson in Geological Survey of Canada Annual Report for 1888-89. Little is known about exploration on the claim area prior to 1973. Post-1973 exploration, however, has identified old prospect pits and trenches, as well as several old adits indicating periods of exploration activity in the early part of the century. Numerous exploration companies carried out geological, geochemical, geophysical surveys, trenching and drilling on the property from 1974-91. These companies explored the Elise Formation volcanics for gold and copper mineralization and discovered the Kena Gold zone (082FSW237), Kena Copper zone (this description) and the Shaft/Cat zones (082FSW331). The Kena Gold zone underwent the most thorough exploration with the Kena Copper and Shaft/Cat zones only being tested minimally. No additional work was done until 1999 when Sultan Minerals Inc. acquired and amalgamated several properties under the name Kena property. Recent exploration work and data compilation by Sultan Minerals have identified four gold-bearing zones on the Kena property. These are: the newly discovered Gold Mountain (082FSW379), Kena Gold, Shaft/Cat, and South Gold soil anomaly located about 1000 metres south of the Kena Copper zone.

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Placer Dome File

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1687
REPORT: RGEN0100

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DATE CODED: 1989/02/15
DATE REVISED: 2002/02/01

CODED BY: KPEA
REVISED BY: GO

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **082FSW333**

NATIONAL MINERAL INVENTORY:

NAME(S): **GREAT WESTERN**, GREAT WESTERN GROUP, WHITE WITCH (L.3595),
THISTLE (L.2233), GREAT WESTERN (L.4148), ABERDEEN,
GIVEOUT CREEK, BLACK WITCH

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F06W

UTM ZONE: 11 (NAD 83)

BC MAP:
LATITUDE: 49 26 17 N
LONGITUDE: 117 18 51 W

NORTHING: 5476202
EASTING: 477223

ELEVATION: 1432 Metres
LOCATION ACCURACY: Within 500M

COMMENTS: Mineralized zone, located 6 kilometres south of Nelson near the
confluence of the west and main forks of Giveout Creek (Exploration
in British Columbia 1988, pages B15-B19).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Pyrite Chalcopyrite
ASSOCIATED: Carbonate Sericite Quartz
ALTERATION: Carbonate Sericite Quartz
ALTERATION TYPE: Sericitic Carbonate Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Concordant Shear
CLASSIFICATION: Porphyry Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
DIMENSION: STRIKE/DIP: TREND/PLUNGE: 147/31
COMMENTS: Mineralized zones elongate in direction of lineation.

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic	Rossland	Elise	
DATING METHOD: Fossil			
MATERIAL DATED: Macrofossil			
Middle Jurassic			Silver King Porphyry

LITHOLOGY: Mafic Tuff
Mafic Volcanic
Phyllite
Schist
Mafic Flow
Mafic Flow Breccia
Felsic Rock

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1987
SAMPLE TYPE: Drill Core
COMMODITY: Gold GRADE: 9.7000 Grams per tonne

COMMENTS: A seven metre intercept.
REFERENCE: Exploration in British Columbia 1988, pages B15-B19.

CAPSULE GEOLOGY

The area is underlain by mafic to intermediate volcanic rocks of the upper Elise Formation, the central volcanic package of the Lower to Middle Jurassic Rossland Group. The rocks are intruded by the Middle to Late Jurassic Nelson Intrusions and many small coeval stocks, by Middle Eocene Coryell Intrusions syenites and by Tertiary rhyolite and lamprophyre dykes.

Structure is dominated by northerly trending tight folds and associated shears. The Hall Creek syncline, a south plunging, west dipping overturned fold, is the most prominent fold in the area. The core of the syncline forms a zone of intense shearing more than a

CAPSULE GEOLOGY

kilometre in width and is informally referred to as the Silver King shear zone.

The Great Western occurrence lies on the eastern margin of the Silver King shear zone and is underlain by upper Elise Formation volcanic rocks which are locally intensely sheared. Augite porphyry flows, mafic fine tuff, intermediate lithic tuff, and felsic intrusive lenses or crystal flows or sills comprise most of the succession on the property; intermediate to felsic units occur only as minor lenses. The succession is interpreted to be inverted as it occurs on the west limb of the overturned Hall Creek syncline (Exploration in British Columbia 1988). The volcanic succession is intruded by the Middle Jurassic "Silver King Porphyry" (Silver King Intrusions) along the northeastern edge of the property. The porphyry predates the intense regional deformation; it is deformed and metamorphosed, with the most intense shearing concentrated along its margins.

Foliation throughout the area generally trends northwest, dips steeply to the southwest and is axial planar to the Hall Creek syncline.

Within the mafic volcanic rocks are a number of zones of intense carbonate-sericite-quartz alteration that are conformable to foliation and contain gold-copper mineralization. A number of these zones are cored by felsic (syenite?) lenses. This is a "conformable gold" occurrence.

The mafic volcanic rocks are predominantly green phyllites and schists. Lapilli tuff units are observed locally. Foliated and sheared mafic flows and flow breccias occur in the footwall of the most northerly mineralized zone (Black Witch). Elsewhere, foliated green phyllite without recognizable clasts is interpreted to be derived from mafic fine tuff.

Gold-copper mineralization occurs in zones of intense carbonate-sericite-quartz alteration in both the mafic units and in the associated felsic units. These alteration zones are 5 to 10 metres in width and several hundred metres in length. They contain 2 to 10 per cent sulphides, dominantly pyrite with minor chalcopyrite. The sulphides occur mainly as stringers parallel to the schistosity but are also pervasively distributed. The sulphide-bearing rocks are deformed together with the host rocks, indicating mineralization predates deformation (Exploration in British Columbia 1988). These mineralized zones are now elongate in the direction of lineation trending 147 degrees and plunging 31 degrees southeast. Some mineralization, however, is also concentrated in late, post-tectonic, crosscutting quartz veins. The best intersection in drill core is 7 metres which assayed 9.7 grams per tonne gold (Exploration in British Columbia 1988).

The three principal mineralized zones are the Giveout Creek North, Giveout Creek South and Black Witch. The Giveout Creek North and South zones appear to occur in the northern part of the White Witch claim (Lot 3595). The Black Witch zone is 250 metres north-northwest of the Giveout Creek zones and appears to be on or close to the southern boundary of the Thistle claim (Lot 2233).

Several small tunnels and pits are present on the property dating back to the early 1900's. The North Star (Lot 4149) occurrence (082FSW276) adjoins the White Witch claim to the south.

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- GSC SUM RPT 1911
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- V STOCKWATCH Dec.14, 1987; Jan.14, 1988
- WWW http://www.infomine.com/index/properties/GREAT_WESTERN.html

DATE CODED: 1989/02/15
DATE REVISED: 1991/03/08

CODED BY: KPEA
REVISED BY: GO

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **082FSW334**

NATIONAL MINERAL INVENTORY:

NAME(S): **JENNIE BELL**, YMIR MINT, TOP,
TOP - ERIC

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 21 27 N
LONGITUDE: 117 11 08 W
ELEVATION: 1760 Metres

NORTHING: 5467215
EASTING: 486525

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the east side of Mount Elise at the source of the north fork of Wild Horse Creek (Open File 1989-11).

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Pyrite
COMMENTS: Minerals not specified.
ASSOCIATED: Quartz
ALTERATION: Chlorite
ALTERATION TYPE: Chloritic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Sheared
DIMENSION: STRIKE/DIP: 335/65S
COMMENTS: Attitude of vein in upper tunnel. The veins are about 15 centimetres wide.

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic	Ymir	Unnamed/Unknown Formation	

LITHOLOGY: Porphyritic Augite Basalt
Schist
Greenstone

HOSTROCK COMMENTS: Unit Je1 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

CAPSULE GEOLOGY

The Jennie Bell showing is located 16 kilometres southeast of Nelson in a glacial basin. The claim was staked in 1911 and some ore was shipped that year with "80 sacks" of ore reportedly shipped in 1914.

The showing is hosted by Lower Jurassic Lower Elise Formation augite porphyry basalt flows and flow breccias near the contact with Jurassic Ymir Group sedimentary rocks on Mount Elise. The rocks are sheared in the vicinity of mineralized veins with foliation striking north-northwest and dipping steeply southwest. The veins, locally, follow the schistosity.

Gold, silver and lead occur in three narrow (approximately 15 centimetres wide) pyritic quartz veins. The vein exposed in the upper tunnel strikes 335 degrees and dips 65 degrees south. Two veins with intervening schist occur in the tunnel face. The footwall is pyritic schist and the hanging wall is pyritic greenstone schist. Both hanging wall and footwall to the veins are sheared with abundant chlorite alteration. Exploration in 1984 failed to locate the Jennie Bell workings (Assessment Report 12754). The Ymir Mint vein is exposed on the opposite side of the basin from the Jennie Bell vein.

Several tonnes of material were shipped yielding 9.6 grams per tonne gold and 4895 grams per ton silver (Geological Survey of Canada

CAPSULE GEOLOGY

Memoir 94, page 96).

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GSC MAP 51-4A; 1144A
GSC MEM *94, p. 96; 308
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GSC P 51-4
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deposits of the Lower Jurassic Rossland Group, southeastern
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EMPR BULL 109

DATE CODED: 1989/02/15
DATE REVISED: 1991/04/12

CODED BY: KPEA
REVISED BY: DEJ

FIELD CHECK: Y
FIELD CHECK: N

MINFILE NUMBER: **082FSW335**

NATIONAL MINERAL INVENTORY:

NAME(S): **CANADIAN PACIFIC**, GOLDEN CALF, ANNIE MAUD,
RAMSEY, JOPLIN, ORONOGO,
S.J.M.

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E

UTM ZONE: 11 (NAD 83)

BC MAP:
LATITUDE: 49 19 18 N
LONGITUDE: 117 09 34 W
ELEVATION: 1210 Metres

NORTHING: 5463227
EASTING: 488413

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the north side of Ymir Creek, northwest of the confluence
with Huckleberry Creek (Open File 1989-11).

COMMODITIES: Gold Lead Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Sphalerite
ASSOCIATED: Quartz
ALTERATION: Sericite
ALTERATION TYPE: Sericitic
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Sheared
DIMENSION: 2 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: One vein exposed in open cut is 2.13 metres wide. The parallel
veins trend north.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic	Ymir	Undefined Formation	Nelson Intrusions
Jurassic			

LITHOLOGY: Argillite
Granodiorite

HOSTROCK COMMENTS: Ymir Group sediments occur in a roof pendant in the Nelson batholith.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

CAPSULE GEOLOGY

The Canadian Pacific showings are located 18.5 kilometres southeast of Nelson between the Ymir mine (082FSW074) to the west and the Sterling mine (082FSW317) to the east. The claims comprising this group were staked in 1896 and 1897. Workings consist of open cuts, tunnels and pits.

The showings are hosted in Jurassic argillites of the Ymir Group which occur as a roof pendant in Middle to Late Jurassic granodiorite of the Nelson batholith.

North trending parallel quartz veins, exposed in the workings, contain thin, discontinuous streaks of pyrite, with lesser amounts of galena and sphalerite. Sericite is a common alteration mineral along shear planes within the veins. Gold content is apparently associated with pyrite and is highest in blue quartz. One open cut exposes a white quartz vein, 2.13 metres wide. No assays or production figures are reported.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; 1144A
GSC MEM *94, p. 68; 308

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ENERGY AND MINERALS DIVISION

PAGE: 1693
REPORT: RGEN0100

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GSC P *51-4
EMPR BULL 109

DATE CODED: 1989/02/17
DATE REVISED: 1991/04/12

CODED BY: KPEA
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW336**

NATIONAL MINERAL INVENTORY:

NAME(S): **THREE FRIENDS**, ALICE

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 22 57 N
LONGITUDE: 117 14 37 W
ELEVATION: 1000 Metres

NORTHING: 5470006
EASTING: 482319

LOCATION ACCURACY: Within 500M

COMMENTS: The Three Friends workings, located on the north side of Hall Creek, west of the Salmo River (Open File 1989-11).

COMMODITIES: Gold Silver Copper

MINERALS

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

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au
SHAPE: Tabular
MODIFIER: Sheared
DIMENSION: 76 Metres STRIKE/DIP: 280/80S TREND/PLUNGE:
COMMENTS: Vein exposed by opencut near the Alice adit.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Silver King Porphyry

LITHOLOGY: Porphyritic Augite Basalt
Andesine Lapilli Tuff
Plagioclase Porphyry

HOSTROCK COMMENTS: Units Je4 and Je8l of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: Pre-mineralization GRADE: Greenschist

CAPSULE GEOLOGY

The Three Friends occurrence is located about 6 kilometres south of Nelson on the north side of Hall Creek. The occurrence comprises workings on two claims (Three Friends 1 and Alice), about 1 kilometre apart.

The area is underlain by augite porphyry flows, flow breccias and tuffs of the Lower Jurassic Upper Elise Formation, Rossland Group, adjacent to sheared Lower Jurassic Silver King plagioclase porphyry. Regionally developed foliation strikes north-northwest and dips steeply to the southwest.

Gold, silver and copper mineralization is confined to 20 to 30-centimetre quartz veins parallel to the foliation.

A 20-metre adit, on the Three Friends showing, was driven on the main vein which squeezed between augite porphyry in the hanging wall and sheared Silver King porphyry in the footwall. The veins contain tetrahedrite and malachite.

The quartz vein exposed in an opencut near the Alice adit is mineralized with tetrahedrite and malachite with lesser chalcopyrite and pyrite. The vein is about 30 centimetres wide, strikes 280 degrees and dips steeply south. This is the same vein exposed in the adit and has been traced for 76 metres. High, erratic gold values were reported.

No assay or production figures are reported.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; 1144A
GSC MEM *191, p. 52-53; 308
GSC OF 1195
GSC P 51-4
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious
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Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C.
Annual Meeting, Vancouver, B.C., p. A3
Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral
deposits of the Lower Jurassic Rossland Group, southeastern
British Columbia; abstract in Twelfth District 6 Meeting, Canadian
Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
EMPR BULL 109

DATE CODED: 1989/02/15
DATE REVISED: 1991/03/14

CODED BY: KPEA
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW337**

NATIONAL MINERAL INVENTORY:

NAME(S): **RENO LIMESTONE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:
LATITUDE: 49 11 02 N
LONGITUDE: 117 07 50 W
ELEVATION: 1865 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Location centred on western most limestone band at Reno mine
(Bulletin 41, Figure 3, Sheet C).

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5447906
EASTING: 490486

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite
MINERALIZATION AGE: Lower Cambrian
ISOTOPIC AGE:

DATING METHOD: Fossil

MATERIAL DATED: Archaeocyathids

DEPOSIT

CHARACTER: Stratiform
CLASSIFICATION: Sedimentary
TYPE: R09 Limestone
SHAPE: Tabular
MODIFIER: Folded
DIMENSION: 950

Massive
Industrial Min.

Metres

STRIKE/DIP: 360/50E

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Cambrian	Undefined Group	Laib	

DATING METHOD: Fossil
MATERIAL DATED: Archaeocyathids

LITHOLOGY: Limestone

HOSTROCK COMMENTS: Hosted in Reeves member of Laib formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP: Post-mineralization

GRADE:

CAPSULE GEOLOGY

Limestone of the Lower Cambrian Reeves member of the Laib Formation was once quarried at the Reno mine (082FSW036), 11 kilometres east of Salmo. The unit is exposed as a narrow band striking north for 950 metres and dipping approximately 50 degrees east on the west flank of the Sheep Creek anticline. The limestone was burned to produce lime for milling purposes at the mine. A total of 738 tonnes of limestone were quarried between 1930 and 1934.

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EMPR BULL 41, pp. 32-33
GSC MAP 299A; 1090A; 1145A; 3-1956A
GSC MEM 308, pp. 30-35
GSC OF 481; 1195, pp. 6-7
EMPR BULL 109

DATE CODED: 1989/09/29
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK:

MINFILE NUMBER: **082FSW338**

NATIONAL MINERAL INVENTORY:

NAME(S): **WANETA LIMESTONE**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 24 N
LONGITUDE: 117 37 00 W
ELEVATION: 427 Metres

NORTHING: 5428380
EASTING: 454902

LOCATION ACCURACY: Within 500M

COMMENTS: Location centred on cliff a kilometre northeast of Waneta (CANMET Report 811, page 206).

COMMODITIES: Limestone

MINERALS

SIGNIFICANT: Calcite

MINERALIZATION AGE: Lower Jurassic

DEPOSIT

CHARACTER: Stratiform Massive
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R09 Limestone
DIMENSION:

STRIKE/DIP: 165/45W

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	

LITHOLOGY: Limestone
Shale
Schist

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE

REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1944
SAMPLE TYPE: Chip
COMMODITY: Limestone GRADE
Limestone 53.9600 Per cent

COMMENTS: Across 3.7 metre thick bed. Grade given for calcium oxide.
REFERENCE: CANMET Report 811, page 207, sample 80A.

CAPSULE GEOLOGY

Limestone with some interbedded shale and schist of the Lower Jurassic Elise Formation (Rossland Group) outcrops along the west side of Highway 22A, just north of Waneta, forming a 50 metre high cliff. The strata strike 165 degrees and dip 45 degrees west. The beds consist of dark blue, fine-grained, grey weathering, occasionally shaley limestone alternating with beds of light grey shale or schist. A few calcite veinlets cut the limestone. Two chip samples analyzed as follows (CANMET Report 811, page 207, Samples 80, 80A):

Sample	CaO	MgO	SiO2	Al2O3	Fe2O3	Sulphur
80	52.30	1.48	2.20	0.92	0.40	trace
80A	53.90	0.44	1.44	0.61	0.23	trace

Sample 80 was taken across a 5.2 metre thick limestone bed, while Sample 80A was from a 3.7 metre thick bed.

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
GSC MAP 1090A; 1504A
GSC MEM 308
GSC OF 1195, pp. 13-14
GSC P 79-26, pp. 16-19

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1698
REPORT: RGEN0100

BIBLIOGRAPHY

CANMET RPT *811, Part 5, pp. 206-207
EMPR BULL 109

DATE CODED: 1989/09/26
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CODED BY: PSF
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1700
REPORT: RGEN0100

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EMPR BULL 41, pp. 25-26, Figure 3, Sheet C
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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
EMPR PF (*Memo by Fyles with assays, J.T., March 28, 1956)
GSC MAP 299A; 1090A; 1145A; 3-1956A
GSC MEM 308, pp. 30-35
GSC OF 481; 1195, pp. 6-7
EMPR BULL 109

DATE CODED: 1989/09/25
DATE REVISED: 1991/02/28

CODED BY: PSF
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW340**

NATIONAL MINERAL INVENTORY:

NAME(S): **STRAWBERRY FLATS**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 12 24 N
LONGITUDE: 117 53 36 W
ELEVATION: 1600 Metres

NORTHING: 5450814
EASTING: 434930

LOCATION ACCURACY: Within 500M

COMMENTS: Located at Strawberry Pass, a few hundred metres north of Highway 38
(Assessment Report 19741, Figure 4).

COMMODITIES: Gold Silver Copper Lead Zinc

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite Galena Sphalerite
Stibnite Arsenopyrite Magnetite
ASSOCIATED: Quartz Carbonate
ALTERATION: Pyroxene Carbonate Epidote Chlorite Silica
ALTERATION TYPE: Skarn Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Podiform Vein Disseminated Massive
CLASSIFICATION: Skarn
TYPE: K04 Au skarn K01 Cu skarn
I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian Undefined Group Mount Roberts Nelson Intrusions
Jurassic

LITHOLOGY: Limestone
Shale
Calc-silicate Hornfels
Mafic Dike
Granodiorite
Volcanic Rock

HOSTROCK COMMENTS: The intrusive rocks are probably related to the Nelson and/or Coryell intrusions.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Kootenay
METAMORPHIC TYPE: Contact RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: TRENCH REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1990
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 6.5500 Grams per tonne
Gold 39.1600 Grams per tonne

COMMENTS: From a 2 metre chip sample.
REFERENCE: Assessment Report 19741.

CAPSULE GEOLOGY

The Strawberry Pass occurrence is underlain by a generally east striking, steep northwest dipping sequence of dark grey argillaceous limestones, limy siltstones, fine sandstones and andesitic to dacitic volcanics and volcanoclastics of the Pennsylvanian to Permian Mount Roberts Formation. The strata in this area are sandwiched between syenitic to monzonitic rocks of the Middle Eocene Coryell Intrusions, about one kilometre to the south and granodioritic rock of the Middle to Late Jurassic Nelson Intrusions, a few kilometres to the north. Hornblende porphyritic to basaltic dykes intrude all other rocks in the area.

Several trenches exposed a variably mineralized skarn zone containing pods, veins and disseminations of gold-bearing massive pyrrhotite plus or minus chalcopyrite, pyrite, magnetite and

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REPORT: RGEN0100

CAPSULE GEOLOGY

stibnite. The skarn minerals include pyroxene (diopside), quartz, carbonate, epidote, and chlorite. The rocks in the trenches include limestones, shales, calc-silicate hornfels as well as mafic and granodioritic intrusives. Quartz-carbonate veins in one trench are also reported to be rich in pyrite, sphalerite, galena, chalcopryrite and arsenopyrite. A silicified section from this trench assayed 39.16 grams per tonne gold and 6.55 grams per tonne silver over 2 metres (Assessment Report 19741).

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GSC P 79-26
GSC MAP 7-1962; 23-1963; 1090A; 1504A
GSC MEM 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1991/02/01
DATE REVISED: / /

CODED BY: GJP
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW341**

NATIONAL MINERAL INVENTORY:

NAME(S): **ROSSLAND WOLLASTONITE**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 09 36 N
LONGITUDE: 117 50 06 W
ELEVATION: 1466 Metres

NORTHING: 5445578
EASTING: 439122

LOCATION ACCURACY: Within 500M

COMMENTS: Located from plot on Map 82F/4 in Energy, Mines and Petroleum Resources Industrial Minerals File.

COMMODITIES: Wollastonite

MINERALS

SIGNIFICANT: Wollastonite
ASSOCIATED: Calcite
ALTERATION: Wollastonite Clinopyroxene Diopside Hedenbergite
ALTERATION TYPE: Skarn
MINERALIZATION AGE: Eocene

DEPOSIT

CHARACTER: Discordant Massive
CLASSIFICATION: Skarn Industrial Min.
TYPE: K09 Wollastonite skarn
SHAPE: Bladed
DIMENSION: 150 x 50 Metres STRIKE/DIP: 315/35W TREND/PLUNGE:
COMMENTS: North trending skarn zone.

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Pennsylvan.-Permian	Undefined Group	Mount Roberts	
Eocene			Coryell Intrusions

LITHOLOGY: Sediment/Sedimentary Rock
Syenite
Quartz Monzonite

HOSTROCK COMMENTS: Skarn mineralization occurs in Mount Roberts sediments that are intruded by syenite and quartz monzonite of the Coryell Intrusions.

GEOLOGICAL SETTING

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

INVENTORY

ORE ZONE: SHOWING REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1990
SAMPLE TYPE: Rock
COMMODITY GRADE
Wollastonite 95.0000 Per cent
COMMENTS: Estimated from two petrographic thin sections
REFERENCE: J.M. Huber Corporation, 1990 (Industrial Minerals File).

CAPSULE GEOLOGY

Wollastonite is exposed on the west slope of a hill adjacent to Highway 3B, 9.5 kilometres north-northwest of Rossland.

The showing is hosted in sediments of the Pennsylvanian to Permian Mount Roberts Formation which are intruded from the west by syenite and quartz monzonite of the Middle Eocene Coryell Batholith. Several mineralized outcrops comprise a zone trending 315 degrees for approximately 150 metres along the north trending intrusive contact. The zone varies from 3 to 50 metres wide and dips 35 degrees west.

Hand specimens show coarse, tabular, subparallel to subradial pearly white wollastonite, weathering light tan to light brown, with minor secondary calcite. Thin sections display coarse tabular prisms of wollastonite cut by thin irregular calcite veins, with traces of clinopyroxene (?) as high relief, moderately high birefringent grains and blebs. Two thin sections averaged 95 per cent wollastonite, 4.3 per cent calcite and 0.75 per cent diopside-hedenbergite (J.M. Huber Corporation, 1990).

The deposit was staked and prospected by Horst Klassen of

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CAPSULE GEOLOGY

Rossland and sampled by J.M. Huber Corporation in 1990.

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EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 7-1962; 23-1963; 1090A; 1504A
GSC MEM 308
GSC OF 1195
GSC P 79-26
PERS COMM Klassen, H., 1991
Huber, J.M. Corporation (1990): Calcium Carbonate Division -
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EMPR BULL 109

DATE CODED: 1991/02/02
DATE REVISED: / /

CODED BY: PSF
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW342**

NATIONAL MINERAL INVENTORY:

NAME(S): **GRANITE**

STATUS: Past Producer
 REGIONS: British Columbia
 NTS MAP: 082F06W
 BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 29 52 N
 LONGITUDE: 117 22 06 W

NORTHING: 5482859
 EASTING: 473329

ELEVATION: 549 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Quarry at the north side of the Canadian Pacific Railway, 650 metres north of Granite (CANMET Report 456).

COMMODITIES: Granite Building Stone Dimension Stone

MINERALS

SIGNIFICANT: Unknown
 COMMENTS: Commodity is granodiorite.

ASSOCIATED: Feldspar Quartz Biotite

MINERALIZATION AGE: Jurassic

DEPOSIT

CHARACTER: Massive
 CLASSIFICATION: Magmatic Industrial Min.
 TYPE: R03 Dimension stone - granite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Jurassic			Nelson Intrusions

LITHOLOGY: Granodiorite

HOSTROCK COMMENTS: The Nelson Intrusions are Middle to Late Jurassic in age.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Building stone and riprap was once quarried by the Canadian Pacific Railway Company at Granite, 5 kilometres west of Nelson. The quarry is developed in granodiorite of the Middle to Late Jurassic Nelson Intrusions on the southeastern margin of the Nelson batholith. Between Nelson and the Kootenay River bridge, west of Nelson, the stone is grey, coarse grained and gneissic in some exposures and shattered in others. The stone is cut by two sets of joints at the quarry, one set strikes 060 degrees and dips vertically and the second set strikes 145 degrees and dips 85 degrees southwest. A dome like sheeting, spaced 2.4 to 3 metres apart, dips north in the middle of the quarry, northwest at the west end of the quarry and northeast at the east end. The middle of the quarry is less jointed, enabling larger blocks to be removed. The granodiorite is fairly uniform in grain and colour throughout and contains black knots and light coloured veinlets. The stone is distinguished by its large feldspar crystals and black mica, distributed in a feathery manner. A sample analyzed as follows (CANMET Report 452, page 109, sample 1523):

MAJOR OXIDES		PHYSICAL PROPERTIES	
SiO2	66.46	Specific gravity	2.705
Al2O3	15.34	Crushing strength (dry) (lbs/sq.in.)	35,512
Fe2O3	1.68	Transverse strength (lbs/sq.in.)	2,543
Fe3O4	1.83	Shearing strength (lbs/sq.in.)	1,418
CaO	3.43		
MgO	1.11		
Na2O	4.86		
K2O	4.58		
TiO2	0.27		
H2O	0.29		

A considerable amount of stone was quarried by Canadian Pacific Railway in the early 1900's, up to about 1915. The resulting quarry measured 260 metres in length with a face up to 30 metres high, trending 070 degrees. The granodiorite was used for culverts and bridge piers along the railway line and a minor amount was also used

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CAPSULE GEOLOGY

for building purposes in Nelson. No production figures are available.

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EMPR BULL 41
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987,
pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A
GSC OF 1195
CANMET REPORT *452, Vol 5., pp. 107-110; 846, pp. 174,176
EMPR BULL 109

DATE CODED: 1990/02/13
DATE REVISED: 1991/02/18

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW343**

NATIONAL MINERAL INVENTORY:

NAME(S): **NELSON GRANITE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 28 56 N
LONGITUDE: 117 18 55 W
ELEVATION: 640 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Quarry along southeast side of Highway 3A, 2 kilometres west of Nelson (CANMET Report 456).

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

NORTHING: 5481112
EASTING: 477163

COMMODITIES: Granite Building Stone Dimension Stone

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Granodiorite.
MINERALIZATION AGE: Jurassic

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Magmatic Industrial Min.
TYPE: R03 Dimension stone - granite

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Jurassic			Nelson Intrusions

LITHOLOGY: Granodiorite
Fine Grained Granodiorite

HOSTROCK COMMENTS: The Nelson Intrusions range from Middle to Late Jurassic in age.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

A small amount of dimension stone was quarried on the south side of Highway 3A, 2 kilometres west of Nelson.

The quarry is developed in a 15 metre high knoll of granodiorite of the Middle to Late Jurassic Nelson Intrusions on the southeastern margin of the Nelson batholith. Between Nelson and the Kootenay River bridge, west of Nelson, the stone is grey, coarse grained and gneissic in some exposures and shattered in others.

A discontinuous sheeting, spaced at 8 to 100 centimetres, strikes southwest parallel to the highway and dips 15 degrees southeast at the quarry site. A major joint set strikes parallel to the sheeting and dips at right angles to it. A second set strikes 005 degrees and dips 85 degrees west.

The stone is a fine to medium-grained, light grey granodiorite with a somewhat variable colour, that takes on a high gloss and shows very few incipient cracks under oblique light. The rock is marred by a number of black knots, up to 2.5 centimetres in diameter, and develops a brown iron oxide stain on weathered surfaces. Good size blocks with a uniform texture and free of blemishes, can still be obtained. A sample analyzed as follows (CANMET Report 452, pages 110, 111, sample 1524):

PHYSICAL PROPERTIES

Specific gravity	2.676
Crushing strength (dry) (lbs/sq.in.)	36,608
Transverse strength (lbs/sq.in.)	2,158
Shearing strength (lbs/sq.in.)	2,610

Canadian Marble and Granite Company quarried a few blocks for monument purposes in the early 1900's, up to about 1916. The quarry was operated intermittently by the Nelson Granite and Monumental Company through the 1950's, producing blocks for monumental dies and bases. Some stone was also used in several buildings in Nelson. In 1955, the quarry was 15 metres long, 12 metres wide and 10 metres high. No production figures are available.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 1090A
GSC OF 1195
CANMET REPORT *452, Vol. 5, pp. 110, 111; *846, p. 175
EMPR BULL 109

DATE CODED: 1991/02/18
DATE REVISED: 1991/02/18

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW344**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER HILL**, J.C., CASTLE ROCK

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 14 27 N
LONGITUDE: 117 02 45 W
ELEVATION: 1950 Metres

NORTHING: 5454230
EASTING: 496664

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the northern face of the southern peak of Three Sisters Peaks (Geological Survey of Canada Map 1145A, mineral occurrence 16).

COMMODITIES: Silver

MINERALS

SIGNIFICANT: Limonite

COMMENTS: An unknown grey metallic mineral associated with the silver values is reported.

ASSOCIATED: Quartz

ALTERATION: Limonite

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein

CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Hadrynian	Windermere	Three Sisters	

LITHOLOGY: Quartzite
Andesite Dike

HOSTROCK COMMENTS: The Three Sisters Formation is correlative with rocks of the upper part of the Horsethief Creek Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Silver Hill showing is underlain by the Hadrynian Three Sisters Formation, of the Windermere Supergroup, which comprises quartzite, conglomerate and schist (correlative with the upper part of the Horsethief Creek Group). Within a few hundred metres to the west is the north trending contact with the Lower Cambrian Quartzite Range Formation composed chiefly of quartzite (correlative with rocks of the Hamill Group).

Three adits are developed on quartz veins that follow the sides of andesitic dykes that cut north striking, vertically dipping quartzites of the Three Sisters Formation. One vein up to 30 centimetres wide has been traced for up to 60 metres. About 30 metres higher up the bluff another fissure up to 1.8 metres wide contains some quartz. The quartz contains limonite and an unknown grey metallic mineral that is reported to be high in silver.

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EMPR BULL 31
EMPR OF 1991-16
GSC MAP 1145A
GSC MEM *172, p. 81; 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1991/02/14
DATE REVISED: / /

CODED BY: GJP
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW345**

NATIONAL MINERAL INVENTORY:

NAME(S): **LOT 4636**, SALMO QUARTZITE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 20 N
LONGITUDE: 117 06 28 W

NORTHING: 5457724
EASTING: 492160

ELEVATION: 1829 Metres

LOCATION ACCURACY: Within 500M

COMMENTS: Located 1 kilometre north of Porcupine Creek and 15 kilometres northeast of Salmo.

COMMODITIES: Flagstone

Dimension Stone

Building Stone

Quartzite

MINERALS

SIGNIFICANT: Unknown

COMMENTS: Quartzite.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary
TYPE: R08 Flagstone

Stratabound
Industrial Min.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Lower Cambrian

Unnamed/Unknown Group

Quartzite Range

LITHOLOGY: Micaceous Quartzite

HOSTROCK COMMENTS: Quartzite Range Formation is correlative with rocks of the Lower Cambrian Hamill Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The quartzite quarry on Lot 4636 is located 1 kilometre north of Porcupine Creek, 15 kilometres northeast of Salmo.

Thinly-bedded micaceous quartzite of the Lower Cambrian Quartzite Range Formation (correlative with rocks of the Lower Cambrian Hamill Group) is being quarried for flagstone by Porcupine Mines Ltd. Individual quartzite beds display various colours including beige, brown and green. The stone is split along micaceous partings to produce slabs for building facings and a variety of other architectural and decorative uses.

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EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR INF CIRC 1988-6, p. 26; 1991-1, p. 71
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; 1090A; 1145A
GSC MEM 94
GSC OF 1195
GSC P 51-4
EMPR BULL 109

DATE CODED: 1991/03/06
DATE REVISED: 1991/03/06

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW346**

NATIONAL MINERAL INVENTORY:

NAME(S): **SHARON**, SALMO QUARTZITE

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 15 39 N
LONGITUDE: 117 10 22 W
ELEVATION: 884 Metres

NORTHING: 5456466
EASTING: 487429

LOCATION ACCURACY: Within 500M

COMMENTS: Located on north side of Porcupine Creek, 11 kilometres northeast of Salmo (Industrial Mineral File - Map 082F).

COMMODITIES: Flagstone Building Stone Dimension Stone Quartzite

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Commodity is quartzite.
ASSOCIATED: Mica
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive Stratabound
CLASSIFICATION: Sedimentary Industrial Min.
TYPE: R08 Flagstone

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Paleozoic

Unnamed/Unknown Group

Unnamed/Unknown Formation

LITHOLOGY: Micaceous Quartzite
Schist
Argillite
Slate
Phyllite
Limestone

HOSTROCK COMMENTS: Paleozoic metasedimentary sequence partly equivalent to Milford Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Sharon quartzite quarry is located on the north side of Porcupine Creek, 11 kilometres northeast of Salmo.

The quarry is developed in a thick unnamed Paleozoic sequence of micaceous quartzite, schist, argillite, slate, phyllite and limestone partly equivalent to the Milford Group.

Individual quartzite beds display various colours including beige, brown and green. The stone is split along micaceous partings to produce slabs that are sold locally for building facings and a variety of other architectural and decorative uses. The quartzite is being quarried intermittently for flagstone by Porcupine Mines Ltd. of Salmo.

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EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR INF CIRC 1988-6, p. 26; 1991-1, p. 71
EMPR MAP 7685G; RGS 1977; 8480G
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EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 51-4A; 1090A; 1145A
GSC MEM 94
GSC OF 1195
GSC P 51-4
EMPR BULL 109

DATE CODED: 1991/03/06
DATE REVISED: 1991/03/06

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW347**

NATIONAL MINERAL INVENTORY:

NAME(S): **RIVERSIDE**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 17 N
LONGITUDE: 117 05 43 W
ELEVATION: 1372 Metres

NORTHING: 5440955
EASTING: 493048

LOCATION ACCURACY: Within 500M

COMMENTS: Located 3 kilometres east-northeast of the peak of Mount Waldie, 15.5 kilometres southeast of Salmo.

COMMODITIES: Flagstone

Dimension Stone

Building Stone

Quartzite

MINERALS

SIGNIFICANT: Quartz Sericite

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary

Stratabound
Industrial Min.

TYPE: R08 Flagstone

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Lower Cambrian

GROUP

Unnamed/Unknown Group

FORMATION

Quartzite Range

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Micaceous Quartzite

HOSTROCK COMMENTS: Quartzite Range Formation correlative to the Lower Cambrian Hamill Group.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

Quartzite was quarried on the Riverside Crown granted mineral claim south of Sheep Creek, 15.5 kilometres southeast of Salmo.

This area is underlain by a sequence of metamorphosed carbonates and clastic sediments of Lower Paleozoic age that have been folded into a series of anticlines and synclines that trend north and exhibit steep to near vertical limbs.

The quarry is developed in micaceous quartzite of the Lower Cambrian Quartzite Range Formation. Individual quartzite beds exhibit various colours similar to those on the Porcupine claims to the north (082FSW279), including buff, red, grey and green. The stone is reported to split readily and evenly along cleavage planes containing sericite.

A total of 77 tonnes of quartzite was mined in 1963 and 1964, by A. Endersby of Fruitvale. The stone was sold in the Nelson district for decorative facing stone.

BIBLIOGRAPHY

EMPR AR 1963-139, 1964-181
EMPR BULL 41
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43
EMPR INF CIRC 1988-6, p. 26
EMPR OF 1988-1; 1989-11; 1991-16
GSC MAP 51-4A; 3-1956, 1145A
GSC MEM 308
GSC OF 1195
GSC P 51-4
EMPR BULL 109

DATE CODED: 1991/03/06
DATE REVISED: 1991/03/06

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW348**

NATIONAL MINERAL INVENTORY:

NAME(S): **B & B**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 01 33 N
LONGITUDE: 117 18 02 W
ELEVATION: 914 Metres

NORTHING: 5430371
EASTING: 478028

LOCATION ACCURACY: Within 500M

COMMENTS: Located 5 kilometres east of Remac, west of Creggan Creek
(Exploration in B.C. 1978, p. 284).

COMMODITIES: Flagstone

Dimension Stone

Building Stone

Quartzite

MINERALS

SIGNIFICANT: Quartz Mica

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Sedimentary

Stratabound
Industrial Min.

TYPE: R08 Flagstone

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE

Lower Cambrian
Middle Cambrian

GROUP

Unnamed/Unknown Group
Unnamed/Unknown Group

FORMATION

Quartzite Range
Nelway

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Micaceous Quartzite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The B & B quartzite occurrence is situated 5 kilometres east of Remac, west of Creggan Creek near Nelway.

The quarry is reported to be developed in Lower Cambrian quartzite (Exploration in B.C 1978), presumably of the Quartzite Range Formation. However, Geological Survey of Canada Open File 1195 shows the area to be underlain entirely by carbonates of the Middle Cambrian Nelway Formation.

A total of 360 tonnes of quartzite were produced for facing stone, ashlar and flagstone by T. Brown of Salmo in 1978.

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EMPR EXPL *1978-284
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR INF CIRC 1988-6, p. 26
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 51-4A; 3-1956, 1145A
GSC MEM 308
GSC OF 1195
GSC P 51-4
EMPR BULL 109

DATE CODED: 1991/03/06
DATE REVISED: 1991/03/06

CODED BY: PSF
REVISED BY: PSF

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW349**

NATIONAL MINERAL INVENTORY:

NAME(S): **WEWA**, RAM, BIG SHEEP CREEK

MINING DIVISION: Trail Creek
Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5459435
EASTING: 427213

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F05W 082E08E
BC MAP:

LATITUDE: 49 17 00 N
LONGITUDE: 118 00 03 W
ELEVATION: 1524 Metres

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate centre of claims (Assessment Report 5326).

COMMODITIES: Copper Fluorite

MINERALS

SIGNIFICANT: Chalcopyrite Fluorite Magnetite Pyrite
COMMENTS: Possibly molybdenite.
ASSOCIATED: Quartz
ALTERATION: Chlorite Epidote Silica
ALTERATION TYPE: Propylitic Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Breccia Disseminated
CLASSIFICATION: Hydrothermal Epigenetic
SHAPE: Irregular
MODIFIER: Faulted Fractured
COMMENTS: Foliation, dykes, faults, and breccia zones trend within 10 or 15 degrees of north.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene			Coryell Intrusions
Jurassic			Nelson Intrusions

LITHOLOGY: Monzonite
Diorite
Granodiorite
Granite
Feldspar Hornblende Porphyry Dike
Feldspar Porphyry Andesite
Biotite Porphyry Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Wewa showing is located 25 kilometres west of Castlegar at the headwaters of Big Sheep Creek.

The area is underlain by monzonite, diorite, granite and granodiorite of the Middle to Late Jurassic Nelson Intrusions and these have in turn been intruded by feldspar-hornblende-biotite porphyry dykes, feldspar porphyry andesite (?) and biotite porphyry andesite(?) of the Middle Eocene Coryell Intrusions. Silicification is common and the monzonite is propylitically altered.

Mineralization, consisting of chalcopyrite, pyrite, fluorite, magnetite and possibly molybdenite, occurs associated with fault breccia. No other information is available.

This is likely the same occurrence as Wewa (082ESE167).

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EMPR ASS RPT 3802, *5326, 7873
EMPR BULL 41
EMPR FIELDWORK 1977, pp. 61-62; 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8484G
EMPR OF 1991-16; 1992-16
GSC MAP 1090A
GSC MEM 308
GSC OF 1195

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 1715
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BIBLIOGRAPHY

EMPR BULL 109

DATE CODED: 1991/03/22
DATE REVISED: 1999/01/13

CODED BY: DEJ
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW350**

NATIONAL MINERAL INVENTORY:

NAME(S): **ACE IN THE HOLE**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 07 04 N
LONGITUDE: 117 22 43 W
ELEVATION: 1625 Metres

NORTHING: 5440618
EASTING: 472373

LOCATION ACCURACY: Within 500M

COMMENTS: Area of Trench 27 (Assessment Report 16567, Figure 3).

COMMODITIES: Silver Gold Lead Copper Zinc

MINERALS

SIGNIFICANT: Pyrite Galena Chalcopyrite Sphalerite

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
Lower Jurassic	Rossland	Elise	

LITHOLOGY: Mafic Volcaniclastic
Tuff
Agglomerate
Basaltic Volcanic
Flow Breccia
Massive Flow
Augite Porphyry

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1986

SAMPLE TYPE: Grab

COMMODITY

GRADE

Silver	132.0000	Grams per tonne
Gold	0.7500	Grams per tonne
Copper	0.9900	Per cent
Lead	4.6500	Per cent
Zinc	0.1200	Per cent

REFERENCE: Assessment Report 14934, page 15.

CAPSULE GEOLOGY

The Ace in the Hole is underlain mainly by basaltic volcanics of the Lower Jurassic Rossland Group, Elise Formation comprised of flow breccia, massive flows, agglomerate, tuff and sill-like intrusives (augite porphyry). A minor amount of laminated, tuffaceous siltstone and shale occur as interbeds. These are overlain by argillites and quartzites of the Rossland Group, Hall Formation and underlain by black argillaceous siltstone and arenaceous argillite of the Rossland Group, Archibald Formation. The Rossland Group rocks are intruded by the Middle to Late Jurassic Nelson Intrusions comprised of a rock ranging in composition from granite to quartz diorite.

An old 5-metre deep shaft was sunk on a narrow quartz vein pinching and swelling to a maximum of 0.4 metres. A sample of a sulphide rich pocket graded 0.75 grams per tonne gold, 132 grams per tonne silver, 0.99 per cent copper, 4.65 per cent lead and 0.12 per cent zinc (Assessment Report 14934, page 15). Sulphides include pyrite, chalcopyrite, galena and sphalerite. A trench was later excavated from the shaft (trench 27) within mafic volcaniclastic country rock.

RUN DATE: 25-Jun-2003
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ENERGY AND MINERALS DIVISION

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BIBLIOGRAPHY

EMPR ASS RPT *14934, *16567
EMPR EXPL 1989, pp. 73-80
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1090A; 1145A
GSC MEM 172; 308
EMPR BULL 109

DATE CODED: 1991/03/21
DATE REVISED: / /

CODED BY: GJP
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW351**

NATIONAL MINERAL INVENTORY:

NAME(S): **THREE SISTERS**, YMIR KYANITE, BALDY MOUNTAIN

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 20 39 N
LONGITUDE: 117 02 13 W
ELEVATION: 1770 Metres

NORTHING: 5465717
EASTING: 497316

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate center of north-south elongate area, containing 4 showings, 14 kilometres in length (Open File 1988-26, Map 1, Area 3).

COMMODITIES: Kyanite

MINERALS

SIGNIFICANT: Kyanite
COMMENTS: Up to 15 per cent of schist.
ASSOCIATED: Mica Quartz
MINERALIZATION AGE: Mesozoic

DEPOSIT

CHARACTER: Disseminated Layered Stratabound
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: P02 Kyanite-sillimanite schists
SHAPE: Tabular
MODIFIER: Folded
COMMENTS: Average size of kyanite porphyroblasts is 2.5 by 0.5 centimetres.

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Hadrynian	Windermere	Three Sisters	

LITHOLOGY: Kyanite Schist

HOSTROCK COMMENTS: Windermere is a Supergroup.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional
PHYSIOGRAPHIC AREA: Selkirk Mountains
RELATIONSHIP: Syn-mineralization
GRADE: Amphibolite

CAPSULE GEOLOGY

The Three Sisters occurrence comprises four kyanite showings in an elongate north trending area, 14 kilometres in length, centered just east of Ymir.

The area occurs on the east flank of the Nelson batholith, where Triassic to Precambrian metamorphosed sedimentary strata are exposed.

Strata of the Hadrynian Three Sisters Formation (Windermere Supergroup) outcrop in the core of an anticline. Kyanite schists contain up to 15 per cent kyanite porphyroblasts that have an average size of 2.5 by 0.5 centimetres.

BIBLIOGRAPHY

EMPR BULL 41
EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1988-26; 1989-11; 1991-16
GSC MAP 51-4A; 175A; 1090A
GSC MEM 94, p. 72; 308, pp. 156,174
GSC OF 1195
GSC P 51-4
*McAllister, A.L. (1950): Geology of the Ymir map-area, British Columbia; Unpublished Ph.D. Thesis, McGill University, Montreal, Quebec
EMPR BULL 109

DATE CODED: 1991/03/22
DATE REVISED: 1991/03/22

CODED BY: JP
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW352**

NATIONAL MINERAL INVENTORY:

NAME(S): **VERMONT**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 29 N
LONGITUDE: 117 52 59 W
ELEVATION: 1400 Metres

NORTHING: 5428727
EASTING: 435422

LOCATION ACCURACY: Within 1 KM

COMMENTS: Located in the vicinity of Mount Sophia (Assessment Report 17718).

COMMODITIES: Silver Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite

COMMENTS: The sulphide mineralogy is assumed.

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Upper Cretaceous	Undefined Group	Sophie Mountain	
Lower Jurassic	Rossland	Elise	
Eocene			Coryell Intrusions

LITHOLOGY: Conglomerate
Volcanic Rock
Siltstone
Argillite

HOSTROCK COMMENTS: It is not reported in which unit the mineralization is hosted.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1988

COMMODITY	GRADE	
Silver	99.7700	Grams per tonne
Copper	0.1200	Per cent
Lead	20.1900	Per cent
Zinc	9.3200	Per cent

REFERENCE: Assessment Report 17718 (Assay Certificate).

CAPSULE GEOLOGY

The Vermont showing occurs in the vicinity of Mount Sophia. The west half of the mountain is underlain by the Upper Cretaceous Sophie Mountain Formation consisting of conglomerate with thin interbeds of argillite and siltstone. The east half of the mountain is underlain by volcanics of the Lower Jurassic Elise Formation, Rossland Group. Dykes of the Middle Eocene Coryell Intrusions cut the conglomerate.

The showings were reported to contain copper, lead, zinc, silver and gold in significant amounts; presumably the sulphides are chalcopyrite, galena and sphalerite. The conglomerates are reported to contain minor amounts of silver and gold. One sample from the Vermont claims assayed 0.12 per copper, 20.19 per cent lead, 9.32 per cent zinc, 99.77 grams per tonne silver and 0.07 grams per tonne gold (Assessment Report 17718).

BIBLIOGRAPHY

EMPR ASS RPT *17718
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (*First Manhattan Resources Corp., Prospectus, April 7, 1989)
GSC MAP 1090A; 1504A

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RUN TIME: 16:27:53

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BIBLIOGRAPHY

GSC MEM 308
GSC P 79-26
EMPR BULL 109

DATE CODED: 1991/03/22
DATE REVISED: / /

CODED BY: GJP
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW353**

NATIONAL MINERAL INVENTORY:

NAME(S): **MOR 1, MOR 1-4, MORNING MOUNTAIN,
SANDY CREEK**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

MINING DIVISION: Nelson

LATITUDE: 49 27 29 N
LONGITUDE: 117 21 45 W
ELEVATION: 1490 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5478441
EASTING: 473730

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate location of sample CT88-04 at the northwestern boundary of the Mor 1 claim (Assessment Report 18290).

COMMODITIES: Gold Copper

MINERALS

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

DEPOSIT

CHARACTER: Disseminated Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L03 Alkalic porphyry Cu-Au
SHAPE: Irregular
MODIFIER: Sheared

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Unnamed/Unknown Informal
Jurassic			Nelson Intrusions

LITHOLOGY: Diorite
Gneiss
Pyroclastic
Flow Breccia
Augite Porphyry
Biotite Monzonite

HOSTROCK COMMENTS: Mineralization is hosted in pseudodiorite (gneiss?) of unknown affinity.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1988

COMMODITY	GRADE	
Gold	0.8400	Grams per tonne
Copper	0.0540	Per cent

COMMENTS: Sample CT88-04 across 0.25 metre wide quartz vein, from 2 metre pit.
REFERENCE: Assessment Report 18290.

CAPSULE GEOLOGY

The Mor 1 showing is located 6 kilometres southwest of Nelson on the north slope of Morning Mountain, 1 kilometre southeast of the Granite-Poorman mine (082FSW086). The area was explored from 1886 up to the 1940's and old overgrown trenches and adits probably date from this period. The Star showings adjoin to the west (082FSW083).

The area is underlain by mafic to intermediate volcanic rocks of the Lower Jurassic Elise Formation, Rossland Group, Jurassic pseudodiorite (gneiss?) of unknown affinity and biotite monzonite of the Middle to Late Jurassic Nelson Intrusions. The volcanic/diorite contact strikes north.

Mineralization consists of disseminated pyrite and chalcopyrite in diorite and minor sulphides hosted in narrow quartz veins.

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RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
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CAPSULE GEOLOGY

The best assay was from sample CT88-04 taken from an old trench in diorite on the Mor 1 claim. This sample assayed 0.84 gram per tonne gold and 0.054 per cent copper (Assessment Report 18290).

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41
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pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 49-22; 52-13A; 62A; 1090A; 1091A
GSC MEM 34; 191, p. 66; 308, pp. 155,172
GSC OF 1195
GSC P 49-22; 52-13
GSC SUM RPT 1889, pp. 55b,64b; 1911, p. 146
EMPR BULL 109

DATE CODED: 1991/03/27
DATE REVISED: / /

CODED BY: DEJ
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW354**

NATIONAL MINERAL INVENTORY:

NAME(S): **ORO FINO (L.2011)**, EVENING STAR (L.2014), OROFINO,
 DEXTER (L.2012), DEXTER FR. (L.2013), TIGER (L.2010),
 FOR SALE FR.

MINING DIVISION: Nelson

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F06W

UTM ZONE: 11 (NAD 83)

BC MAP:
 LATITUDE: 49 28 28 N
 LONGITUDE: 117 22 33 W
 ELEVATION: 1100 Metres

NORTHING: 5480268
 EASTING: 472773

LOCATION ACCURACY: Within 1 KM
 COMMENTS: Approximate location of vein on Lot 2014 Eveining Star (Assessment Report 14355).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Sulphide
 COMMENTS: Mineralization is reported to be similar to that of the Granite-Poorman veins which consists of pyrite, chalcopyrite, galena, sphalerite and free gold.

ASSOCIATED: Quartz
 MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
 CLASSIFICATION: Hydrothermal Epigenetic
 TYPE: L03 Alkalic porphyry Cu-Au I05 Polymetallic veins Ag-Pb-Zn±Au
 SHAPE: Tabular
 MODIFIER: Sheared
 DIMENSION:
 COMMENTS: Vein. STRIKE/DIP: 350/45E TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Metaplutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Unnamed/Unknown Informal
Jurassic			Nelson Intrusions

LITHOLOGY: Diorite
 Gneiss
 Augite Porphyry
 Augite Feldspar Porphyry
 Granite

HOSTROCK COMMENTS: The vein is hosted in pseudodiorite (gneiss?) of unknown affinity.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Quesnel Plutonic Rocks
 PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN REPORT ON: N
 CATEGORY: Assay/analysis YEAR: 1985
 SAMPLE TYPE: Grab
 COMMODITY GRADE
 Silver 8.6000 Grams per tonne
 Gold 1.0300 Grams per tonne
 Copper 0.8700 Per cent
 COMMENTS: Sample LARC 1.
 REFERENCE: Assessment Report 14355.

CAPSULE GEOLOGY

The Oro Fino showing is located about 10 kilometres west of Nelson. The mineralization is similar to that found at the Granite-Poorman (082FSW086) deposit just to the southwest. It is possible that the Granite-Poorman vein system continues on to this property. The area is underlain by Jurassic pseudodiorite (gneiss ?) of unknown affinity, granitic Middle to Late Jurassic Nelson Intrusions and volcanic rocks of the Lower Jurassic Elise Formation, Rossland Group.
 A vein, 0.15 metre wide, occurs on the Evening Star claim (Lot

CAPSULE GEOLOGY

2014). The vein is fault controlled and has the same attitude as the Granite-Poorman veins (strike 350 degrees, dip 45 degrees east). Samples have assayed up to 9.43 grams per tonne gold from this vein (Assessment Report 14355).

A sample taken from the Oro Fino claim (Lot 2011) assayed 1.03 grams per tonne gold, 0.87 per cent copper and 8.6 grams per tonne silver (Assessment Report 14355). No other information is available on these veins.

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GSC MEM 34; 191, p. 66; 308, pp. 155,172
GSC OF 1195
GSC P 49-22; 52-13
GSC SUM RPT 1889, pp. 55b,64b; 1911, p. 146
EMPR BULL 109

DATE CODED: 1991/03/27
DATE REVISED: / /

CODED BY: DEJ
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW355**

NATIONAL MINERAL INVENTORY:

NAME(S): **KENO 9**, KENO, MAMMOTH,
FERN

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 22 28 N
LONGITUDE: 117 16 23 W
ELEVATION: 1370 Metres

NORTHING: 5469118
EASTING: 480178

LOCATION ACCURACY: Within 1 KM

COMMENTS: Approximate centre of Keno 9 claim (Assessment Report 18235).

COMMODITIES: Gold Copper Silver

MINERALS

SIGNIFICANT: Chalcopyrite Tetrahedrite Bornite

COMMENTS: Possibly cuprite.

ASSOCIATED: Quartz

COMMENTS: Oxidation minerals not specified.

ALTERATION TYPE: Oxidation

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Disseminated Massive

CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Lower Jurassic
Lower Jurassic

GROUP

Rossland
Rossland

FORMATION

Elise
Hall

IGNEOUS/METAMORPHIC/OTHER

LITHOLOGY: Augite Basalt Flow
Flow Breccia
Siltstone
Sandstone
Conglomerate
Argillite

HOSTROCK COMMENTS: Unit Je1 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca

TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: DUMP

REPORT ON: N

CATEGORY: Assay/analysis

SAMPLE TYPE: Grab

YEAR: 1988

COMMODITY

Silver

Gold

Copper

GRADE

84.5000

1.1200

5.3100

Grams per tonne

Grams per tonne

Per cent

COMMENTS: Sample M1 from adit dump.

REFERENCE: Assessment Report 18235.

CAPSULE GEOLOGY

The Keno 9 showing is located 15 kilometres south-southwest of Nelson between the Mammoth (082FSW211) and Fern (082FSW183) properties. An old adit and open cut from unknown exploration are present on the claim.

The area is underlain by augite basalt flows and flow breccias of the Elise Formation and siltstone, sandstone, conglomerate and argillite of the Hall Formation, both of the Lower Jurassic Rossland Group.

Two east striking quartz veins, in volcanic rocks near the sedimentary-volcanic contact, comprise the showing. The main vein, 1.37 metres wide, is exposed by the old workings. The vein strikes 250 degrees and dips 65 to 70 degrees north. A similar secondary vein, 0.20 metre wide, occurs 2 metres to the north. An adit, 50 metres north of the main vein, is cut on a copper-rich similar quartz vein.

Mineralization consists of chalcopyrite, tetrahedrite, bornite

CAPSULE GEOLOGY

and possibly cuprite as disseminated to semi-massive pods within the veins.

Sample M1 from the adit dump assayed 1.12 grams per tonne gold, 84.5 grams per tonne silver and 5.31 per cent copper (Assessment Report 18235). A selected sample from the main vein dump assayed 5.4 grams per tonne gold, 8.0 grams per tonne silver and 1.106 per cent copper (Assessment Report 18235).

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WWW http://www.infomine.com/index/properties/MAMMOTH_-BLUEBIRD.html
EMPR BULL 109

DATE CODED: 1991/03/27
DATE REVISED: / /

CODED BY: DEJ
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW356**

NATIONAL MINERAL INVENTORY:

NAME(S): **DEBBIE**, DEBBIE 2

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W 082F05E
BC MAP:

Underground

MINING DIVISION: Nelson

LATITUDE: 49 24 08 N
LONGITUDE: 117 28 36 W
ELEVATION: 1332 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5472280
EASTING: 465417

LOCATION ACCURACY: Within 500M

COMMENTS: Upper adit (Assessment Report 19435).

COMMODITIES: Gold Copper Silver

MINERALS

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

DEPOSIT

CHARACTER: Stockwork Shear Podiform Massive
CLASSIFICATION: Hydrothermal Epigenetic
SHAPE: Irregular
MODIFIER: Sheared

HOST ROCK

DOMINANT HOSTROCK: Metavolcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic	Ymir	Unnamed/Unknown Formation	
Jurassic			Nelson Intrusions

LITHOLOGY: Altered Dacite
Tuff
Diorite
Argillite
Siltstone
Limestone
Chert

HOSTROCK COMMENTS: Roof pendants of metavolcanic Rossland Group rocks occur in the area.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE: Greenschist

INVENTORY

ORE ZONE: DRILLHOLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Drill Core

COMMODITY	GRADE	
Silver	5.5000	Grams per tonne
Gold	3.6300	Grams per tonne
Copper	0.2000	Per cent

COMMENTS: Drill hole 88-3, sample contained a stockwork in sheared dacite over 61 centimetres.

REFERENCE: Assessment Report 19435.

CAPSULE GEOLOGY

The Debbie showing is located 16 kilometres southwest of Nelson, just south of the Hungary Man (082FSW235) and Whitewater showings (082FSW222). There are two old adits near the headwaters of Connor Creek, probably dating from the 1930's.

The area is underlain by argillite, siltstone, limestone and chert of the Jurassic Ymir Group which have been intruded by diorite of the Middle to Late Jurassic Nelson Intrusions. Roof pendants of Lower Jurassic Elise Formation, Rossland Group volcanic rocks occur in the area. Skarn has been noted in outcrop and in rocks found on the adit dumps.

Massive sulphide mineralization occurs in narrow veinlets/stockworks, over a length of up to 40 centimetres, associated with

CAPSULE GEOLOGY

chloritization and silicification.

The upper adit follows a shear, 1 to 30 centimetres wide, in metavolcanic rock. Mineralization consists of pods of massive sulphides comprising pyrrhotite, pyrite and chalcopyrite. Samples from the adit assayed from 27.4 to 34.28 grams per tonne gold (Assessment Report 12139). The lower adit, 60 metres to the northwest, apparently did not encounter significant mineralization. The highest assay from dump material was 7.2 grams per tonne gold (Assessment Report 19435).

The best intersection encountered from a drilling program in 1988 was from drill hole 88-3 just south of the upper adit. A sample containing a stockwork in sheared dacite assayed 3.63 grams per tonne gold, 0.20 per cent copper and 5.5 grams per tonne silver over 61 centimetres (Assessment Report 19435).

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GSC MEM 308
GSC P 49-22; 52-13
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EMPR BULL 109

DATE CODED: 1991/04/02
DATE REVISED: 1991/04/02

CODED BY: DEJ
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW357**

NATIONAL MINERAL INVENTORY:

NAME(S): **TRILLICUM FR. (L.11013)**, BEAN POT (L.3233), FOREST KING (L.3232)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek

LATITUDE: 49 04 13 N
LONGITUDE: 117 51 54 W
ELEVATION: 1300 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5435629
EASTING: 436821

LOCATION ACCURACY: Within 500M

COMMENTS: The area of underground workings is on the southwest flank of OK mountain a few hundred metres east of Record Creek (Assessment Report 20157).

COMMODITIES: Lead Zinc Copper

MINERALS

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

DEPOSIT

CHARACTER:	Shear	Massive		
CLASSIFICATION:	Hydrothermal	Epigenetic	Igneous-contact	
DIMENSION:	2	Metres	STRIKE/DIP: 010/80E	TREND/PLUNGE:
COMMENTS:	Structure in shaft.			

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Eocene	Penticton	Marron	
Eocene			Coryell Intrusions

LITHOLOGY: Andesite
Tuff
Tuffaceous Sandstone
Tuffaceous Conglomerate
Monzonite
Syenite
Granite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Overlap Assemblage

CAPSULE GEOLOGY

The Trillicum showing occurs near the contact of the Eocene Penticton Group, Marron Formation, on the east, and a stock of the Middle Eocene Coryell Intrusions, on the west. The Marron Formation rocks consists of andesitic flows, lapilli tuffs, tuffaceous sandstone and tuffaceous conglomerate. The intrusions are generally coarse grained and range in composition from syenite to monzonite and granite.

In 1990, some old workings consisting of a 20 metre vertical shaft, two caved adits and several pits were discovered. Exposed in the shaft is a silicified and altered structure up to 2 metres wide, striking 010 degrees and dipping 80 degrees east. On the dump near the shaft specimens of massive magnetite and pyrite were found, as were specimens containing up to 5 per cent galena with traces of sphalerite and malachite.

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1518; 1090A; 1504A
GSC MEM 77
GSC OF 1195
GSC P 79-26

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
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PAGE: 1730
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BIBLIOGRAPHY

EMPR BULL 109

DATE CODED: 1991/04/02
DATE REVISED: 1998/06/18

CODED BY: GJP
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW358**

NATIONAL MINERAL INVENTORY:

NAME(S): **AUROUS**, AUROUS 1-4, MT CONNOR

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 24 07 N
LONGITUDE: 117 24 33 W
ELEVATION: 1800 Metres

NORTHING: 5472220
EASTING: 470314

LOCATION ACCURACY: Within 500M

COMMENTS: Approximate centre of claims (Assessment Report 16161).

COMMODITIES: Gold Copper Silver

MINERALS

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

DEPOSIT

CHARACTER: Vein Disseminated
CLASSIFICATION: Epithermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb) 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>
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Altered Andesite
Greenstone
Tuff
Granodiorite

HOSTROCK COMMENTS: Units Je8 and Je8l of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Aurous showing is located on the northeast slope of Mt. Connor, 13 kilometres southwest of Nelson. The Whitewater (082FSW222) deposit is just to the southwest. There is an adit and several trenches on the property that date from the turn of the century.

The area is underlain by andesitic and minor basaltic tuffs of the Lower Jurassic Elise Formation (units Je8 and Je8l), Rossland Group (Open File 1989-11). These have been intruded by granodiorite of the Middle to Late Jurassic Nelson Intrusions.

The andesite is silicified and propylitically altered as evidenced by pervasive epidotization. The altered andesite hosts quartz veins mineralized with disseminated pyrite and chalcopyrite. Disseminated magnetite occurs locally in the altered andesite adjacent to the veins.

Old records report assays of 3.43 to 130.26 grams per tonne gold, 102.84 to 685.6 grams per tonne silver and 5 to 22 per cent copper from these veins (Assessment Report 16161). Geochemical sampling in 1987 returned low values for these metals.

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EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-16
GSC MAP 52-13A; 1090A; 1091A
GSC MEM 308
GSC OF 1195
GSC P 52-13

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1732
REPORT: RGEN0100

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EMPR BULL 109

DATE CODED: 1991/04/04
DATE REVISED: / /

CODED BY: DEJ
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW359**

NATIONAL MINERAL INVENTORY:

NAME(S): **HATTIE BROWN (L.1047)**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Open Pit

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 37 N
LONGITUDE: 117 48 12 W
ELEVATION: 975 Metres

NORTHING: 5434467
EASTING: 441313

LOCATION ACCURACY: Within 500M

COMMENTS: The Hattie Brown Crown grant (Lot 1047) is located is located about 1 kilometre south of Rossland and about 0.5 kilometres west of Gopher Creek.

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Galena
COMMENTS: Galena is assumed to occur.
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION:
COMMENTS: Mineralized fractures.

STRIKE/DIP: 325/55E

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Jurassic
Eocene
Lower Jurassic

GROUP
Rossland

FORMATION
Elise

IGNEOUS/METAMORPHIC/OTHER

Coryell Intrusions
Rossland Monzonite

LITHOLOGY: Augite Porphyry
Diorite
Monzonite
Syenite

HOSTROCK COMMENTS: Mineralization occurs in the Rossland sill which intrudes the upper part of the Elise Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The Hattie Brown occurrence is underlain by augite porphyry (diorite) of the Jurassic Rossland sill. The sill intrudes the upper part of the Lower Jurassic Elise Formation (Rossland Group) and is included as a unit of this formation. The rocks lie within several hundred metres to the south of the southern edge of the Lower Jurassic Rossland monzonite, possibly within the zone of thermal metamorphism associated with the intrusion. On the west side of the property, the Middle Eocene Coryell Intrusions, comprised of a monzonite to syenite stock, intrudes the country rock.

In 1909, just over 14 tonnes of ore were reported shipped from the Hattie Brown property (Minister of Mines Annual Report 1909). The character of the ore was described as having a gold-silver-lead nature. A mineralized fracture mapped on the Hattie Brown claim has a northwest strike and a dip of 55 degrees northeast (Bulletin 74, Figures 2 and 3). This fracture is depicted as being hosted by augite porphyry adjacent to a stock of the Coryell Intrusions.

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1504A; 1518
GSC MEM 77; 308
GSC OF 1195

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1734
REPORT: RGEN0100

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EMPR BULL 109

DATE CODED: 1991/04/09
DATE REVISED: 1991/04/12

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW360**

NATIONAL MINERAL INVENTORY:

NAME(S): **CQ, GEM (L.984)**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 46 N
LONGITUDE: 117 46 16 W
ELEVATION: 1005 Metres

NORTHING: 5434721
EASTING: 443670

LOCATION ACCURACY: Within 500M

COMMENTS: Probably located in the southwestern portion of the lapsed Gem Crown Grant (Lot 984).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Lower Jurassic	Rossland	Elise	Rossland Monzonite
ISOTOPIC AGE: 190 Ma DATING METHOD: Uranium/Lead MATERIAL DATED: Zircon			

LITHOLOGY: Lapilli Tuff
Pyroclastic Breccia
Pulaskite Dike
Monzonite

HOSTROCK COMMENTS: The monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 1947

COMMODITY: Gold

GRADE: 4.8000 Grams per tonne

COMMENTS: From a 56 centimetre chip sample.
REFERENCE: Assessment Report 24.

CAPSULE GEOLOGY

The CQ showing is located just south of the contact between the Lower Jurassic Rossland Group (Elise Formation) volcanics and the Early Jurassic Rossland monzonite stock. The Elise Formation in this area has recently been mapped as augite-phyric lapilli tuff and pyroclastic breccia (Unit Je71, Open File 1991-2).

A "vein" occurs near the contact of a north trending pulaskite dyke. A small cut on this vein near the contact of the dyke assayed 4.80 grams per tonne gold and a trace of silver across 56 centimetres (Assessment Report 24, page 5).

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EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1518; 1090A; 1504A
GSC MEM 77; 308
GSC OF 1195

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1736
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
Thorpe, R.I. (1967): Controls of Hypogene Sulphide Zoning, Rossland,
British Columbia, Ph.D. Thesis, University of Wisconsin
EMPR BULL 109

DATE CODED: 1991/04/15
DATE REVISED: 1991/04/16

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW361**

NATIONAL MINERAL INVENTORY:

NAME(S): **CAM 2**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 03 58 N
LONGITUDE: 117 44 25 W
ELEVATION: 880 Metres

NORTHING: 5435069
EASTING: 445926

LOCATION ACCURACY: Within 500M

COMMENTS: Located just west of Cambridge Creek (Assessment Report 18310).

COMMODITIES: Gold Silver Copper

MINERALS

SIGNIFICANT: Arsenopyrite Pyrite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION: Chlorite Epidote Malachite Silica
ALTERATION TYPE: Propylitic Oxidation Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein Shear
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I05 Polymetallic veins Ag-Pb-Zn±Au L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: STRIKE/DIP: 360/90 TREND/PLUNGE:
COMMENTS: Vein.

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic			Rossland Monzonite

ISOTOPIC AGE: 190 Ma
DATING METHOD: Uranium/Lead
MATERIAL DATED: Zircon

LITHOLOGY: Monzonite

HOSTROCK COMMENTS: The monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Plutonic Rocks Quesnel

INVENTORY

ORE ZONE: VEIN REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1988
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 10.2900 Grams per tonne
Gold 4.1100 Grams per tonne
COMMENTS: From a 0.6 metre sample taken across the vein.
REFERENCE: Assesment Report 18310, page 12.

CAPSULE GEOLOGY

The area of the Cam 2 occurrence is underlain by monzonite of the Early Jurassic Rossland monzonite. The stock is intrusive into rocks of the Lower Jurassic Elise Formation, Rossland Group which occur just south of the showing. The monzonites have been altered showing chloritization and epidotization. Pulaskite dykes are known to occur in the area of the showings. The rocks are traversed by numerous faults. The major regional fault, Violin Lake fault, traverses the rocks paralleling Cambridge Creek.

A fine-grained quartz vein, with north strike and vertical dip, carries a high percentage of arsenopyrite and pyrite. An old trench had been excavated on the showing and pyrrhotite, malachite and chalcopyrite were noted on dump material. A sample 0.6 metres wide taken across the vein assayed 4.11 grams per tonne gold, 10.29 grams per tonne silver and 23.6 per cent arsenic (Assessment Report 18310). The exposed mineralization terminates against a dyke. Fifty metres to the southwest and on strike with the above vein is another pit with up to 50 per cent arsenopyrite in a siliceous zone (vein?).

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RUN TIME: 16:27:53

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ENERGY AND MINERALS DIVISION

PAGE: 1738
REPORT: RGEN0100

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EMPR BULL 74
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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2
GSC MAP 1090A; 1504A
GSC OF 1195
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
EMPR BULL 109

DATE CODED: 1991/04/17
DATE REVISED: 1991/06/10

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW362**

NATIONAL MINERAL INVENTORY:

NAME(S): **GOLD DUST**, G.R. SOVEREIGN (L.1226), LAST CHANCE (L.4611)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

MINING DIVISION: Trail Creek

LATITUDE: 49 04 52 N
LONGITUDE: 117 42 55 W
ELEVATION: 880 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5436719
EASTING: 447768

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the lapsed G.R. Sovereign Crown Grant (Lot 1226), (Assessment Report 18331). The Last Chance workings are about 350 metres west-southwest of the Sovereign workings and just over 100 metres northeast of the Joker Crown Grant (Lot 1690) (Property File - Tobex Resources Ltd., Prospectus, 1988).

COMMODITIES: Gold Copper Silver

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite Arsenopyrite Pyrite

ASSOCIATED: Quartz Calcite

COMMENTS: The volcanics around the workings are highly oxidized.

MINERALIZATION AGE: Unknown

DEPOSIT

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

I05 Polymetallic veins Ag-Pb-Zn±Au

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE

Lower Jurassic
Jurassic

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Lapilli Tuff
Andesite
Granite
Granodiorite
Dolerite
Monzonite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: ADIT

REPORT ON: N

CATEGORY: Assay/analysis

YEAR: 1988

SAMPLE TYPE: Chip

COMMODITY

GRADE

Gold

7.4100

Grams per tonne

COMMENTS: From a 0.1 metre wide vein sample taken from an old adit.

REFERENCE: Assessment Report 18331.

CAPSULE GEOLOGY

The area of the Gold Dust occurrence is underlain by rocks of the Elise Formation, Rossland Group consisting of lapilli tuff with plagioclase and augite-bearing volcanic clasts. Contact with granite to granodiorite of the Middle to Late Jurassic Nelson Intrusions occurs within a few hundred metres to the north.

In 1988, two shafts about 25 metres apart and sunk to a depth of at least 30 metres were located on the Gold Dust claim and are considered to be the old G.R. Sovereign workings from the late 1800's. The shafts were apparently sunk on a north striking vein within a broad band of sparsely mineralized volcanics. An old publication from the last century (Hodges, 1897) gives the following account of the G.R. Sovereign: "A shaft was first sunk, following down a body of low grade pyrrhotite in diorite gangue, in which copper pyrites, quartz and calcite gradually came in, with rising gold values, which at 50 feet (15 metres) was about \$50 (about 83 grams per tonne gold). A crosscut is in 175 feet (53 metres) to tap a ledge at a depth of 250 feet (76 metres), and at 90 feet (27

CAPSULE GEOLOGY

metres) struck a cross ledge carrying several feet of ore".

A 0.1-metre wide sample taken across the vein in 1988 assayed 7.41 grams per tonne gold (Assessment Report 18331). One of several drill holes put down on the old workings in 1988 contained one interval grading 1.71 grams per tonne gold over 5.33 metres. The drill section contained arsenopyrite and chalcopyrite in altered monzonite and andesite.

Also relocated in 1988 were some old workings on what is thought to be the lapsed Last Chance Crown Grant (Lot 4611), which occupied the ground west and adjacent to the G.R. Sovereign Crown Grant. The old workings, about 350 metres west-southwest of the Sovereign workings, consist of a shaft and two short pits aligned in a north northwest direction. The dump is large, indicating a significant amount of underground development. The volcanics around the workings are highly oxidized and contain disseminated pyrrhotite. North and northwest fractures contain pyrrhotite, pyrite and chalcopyrite. A sample taken from the north pit in a silicified fracture zone assayed 4.28 grams per tonne gold, 4.0 grams per tonne silver and 0.362 per cent copper (Property File - Tobex Resources Ltd., prospectus, 1988).

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1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (*Propectus, Tobex Resources Ltd., April 18, 1988)
GSC MAP 1090A; 1504A
GSC OF 1195
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
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V STOCKWATCH Dec. 1, 1988
*Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page
128
EMPR BULL 109

DATE CODED: 1991/04/18
DATE REVISED: 1991/04/18

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW363**

NATIONAL MINERAL INVENTORY:

NAME(S): **STEMWINDER (L.1498)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 26 N
LONGITUDE: 117 43 05 W
ELEVATION: 760 Metres

NORTHING: 5437771
EASTING: 447575

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the centre of the lapsed Stemwinder Crown Grant (Lot 1498) on or near the southern boundary of the Trail city limits, just west of Gorge Creek (Property File - Mineral Reference Map (showing surveyed claims), 1930).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Igneous-contact

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Jurassic			Nelson Intrusions

LITHOLOGY: Lapilli Tuff
Granite
Granodiorite

HOSTROCK COMMENTS: The actual host rock type is not known. Both plutonic and volcanic rocks occur in the vicinity of the showing.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHAFT
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Rock
COMMODITY: Gold
GRADE: 26.7600 Grams per tonne
REFERENCE: Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest.

CAPSULE GEOLOGY

The area of the Stemwinder occurrence is underlain by rocks of the Elise Formation, Rossland Group consisting of lapilli tuff with plagioclase and augite-bearing volcanic clasts. Contact with granite to granodiorite of the Middle to Late Jurassic Nelson Intrusions occurs in the vicinity of the showing and may itself be the host rock.

A shaft was sunk on the Stemwinder to a depth of about 7 metres revealing a 0.46 metres vein of chalcopyrite grading 26.76 grams per tonne gold (Hodges, 1897). Further tunneling to 12 metres from surface is reported.

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EMPR AR 1898-1193
EMPR ASS RPT 17187, 18331
EMPR BULL 74
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (Propectus, Tobex Resources Ltd., April 18, 1988 (see Gold Dust - 082FSW362; Mineral Reference Map (showing Crown grants), Trail Creek and Nelson Mining Divisions, 1930)
GSC MAP 1090A; 1504A
GSC OF 1195

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1742
REPORT: RGEN0100

BIBLIOGRAPHY

GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
*Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page
128
EMPR BULL 109

DATE CODED: 1991/04/18
DATE REVISED: 1991/06/10

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW364**

NATIONAL MINERAL INVENTORY:

NAME(S): **LITTLE GIANT (L.1992)**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

MINING DIVISION: Trail Creek
UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 19 N
LONGITUDE: 117 40 49 W
ELEVATION: 880 Metres

NORTHING: 5435676
EASTING: 450315

LOCATION ACCURACY: Within 500M

COMMENTS: The lapsed Little Giant Crown Grant (Lot 1992) was located adjacent to the east bank of Ryan Creek, northeast and adjacent to the existing Blue Chip Crown Grant (Lot 1698).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Arsenopyrite
COMMENTS: Other unspecified "sulphides" also reported.
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>
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite
ISOTOPIC AGE: 190 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			
Eocene			Sheppard Intrusion

LITHOLOGY: Flow
Tuff
Epiclastic Rock
Sediment/Sedimentary Rock
Monzonite
Granite
Syenite

HOSTROCK COMMENTS: The monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN
REPORT ON: N
CATEGORY: Assay/analysis
SAMPLE TYPE: Rock
COMMODITY: Gold
GRADE: 5.7000 Grams per tonne
REFERENCE: Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest.

CAPSULE GEOLOGY

The area of the Little Giant occurrence is underlain by rocks of the Elise Formation and the southern contact of the Early Jurassic Rossland monzonite. A stock of the Middle Eocene Sheppard Intrusions, varying in composition from granite to syenite, has intruded near the contact. The Elise formation in the Rossland area comprises a succession of augite-phyric flows, tuffs, some epiclastic deposits and minor siltstone and argillite.

Before the turn of the century, 3 veins on the Little Giant group of 4 claims had been developed by extensive open cuts. The ore was reported to be free milling, consisting of arsenopyrite and other sulphides. The veins are between 0.6 to 0.9 metres wide and widen with depth. An average assay from the surface graded 5.7 grams per tonne gold (Hodges, 1897).

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RUN TIME: 16:27:53

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REPORT: RGEN0100

BIBLIOGRAPHY

EMPR ASS RPT 17187, 18331
EMPR BULL 74
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (Propectus, Tobex Resources Ltd., April 18, 1988 (in
082FSW362))
GSC MAP 1090A; 1504A
GSC OF 1195
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ECON GEOL Vol.68, 1973, pp. 1337-1346
PERS COMM Andrew, K.P.E., March 1991
*Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page
129
EMPR BULL 109

DATE CODED: 1991/04/18
DATE REVISED: / /

CODED BY: GJP
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW365**

NATIONAL MINERAL INVENTORY:

NAME(S): **VINON**, GOLD DUST

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 05 02 N
LONGITUDE: 117 43 25 W
ELEVATION: 1035 Metres

NORTHING: 5437034
EASTING: 447162

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the north slopes of Lookout Mountain about 600 metres from the Trail city limits (Assessment Report 18331).

COMMODITIES: Gold Copper

MINERALS

SIGNIFICANT: Pyrrhotite Chalcopyrite
COMMENTS: The mineralized rocks are highly oxidized.
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Jurassic	Rossland	Elise	Nelson Intrusions

LITHOLOGY: Lapilli Tuff
Granite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The area of the Vinon occurrence is underlain by rocks of the Elise Formation, Rossland Group consisting of lapilli tuff with plagioclase and augite-bearing volcanic clasts. Contact with granite to granodiorite of the Middle to Late Jurassic Nelson Intrusions occurs within a few hundred metres to the north.

Little is known of the occurrence except that there is a large surface showing with values, apparently of gold, up to 0.6 grams per tonne (Hodges, 1897). In 1897, a crosscut had been driven in 6 metres. In 1988, disseminated pyrrhotite and a little chalcopyrite in highly oxidized volcanics had been found in the area presumed to contain the old workings but the crosscut had not been located.

BIBLIOGRAPHY

EMPR ASS RPT 17187, *18331
EMPR BULL 74
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (*Propectus, Tobex Resources Ltd., April 18, 1988 (see Gold Dust - 082FSW362)
GSC MAP 1090A; 1504A
GSC OF 1195
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
*Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page 128
EMPR BULL 109

DATE CODED: 1991/04/19
DATE REVISED: / /

CODED BY: GJP
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW366**

NATIONAL MINERAL INVENTORY:

NAME(S): **RED POINT (L.1200)**, GOLD DUST, DECOY 2

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F04E
BC MAP:

Underground

MINING DIVISION: Trail Creek

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 04 42 N
LONGITUDE: 117 43 44 W
ELEVATION: 1066 Metres

NORTHING: 5436420
EASTING: 446771

LOCATION ACCURACY: Within 500M

COMMENTS: The lapsed Red Point Crown Grant (Lot 1200) was located on the northwest slope of Lookout Mountain, northwest and adjacent to the Oriental Crown Grant (Lot 1701), (Property File - Mineral Reference Map (showing surveyed claims), 1930).

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrrhotite Pyrite Chalcopyrite
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic Porphyry

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic			Rossland Monzonite
ISOTOPIC AGE: 190 Ma			
DATING METHOD: Uranium/Lead			
MATERIAL DATED: Zircon			
Jurassic			Nelson Intrusions

LITHOLOGY: Lapilli Tuff
Pyroclastic Flow
Andesite
Monzonite
Granite
Granodiorite

HOSTROCK COMMENTS: The monzonite was dated in March 1991 for the B.C. Geological Survey Branch (Andrew, K.P.E., personal communication, March 1991).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks
PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The area of the Red Point occurrence is underlain by rocks of the Elise Formation, Rossland Group consisting of augite-phyric lapilli tuff. Contact with granite to granodiorite of the Middle to Late Jurassic Nelson Intrusions occurs within a few hundred metres to the north. Contact with the Early Jurassic Rossland monzonite is within a few hundred metres to the west.

First staked in 1893, the Red Point was reported to have surface ore that assayed 113 grams per tonne gold and 551 grams per tonne silver (Hodges, 1897). By 1897, a large amount of underground development had occurred on the property.

Loumic Resources Ltd. drilled a total of 1013.1 metres in six holes at its Red Point bulk-tonnage gold prospect on the north end of Lookout Mountain, immediately southwest of Trail. The gold is associated with pyrrhotite and pyrite (with only traces of chalcopyrite) disseminated through and coating hairline fractures in Rossland Group pyroclastics and flows which seem to range in composition from andesite to felsites. Alteration is generally weak, mainly biotitization with more localized albitization (?). The mineralization is believed to represent a gold-rich, copper-poor, porphyry occurrence. It appears to have been deposited very early after deposition of the volcanic host because the best grades occur in fragmental rocks where higher original porosity and permeability may have played a role in channeling the mineralizing fluids. The best assay interval reported was from hole #2 in which 166 metres averaged 0.84 grams per tonne gold (Exploration in BC 1997, page 49).

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

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GEOLOGICAL SURVEY BRANCH
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PAGE: 1747
REPORT: RGEN0100

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EM EXPL 1997-49
EMPR ASS RPT 17187, 18331
EMPR BULL 74
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (*Propectus, Tobex Resources Ltd., April 18, 1988 (in
082FSW362); Mineral Reference Map (show surveyed claims), 1930)
GSC MAP 1090A; 1504A
GSC OF 1195
GSC P 79-26
ECON GEOL Vol.68, 1973, pp. 1337-1346
GCNL #145(Jul.29), 1997
*Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page
128

DATE CODED: 1991/04/21
DATE REVISED: 1998/10/22

CODED BY: GJP
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW367**

NATIONAL MINERAL INVENTORY:

NAME(S): **KNIGHT TEMPLAR**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 00 54 N
LONGITUDE: 117 45 51 W
ELEVATION: 1371 Metres

NORTHING: 5429405
EASTING: 444124

LOCATION ACCURACY: Within 500M

COMMENTS: The lapsed Knight Templar Crown Grant was located on the crest of Grouse Ridge about 1 kilometre north of the United States border (Property File - Mineral Reference Map (showing surveyed claims), 1930).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Paleozoic	Unnamed/Unknown Group	Undefined Formation	

LITHOLOGY: Argillite
Siltstone
Limestone
Slate

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The area of the Knight Templar occurrence is underlain by a package designated as Unit Cs, which is of probable Upper Paleozoic age and may be correlative with the Milford Group (Fieldwork 1990, page 21). These Upper Paleozoic rocks consist of argillite, siltstone and limestone. Part of this unit, a northwest trending band of limestone (Unit Csl), is mapped roughly where the southern portion of the lapsed Knight Templar Crown Grant was located (Open file 1991-2). The strata are intruded several hundred metres to the south by a granitic mass of the Middle Eocene Sheppard Intrusions.

The old claim, as of 1897, had a 49 metre adit, from which a winze went down 20 metres. A large body of "low-grade" ore was reported to grade as high as 43 gram per tonne gold (Hodges, 1897). The winze was to be sunk to 30 metre level, where drifts were to be run each way.

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EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
EMPR PF (Mineral Reference Map (showing surveyed claims), 1930)
GSC MAP 1090A; 1504A
GSC MEM 77; 308
GSC P 79-26
*Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page 129
EMPR BULL 109

DATE CODED: 1991/04/22
DATE REVISED: / /

CODED BY: GJP
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW368**

NATIONAL MINERAL INVENTORY:

NAME(S): **VICTORY-TRIUMPH**, VICTORY (L.1365), TRIUMPH (L.1364)

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

Underground

MINING DIVISION: Trail Creek

LATITUDE: 49 00 28 N
LONGITUDE: 117 54 28 W
ELEVATION: 1220 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5428717
EASTING: 433614

LOCATION ACCURACY: Within 500M

COMMENTS: The Crown grants are located on the western slope of Mount Sophia.

COMMODITIES: Copper Gold

MINERALS

SIGNIFICANT: Chalcopyrite
COMMENTS: The copper mineralization is assumed to be chalcopyrite.
ALTERATION: Malachite
ALTERATION TYPE: Oxidation
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Upper Cretaceous Eocene	Undefined Group	Sophie Mountain	Coryell Intrusions

LITHOLOGY: Conglomerate
Siltstone
Argillite
Syenite
Monzonite
Granite

HOSTROCK COMMENTS: The actual host rock is not known.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Rock
COMMODITY

YEAR: 1897

	<u>GRADE</u>	
Gold	5.3500	Grams per tonne
Copper	22.1000	Per cent

REFERENCE: Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest.

CAPSULE GEOLOGY

The area of the Victory-Triumph occurrence is underlain by the southern contact of the Middle Eocene Coryell batholith with the Upper Cretaceous Sophie Mountain Formation. The Coryell Intrusions are generally coarse-grained and range in composition from syenite to monzonite and granite. The Sophie Mountain Formation comprises conglomerate with thin interbeds of argillite and siltstone.

By 1887, a vein or ore mass, showing rich copper ore, had been exposed by stripping for 18 metres and "defined for 6 metres between walls at another point". Samples from a 3.7-metre deep shaft gave assays of: 15.3 per cent copper with a trace of gold, on surface; 22.1 per cent copper with 5.35 grams per tonne gold, at 1.2 metres depth; and 30.4 per cent copper with 5.02 grams per tonne gold, at 2.4 metres (Hodges, 1897). The country rock is stained with malachite and assays 9.7 per cent copper. An adit has also been driven and was in 38 metres by the year 1897.

BIBLIOGRAPHY

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ENERGY AND MINERALS DIVISION

PAGE: 1750
REPORT: RGEN0100

BIBLIOGRAPHY

1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1090A; 1504A
GSC MEM 77; 308
GSC P 79-26
*Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page
129
EMPR BULL 109

DATE CODED: 1991/04/22
DATE REVISED: 1991/04/22

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW369**

NATIONAL MINERAL INVENTORY:

NAME(S): **OLGA (L.4201)**, ABE LINCOLN

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

MINING DIVISION: Trail Creek

LATITUDE: 49 00 12 N
LONGITUDE: 117 55 17 W
ELEVATION: 880 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5428235
EASTING: 432612

LOCATION ACCURACY: Within 500M

COMMENTS: The Olga Crown grant (Lot 4201) is located on the western slope of Mount Sophia adjacent the United States - Canada border.

COMMODITIES: Gold Silver Lead

MINERALS

SIGNIFICANT: Galena Gold

ASSOCIATED: Quartz

MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
DIMENSION: 300 x 12 Metres
COMMENTS: Vein on the Lincoln claims.

STRIKE/DIP:

TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

GROUP

FORMATION

IGNEOUS/METAMORPHIC/OTHER

Upper Cretaceous
Eocene

Undefined Group

Sophie Mountain

Coryell Intrusions

LITHOLOGY: Syenite
Monzonite
Granite
Conglomerate
Argillite
Siltstone

HOSTROCK COMMENTS: Most of the Olga Crown grant is underlain by the Coryell batholith and is only assumed to be the host rock.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Plutonic Rocks

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1897

COMMODITY

GRADE

Silver	448.0000	Grams per tonne
Gold	3.3400	Grams per tonne
Lead	54.5500	Per cent

REFERENCE: Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest.

CAPSULE GEOLOGY

The area of the Olga occurrence is underlain by the southern contact of the Middle Eocene Coryell batholith with the Upper Cretaceous Sophie Mountain Formation. The Coryell Intrusions are generally coarse-grained and range in composition from syenite to monzonite and granite. The Sophie Mountain Formation comprises conglomerate with thin interbeds of argillite and siltstone.

By 1987, two Olga claims were reported under development. Three "ledges" or (veins?) are reported, one averaging about 2 metres in width and another about 2.4 metres in width. The third was not described. Assays of surface ore from the 2.4 metre wide vein range up to 3.35 grams per tonne gold, 448 gram per tonne silver and 54.55 per cent lead (Hodges, 1897).

A parallel vein was reported on the Abe Lincoln group of three claims. The vein strikes northwest and has been traced for over 300 metres. The gangue is quartz carrying gold and galena. By 1897, a 15-metre shaft was down on the footwall and a crosscut had been run at the bottom for 13 metres, from which drifting had begun. The

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CAPSULE GEOLOGY

vein, as defined by the crosscut, is 12 metres wide.

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EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1090A; 1504A
GSC MEM 77; 308
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*Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page
129
EMPR BULL 109

DATE CODED: 1991/04/22
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CODED BY: GJP
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW370**

NATIONAL MINERAL INVENTORY:

NAME(S): **FALU (1350)**

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 41 N
LONGITUDE: 117 46 28 W
ELEVATION: 945 Metres

NORTHING: 5443833
EASTING: 443520

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the lapsed Falu Crown Grant (Lot 1350) situated over 1 kilometre north of Hanna Creek (Hodges, 1897).

COMMODITIES: Gold

MINERALS

SIGNIFICANT: Unknown
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Pennsylvan.-Permian
Jurassic

GROUP

Undefined Group

FORMATION

Mount Roberts

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Siliceous Siltstone
Argillite
Chert
Sandstone
Limestone
Dolomite
Greenstone
Granite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SHAFT

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1897

COMMODITY

GRADE

Gold

64.0000

Grams per tonne

COMMENTS: Assays for ore are reported to grade from 64 to 80 grams per tonne gold.

REFERENCE: Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest.

CAPSULE GEOLOGY

The area of the Falu occurrence is underlain by rocks of the Pennsylvanian, and possibly Permian, Mount Roberts Formation which may be correlative with the Milford Group farther north. The Mount Roberts rocks are comprised of siliceous siltstone, argillite, silty chert, limestone or dolomite and minor sandstone and greenstone. The contact of the Bonnington pluton of the Middle to Late Jurassic Nelson Intrusions occurs within a few hundred metres to the east.

A shaft sunk 21 metres on the hanging wall, from which a crosscut struck the footwall in 6 metres, shows a body of ore reported to assay 64 to 80 grams per tonne gold (Hodges, 1897).

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EMPR BULL 74
EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27; 1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1090A; 1504A
GSC MEM 77; 308

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GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1754
REPORT: RGEN0100

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GSC P 79-26
*Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page
129
EMPR BULL 109

DATE CODED: 1991/04/23
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CODED BY: GJP
REVISED BY:

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW371**

NATIONAL MINERAL INVENTORY:

NAME(S): **HIGHLAND (L.1049)**, SIERRA MADRE

MINING DIVISION: Trail Creek

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F04W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 08 40 N
LONGITUDE: 117 47 25 W
ELEVATION: 920 Metres

NORTHING: 5443814
EASTING: 442365

LOCATION ACCURACY: Within 500M

COMMENTS: Located on the Highland Crown Grant (Lot 1049) and the now non-existent Sierra Madre claim, just north of Hanna Creek.

COMMODITIES: Copper

MINERALS

SIGNIFICANT: Chalcopyrite
COMMENTS: The copper mineralization is only assumed to be copper.
ALTERATION: Silica
ALTERATION TYPE: Silicific'n
MINERALIZATION AGE: Unknown

DEPOSIT

CHARACTER: Unknown
CLASSIFICATION: Unknown

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Pennsylvan.-Permian
Jurassic

GROUP

Undefined Group

FORMATION

Mount Roberts

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Siliceous Siltstone
Argillite
Chert
Limestone
Dolomite
Sandstone
Greenstone
Granite
Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Slide Mountain

Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The area of the Highland occurrence is underlain by rocks of the Pennsylvanian, and possibly Permian, Mount Roberts Formation which may be correlative with the Milford Group farther north. The Mount Roberts rocks are comprised of siliceous siltstone, argillite, silty chert, limestone or dolomite and minor sandstone and greenstone. The main western contact of the Trail pluton of the Middle to Late Jurassic Nelson Intrusions occurs within a kilometre to the east. A mass of granite related to the Nelson Intrusions occurs along the southern boundary of the Highland Crown Grant.

A large body of low-grade siliceous ore containing a large quantity of copper is reported to occur (Hodges, 1897).

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EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 1090A; 1504A
GSC MEM 77; 308
GSC OF 1195
GSC P 79-26
*Hodges, L.K. (editor), (1897): Mining in the Pacific Northwest, page 129
EMPR BULL 109

DATE CODED: 1991/04/23
DATE REVISED: 1991/04/23

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW371**

MINFILE NUMBER: **082FSW372**

NATIONAL MINERAL INVENTORY:

NAME(S): **INDEPENDENCE (L.5148)**, HONKY TONK NORTH, PILOT KNOB (L.5145),
MARS (L.5149), HALL CREEK, HONKY TONK (L.3157)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06W
BC MAP:
LATITUDE: 49 23 31 N
LONGITUDE: 117 17 26 W
ELEVATION: 1635 Metres
LOCATION ACCURACY: Within 500M
COMMENTS: Adit at the southeast corner of the Independence claim (Lot 5148)
(Assessment Report 12992).

MINING DIVISION: Nelson
UTM ZONE: 11 (NAD 83)
NORTHING: 5471068
EASTING: 478915

COMMODITIES: Gold Copper Silver

MINERALS

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

DEPOSIT

CHARACTER: Vein Shear Stockwork
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: L01 Subvolcanic Cu-Ag-Au (As-Sb)
DIMENSION: 1 Metres STRIKE/DIP: TREND/PLUNGE:
COMMENTS: Vein is approximately 1 metre wide.

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE GROUP FORMATION IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic Rossland Elise

LITHOLOGY: Augite Porphyry
Andesite
Basalt
Flow Breccia

HOSTROCK COMMENTS: Units Je5 and Je1 of the Elise Formation (Open File 1989-11).

GEOLOGICAL SETTING

TECTONIC BELT: Omineca PHYSIOGRAPHIC AREA: Selkirk Mountains
TERRANE: Quesnel
METAMORPHIC TYPE: Regional RELATIONSHIP: GRADE:

INVENTORY

ORE ZONE: UNDERGROUND WORKINGS REPORT ON: N
CATEGORY: Assay/analysis YEAR: 1984
SAMPLE TYPE: Chip
COMMODITY GRADE
Silver 123.4100 Grams per tonne
Gold 7.5400 Grams per tonne
Copper 17.2000 Per cent
COMMENTS: Highest values from sampling of underground workings.
REFERENCE: Assessment Report 12992.

CAPSULE GEOLOGY

The Independence showing is located 10 kilometres south-southwest of Nelson. A short tunnel and several trenches exist on the property.

The area is underlain by augite porphyry, andesite, basalt and flow breccia of the Lower Jurassic Elise Formation (Units Je5 and Je1), Rossland Group (Open File 1989-11).

Quartz veins, stockworks and silicified zones occur on the property. The veins are 0.01 to 1.5 metres wide and 2 to 50 metres in length.

Two quartz veins are exposed in the workings hosted in a shear zone in augite porphyry. The veins are mineralized with minor pyrite and chalcopyrite. The vein exposed by trenches is approximately 1 metre wide. The vein exposed in the tunnel also has bornite mineralization, up to 2 per cent by volume in grab samples. Smaller veins and a hematite occurrence, occur to the south.

CAPSULE GEOLOGY

Chip samples from the underground workings assayed up to 7.54 grams per tonne gold, 123.41 grams per tonne silver and 17.2 per cent copper (Assessment Report 12992).

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EMPR ASS RPT 11883, 12984, *12992, 16173, 17662, *18939
EMPR BULL 41
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EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR MAP 7685G; RGS 1977; 8480G
EMPR OF 1988-1; *1989-11; 1991-11
GSC MAP 1571A; 52-13A
GSC MEM 94; 191; 308
GSC OF 1195
GSC P 49-22; 52-13
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12
EMPR BULL 109

DATE CODED: 1991/05/08
DATE REVISED: 1991/05/08

CODED BY: DEJ
REVISED BY: DEJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW373**

NATIONAL MINERAL INVENTORY:

NAME(S): **ERIE**

MINING DIVISION: Nelson

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F03W
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 11 43 N
LONGITUDE: 117 19 00 W
ELEVATION: 760 Metres

NORTHING: 5449213
EASTING: 476929

LOCATION ACCURACY: Within 1 KM

COMMENTS: In 1928, four claims were reported to be situated near the road a short distance east of Erie (Minister of Mines Annual Report 1928, page 338).

COMMODITIES: Silver Gold Lead Zinc Copper

MINERALS

SIGNIFICANT: Galena Sphalerite Chalcopyrite
ASSOCIATED: Quartz
ALTERATION TYPE: Oxidation
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
Lower Jurassic	Rossland	Hall	
Lower Jurassic	Rossland	Archibald	

LITHOLOGY: Schist
Siltstone
Conglomerate
Argillite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: VEIN

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Grab

YEAR: 1928

COMMODITY	GRADE	
Silver	229.7200	Grams per tonne
Copper	2.2600	Per cent
Lead	21.8000	Per cent
Zinc	4.3000	Per cent

REFERENCE: Minister of Mines Annual Report 1928, page 338.

CAPSULE GEOLOGY

The area of the Erie occurrence is underlain by siltstone and conglomerate of the Archibald Formation and argillite and siltstone of the Hall Formation, both of the Lower Jurassic, Rossland Group. The northwest trending Erie Creek fault forms the boundary of the two formations east of Erie Lake with the Hall Formation on the east. A small mass of granitic rock of the Middle to Late Jurassic Nelson Intrusions disrupts the strata to the immediate north. The location of two adits are marked on Map 1145A just east of the Erie Creek fault in Hall Formation rocks.

A small vein, up to 25 centimetres wide, containing galena, sphalerite and chalcopyrite in a siliceous gangue, occurs in schistose rocks. In 1928, the vein was drifted on for 53 metres with two winzes developed for an additional 9 and 12 metres respectively. A grab sample from a pile of sorted ore assayed 229.72 grams per tonne silver, 21.8 per cent lead, 2.26 per cent copper and 4.3 per cent zinc (Minister of Mines Annual Report 1928, page 338). A sample from a wide iron-capping exposed in an open cut near the adit assayed 0.69 grams per tonne gold, 20.57 grams per tonne silver, 0.5 per cent lead and 0.6 per cent zinc (Minister of Mines Annual Report 1928,

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CAPSULE GEOLOGY

page 338).

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EMPR FIELDWORK 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 11-27;
1990, pp. 9-31
EMPR OF 1988-1; 1989-11; 1990-8; 1990-9; 1991-2; 1991-16
GSC MAP 299A; 1090A; 1091A; 1145A
GSC MEM 172; 308
GSC OF 1195
EMPR BULL 109

DATE CODED: 1991/05/28
DATE REVISED: 1991/06/10

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW374**

NATIONAL MINERAL INVENTORY:

NAME(S): **SOUTH FORK SILICA**

STATUS: Past Producer
REGIONS: British Columbia
NTS MAP: 082F03E
BC MAP:

Open Pit

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 02 00 N
LONGITUDE: 117 12 04 W
ELEVATION: 853 Metres

NORTHING: 5431181
EASTING: 485300

LOCATION ACCURACY: Within 500M

COMMENTS: Surface working, 18.5 kilometres south-southeast of Salmo adjacent to Highway 3 on the east side of South Salmo River, 3.25 kilometres north-northwest from the confluence of Stagleap Creek (P. Wilton, personal communication, 1992).

COMMODITIES: Silica

MINERALS

SIGNIFICANT: Unknown
COMMENTS: Commodity is quartzite.
MINERALIZATION AGE: Proterozoic-Paleoz.

DEPOSIT

CHARACTER: Massive
CLASSIFICATION: Metamorphic Industrial Min.
TYPE: R07 Silica sandstone

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Proterozoic-Paleoz.	Undefined Group	Quartzite Range	

LITHOLOGY: Quartzite

HOSTROCK COMMENTS: Nugget Member of the Quartzite Range Formation.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Ancestral North America
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE:

INVENTORY

ORE ZONE: SOUTH FORK

REPORT ON: Y

CATEGORY: Inferred
QUANTITY: 9000000 Tonnes
COMMODITY: Silica

YEAR: 1988

GRADE: 100.0000 Per cent

REFERENCE: Mining in British Columbia 1988, page 94.

CAPSULE GEOLOGY

The South Fork Silica deposit is located adjacent to Highway 3, 26 kilometres south of Salmo.

The area is underlain by quartzite (Nugget Member) of the Hadrynian to Lower Cambrian Quartzite Range Formation. The quartzite, ranging from phyllitic to purer white, has a high silica-low contaminant content. In 1987, a 2000-tonne shipment of quartzite was sent to Trail to test for use as a silica flux (P. Wilton, personal communication, 1992).

This is an open pit operation with a production capacity of 64,000 tonnes per year. Production in 1988 was 22,750 tonnes; the product is transported by truck to the Cominco smelter at Trail, British Columbia. Reserves are estimated at 9 million tonnes (Mining in British Columbia 1988, page 94).

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EMPR BULL 41
EMPR MINING *1988, p. 94
EMPR OF 1991-16; 1992-1; 1992-9
GSC MAP 3-1956A; 299A; 1090A; 1145A
GSC MEM 172; 308
GSC OF 481; 1195

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GEOLOGICAL SURVEY BRANCH
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DATE CODED: 1992/01/08
DATE REVISED: 1992/01/08

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW375**

NATIONAL MINERAL INVENTORY:

NAME(S): **MCPHEE, WOLF**

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F05E 082F06W
BC MAP:

Underground

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 16 28 N
LONGITUDE: 117 30 51 W
ELEVATION: 1550 Metres

NORTHING: 5458092
EASTING: 462600

LOCATION ACCURACY: Within 500M

COMMENTS: Located 12 kilometres southeast of Castlegar, southwest of Grassy Mountain. Location given is from Tim Termuende (using GPS) while in a vehicle. The property is 9.5 kilometres southwest of Second Relief (082FSW187). Access is via a 6-kilometre secondary logging road that leaves Highway 3 at Bombi Summit, approximately 15 kilometres east of Castlegar.

COMMODITIES: Gold Nickel Silver Cobalt Copper Tungsten Zinc Molybdenum Lead

MINERALS

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

DEPOSIT

CHARACTER: Massive Stratabound
CLASSIFICATION: Volcanogenic
TYPE: G04 Besshi massive sulphide Cu-Zn
SHAPE: Tabular
DIMENSION: 1000 x 5 Metres

STRIKE/DIP: TREND/PLUNGE:

HOST ROCK

DOMINANT HOSTROCK: Volcanic

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Lower Jurassic	Rossland	Elise	
Lower Jurassic	Rossland	Hall	
Middle Jurassic			Nelson Intrusions

LITHOLOGY: Andesite
Andesitic Flow
Pebble Quartz Conglomerate
Monzonite
Hornblende Diorite

HOSTROCK COMMENTS: Bonnington Pluton.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

CAPSULE GEOLOGY

The McPhee property is located 12 kilometres southeast of Castlegar, southwest of Grassy Mountain. The Second Relief (082FSW187) lies 9.5 kilometres to the northeast and the Maud S. (082FSW325) is about 2 kilometres to the southwest. The property is are located between 1200 and 1600 metres elevation, along a ridge which divides the Champion and McPhee Creek drainages.

The area is underlain by a roof pendant of Lower to Middle Jurassic Rossland Group rocks enclosed by monzonite and hornblende diorite of the Middle Jurassic Bonnington Pluton. Quartz pebble conglomerate, probably of the Hall Formation, occurs in the northwest part of the property along the contact with a massive pyrrhotite horizon. Altered andesitic flows of the Elise Formation also occurs on the property.

The zone of massive pyrrhotite and chalcopyrite occurs within the pebble conglomerate. Historical adits and shafts have been driven on the mineralization. The massive sulphide band is 1 to 5 metres wide and has been traced on surface for 1.5 kilometres. Rock samples of the massive sulphide zone assay up to 0.7 per cent copper, 0.06 per cent cobalt, 0.26 per cent tungsten and 0.14 per cent molybdenum. Samples of the quartz pebble conglomerate returned values up to 3.62 per cent zinc, 0.56 per cent lead, 42.5 grams per tonne silver and 0.15 grams per tonne gold. Rock samples of the

CAPSULE GEOLOGY

andesite returned values up to 13 grams per tonne gold, 6.8 grams per tonne silver, 1.5 per cent copper, 0.15 per cent nickel, 0.05 per cent cobalt and 3.8 per cent zinc. (George Cross Newsletter #60 (March 26, 1998).

A letter (to the Chamber of Mines in Nelson) dated September 5, 1933 by B.W. Meister describes assays of 85.7 grams per tonne gold on the Wolf claims, about 1.5 kilometres east of the Maud S. Bruce Doyle acquired claims in the area about 1995; these were optioned by Phelps Dodge Corporation of Canada in 1996. They carried out exploration, including soil geochemical sampling, mapping and prospecting on the south-central part of the property in 1997. The option was dropped in 1997. Interest in the property is being acquired by Miner River Resources Ltd. and Eagle Plains Resources Ltd.

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GSC MAP 1090A
GCNL *#60 (Mar.26), 1998
PER COMM T. Termuende, May 1998
PR REL Eagle Plains Resources Ltd., March 24, 1998
WWW <http://www.eagleplains.bc.ca/bc.htm>; <http://www.infomine.com/>
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
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DATE CODED: 1998/05/26
DATE REVISED: 1998/05/26

CODED BY: TH
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW376**

NATIONAL MINERAL INVENTORY:

NAME(S): **TRAIL SLAG, KIVCET**

STATUS: Producer
 REGIONS: British Columbia
 NTS MAP: 082F04E
 BC MAP:

Open Pit

MINING DIVISION: Trail Creek

LATITUDE: 49 06 00 N
 LONGITUDE: 117 42 25 W
 ELEVATION: 500 Metres

UTM ZONE: 11 (NAD 83)

NORTHING: 5438813
 EASTING: 448396

LOCATION ACCURACY: Within 500M
 COMMENTS: Location of Trail smelter.

COMMODITIES: Slag Zinc Indium Germanium Silica

MINERALS

SIGNIFICANT: Unknown
 MINERALIZATION AGE:

DEPOSIT

CHARACTER: Unknown
 CLASSIFICATION: Industrial Min.
 TYPE: T01 Tailings

HOST ROCK

DOMINANT HOSTROCK: Unknown

<u>STRATIGRAPHIC AGE</u>	<u>GROUP</u>	<u>FORMATION</u>	<u>IGNEOUS/METAMORPHIC/OTHER</u>
Unknown	Unnamed/Unknown Group	Unnamed/Unknown Formation	

LITHOLOGY: Unknown

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Quesnel

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SLAG REPORT ON: Y

CATEGORY: Indicated YEAR: 1999

QUANTITY: 215000 Tonnes

<u>COMMODITY</u>	<u>GRADE</u>
Zinc	16.2800 Per cent

COMMENTS: Zinc grade from repeated content of zinc (35,000 tonnes). Also contains significant quantities of indium and germanium.
 REFERENCE: Cominco Ltd., June 1, 1999.

CAPSULE GEOLOGY

Cominco's integrated smelting and refining complex is located at Trail, in southeastern British Columbia. Smelting and refining have been carried out at Trail since the turn of the century. More than 700,000 tonnes of concentrates are processed at Trail every year, yielding a wide range of metals and related by-products, including refined zinc, lead, silver, gold, cadmium, bismuth, indium, germanium concentrate, germanium dioxide, copper sulphate, copper arsenate, sodium antimonate and a variety of sulphur products and agricultural fertilizers. The two major metals are zinc and lead. The majority of the zinc and lead concentrates treated at Trail come from the Sullivan mine (082FNE052) in Kimberley, B.C., and the Red Dog mine in Alaska.

Cominco Ltd. intends to process its existing 215,000 tonnes of stockpiled lead smelter slag at Trail by refurbishing and restarting its No. 2 Slag Fuming Furnace before the end of 1999. The slag stockpile is estimated to contain 35,000 tonnes of zinc as well as significant quantities of indium and germanium (Cominco Ltd., June 1, 1999). The refurbishment will cost \$9 million and is expected to pay for itself within a year. Processing of the stockpile should be completed in approximately four years from the slag fuming furnace start up.

The Kivcet lead smelter and its associated slag fuming furnace will continue to process the current output of higher-value Zinc Plant residues and will ultimately consume the 475,000 tonnes of residues that are stockpiled at Trail.

Cominco also markets the slag for cement production and abrasive applications.

See <http://www.cominco.com/operations/trail.htm> (Cominco Ltd.)

RUN DATE: 25-Jun-2003
RUN TIME: 16:27:53

MINFILE MASTER REPORT
GEOLOGICAL SURVEY BRANCH
ENERGY AND MINERALS DIVISION

PAGE: 1765
REPORT: RGEN0100

CAPSULE GEOLOGY

website) for details of the Trail operations.

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31 p.)
N MINER Aug.2,9, 1999; May 8, 2000
PR REL Cominco Ltd., June 1, 1999
WWW <http://www.teckcominco.com/operations/trail/trail.htm>

DATE CODED: 1999/06/15
DATE REVISED: 2000/01/04

CODED BY: LDJ
REVISED BY: LDJ

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW377**

NATIONAL MINERAL INVENTORY:

NAME(S): **LITTLE GEORGE (L.4939)**, GARFIELD (L.5121)

STATUS: Showing
REGIONS: British Columbia
NTS MAP: 082F06E
BC MAP:

MINING DIVISION: Nelson

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 18 29 N
LONGITUDE: 117 09 34 W
ELEVATION: 1350 Metres

NORTHING: 5461714
EASTING: 488410

LOCATION ACCURACY: Within 500M

COMMENTS: The location is for the common boundary of the two Reverted Crown Grants.

COMMODITIES: Gold Silver

MINERALS

SIGNIFICANT: Pyrite
ASSOCIATED: Quartz
ALTERATION: Silica Limonite
COMMENTS: "Rusty" indicates that oxidation is present.
ALTERATION TYPE: Silicific'n Oxidation
MINERALIZATION AGE:

DEPOSIT

CHARACTER: Vein
CLASSIFICATION: Hydrothermal Epigenetic
TYPE: I01 Au-quartz veins

HOST ROCK

DOMINANT HOSTROCK: Metasedimentary

STRATIGRAPHIC AGE	GROUP	FORMATION	IGNEOUS/METAMORPHIC/OTHER
Ordovician	Undefined Group	Active	
Jurassic			Nelson Intrusions

LITHOLOGY: Hornblende Biotite Schist
Schist
Quartzite
Biotite Granodiorite

HOSTROCK COMMENTS: Lower to Middle Ordovician Active Formation rocks are referred to as the Pend d'Orielle schists.

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Kootenay Plutonic Rocks

PHYSIOGRAPHIC AREA: Selkirk Mountains

INVENTORY

ORE ZONE: SAMPLE REPORT ON: N

CATEGORY: Assay/analysis YEAR: 1930
SAMPLE TYPE: Chip

COMMODITY	GRADE	
Silver	54.8600	Grams per tonne
Gold	9.6000	Grams per tonne

COMMENTS: It is not clear from the reference whether the sample was a chip or grab.

REFERENCE: Starr, C.C. (1930) Notes on the Little George and Garfield Claims.

CAPSULE GEOLOGY

The Little George and Garfield Crown Grant claims were located 10 kilometres northeast of Ymir on the northwest flank of Mount Dundee. The claims were crown-granted in 1901 and 1904 respectively (since reverted) with development since then consisting of one "very short" tunnel, a 3-metre shaft and four or five opencuts.

The area is underlain by biotite granodiorite of the Middle to Late Jurassic Nelson Intrusions. Metamorphosed sediments of the Lower and Middle Ordovician Active Formation (Pend d'Oreille schists) occur in a roof pendant within the Nelson batholith.

There are two principal veins on the Little George claim, located roughly along the margins of the schist which strikes at about 025 degrees. The west vein is 3 to 9 metres wide and dips steeply eastward. It outcrops for "several hundred feet" on a steep hillside and passes under soil at both ends. The "filling" is reported to consist of silicified schist and granite cut by numerous stringers and stockworks of quartz. Occasional specks of pyrite and

CAPSULE GEOLOGY

some limonite are visible. The east vein is about 60 metres distant and has similar characteristics.

On the Garfield claim to the immediate southwest, there are several veins. The East vein of the Little George outcrops at several points and at least two other veins outcrop as well. It is not clear whether one of them is the west vein or not. The other vein is a apparently a spur about 1.2 to 1.5 metres thick, striking off into the granite; it is on this that a 3-metre deep shaft has been sunk. These veins are similar to the veins on the Little George claim.

A sample taken on 1.2 metres of quartz in an opencut on the Garfield claim yielded 9.6 grams per tonne gold and 54.86 grams per tonne silver (Starr, 1930 (Property File)).

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GSC MAP 51-4A; 1090A; 1091A; 1144A
GSC MEM 94; 191; 308
GSC OF 1195

DATE CODED: 1985/07/24
DATE REVISED: 1999/09/29

CODED BY: GSB
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW378**

NATIONAL MINERAL INVENTORY:

NAME(S): **SILVER LYNX**

STATUS: Showing
 REGIONS: British Columbia
 NTS MAP: 082F06W
 BC MAP:
 LATITUDE: 49 25 00 N
 LONGITUDE: 117 23 30 W
 ELEVATION: 1420 Metres
 LOCATION ACCURACY: Within 500M
 COMMENTS: Silver Lynx claim group.

Underground
 MINING DIVISION: Nelson
 UTM ZONE: 11 (NAD 83)
 NORTHING: 5473850
 EASTING: 471592

COMMODITIES: Lead Zinc Copper Silver

MINERALS

SIGNIFICANT: Pyrite Pyrrhotite Chalcopyrite Arsenopyrite Galena
 ALTERATION: Sphalerite
 ALTERATION TYPE: Silica
 MINERALIZATION AGE: Silicific'n

DEPOSIT

CHARACTER: Massive Podiform Stockwork Vein
 CLASSIFICATION: Unknown
 TYPE: * Unknown

HOST ROCK

DOMINANT HOSTROCK: Sedimentary

STRATIGRAPHIC AGE

Lower Jurassic
 Jurassic

GROUP

Ymir

FORMATION

Unnamed/Unknown Formation

IGNEOUS/METAMORPHIC/OTHER

Nelson Intrusions

LITHOLOGY: Siliceous Rock
 Siltstone
 Argillite
 Limestone
 Granodiorite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
 TERRANE: Quesnel
 METAMORPHIC TYPE: Contact
 PHYSIOGRAPHIC AREA: Selkirk Mountains
 Plutonic Rocks
 RELATIONSHIP: Syn-mineralization GRADE:

INVENTORY

ORE ZONE: SHOWING

REPORT ON: N

CATEGORY: Assay/analysis
 SAMPLE TYPE: Grab

YEAR: 2000

COMMODITY	GRADE	
Silver	556.4000	Grams per tonne
Copper	0.2100	Per cent
Lead	22.3500	Per cent
Zinc	24.5900	Per cent

REFERENCE: Cassidy Gold Corp. website.

CAPSULE GEOLOGY

The Silver Lynx prospect is located about 15 kilometres southwest of Nelson.

The area is underlain by argillite, siltstone and limestone of the Lower Jurassic Ymir Group which have been intruded by granodiorite of the Late to Middle Jurassic Nelson Intrusions near the Bonnington pluton. The rocks hosting the prospect are metamorphosed and the protolith is difficult to determine.

The Silver Lynx property hosts newly discovered zinc, lead, copper, silver mineralization. Bruce Doyle discovered the property in the summer of 2000 after receiving a prospectors assistance grant from the Ministry of Energy and Mines. He completed a soil geochemical program with results delineating highly anomalous polymetallic values over 800 metres long, open on both ends, and up to 300 meters wide with an average width of 125 metres.

The showings consist of poorly exposed massive pods of sphalerite, galena and pyrite with chalcopyrite. A second style of mineralization consists of a network of stringers containing primarily sphalerite. Both are hosted in a silicified light-coloured

CAPSULE GEOLOGY

rock, possibly a felsic volcanic rock, that is locally brecciated in the mineralized area.

An individual selected grab sample from road cut materials assayed 24.59 per cent zinc, 22.35 per cent lead, 0.21 per cent copper and 556.4 grams per tonne silver (16.2 ounces per tonne) (Cassidy Gold Corp. website).

In November 2000, Cassidy Gold Corp. acquired an option to purchase a 100% interest in the Silver Lynx property which comprises 20 contiguous mineral claims covering 500 hectares.

Cassidy plans to initiate a program of geological mapping, prospecting and geophysical surveys in order to initiate a winter drill program. The geophysical survey, consisting of large loop transient electromagnetic (EM) as well as magnetic/VLF-EM will include the area defined by the previously mentioned geochemistry program.

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- GSC MEM 191; 308
- GSC OF 1195
- GSC P 49-22; 52-13
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- Press Release *Cassidy Gold Corp., Nov.21, Dec.11, 2000
- *WWW <http://www.cassidygold.com/index.php>
- EMPR BULL 109

DATE CODED: 2000/12/22
DATE REVISED: 2000/12/22

CODED BY: GJP
REVISED BY: GJP

FIELD CHECK: N
FIELD CHECK: N

MINFILE NUMBER: **082FSW379**

NATIONAL MINERAL INVENTORY:

NAME(S): **KENA (GOLD MOUNTAIN)**, GOLD MOUNTAIN, KENA

MINING DIVISION: Nelson

STATUS: Prospect
REGIONS: British Columbia
NTS MAP: 082F06W 082F06E
BC MAP:

UTM ZONE: 11 (NAD 83)

LATITUDE: 49 26 09 N
LONGITUDE: 117 17 01 W
ELEVATION: 1483 Metres

NORTHING: 5475957
EASTING: 479437

LOCATION ACCURACY: Within 500M

COMMENTS: Discovery trenches just north of Gold Creek, about 6 kilometres south of Nelson.

COMMODITIES: Gold Copper Molybdenum

MINERALS

SIGNIFICANT:	Pyrite	Chalcopyrite	Gold	Molybdenite	
ASSOCIATED:	Magnetite	Specularite	Quartz		
ALTERATION:	K-Feldspar	Limonite	Goethite	Pyrolusite	Malachite
ALTERATION TYPE:	Potassic		Oxidation		
MINERALIZATION AGE:	Unknown				

DEPOSIT

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

HOST ROCK

DOMINANT HOSTROCK: Plutonic

STRATIGRAPHIC AGE

Lower Jurassic
Middle Jurassic

GROUP

Rossland

FORMATION

Elise

IGNEOUS/METAMORPHIC/OTHER

Silver King Porphyry

LITHOLOGY: Plagioclase Hornblende Porphyry
Andesitic Lapilli Tuff
Andesite

GEOLOGICAL SETTING

TECTONIC BELT: Omineca
TERRANE: Quesnel
METAMORPHIC TYPE: Regional

PHYSIOGRAPHIC AREA: Selkirk Mountains

RELATIONSHIP:

GRADE: Greenschist

INVENTORY

ORE ZONE: TRENCH

REPORT ON: N

CATEGORY: Assay/analysis
SAMPLE TYPE: Chip

YEAR: 2000

COMMODITY

Gold

GRADE

11.3800

Grams per tonne

COMMENTS: Three metre chip sample from trench 3 in discovery area.

REFERENCE: Assessment Report 26503.

CAPSULE GEOLOGY

The Kena property hosts a number of porphyry style, gold and gold-copper occurrences south of the town of Nelson. The property lies on the eastern limb of the Hall Creek Syncline, a south-plunging fold associated with intense shearing that dominates the structure of the Nelson map area. The syncline incorporates volcanic and lesser sedimentary rocks of the Lower Jurassic Elise Formation (Rossland Group) which are intruded by a synvolcanic monzodiorite complex and by the younger? Middle Jurassic Silver King Intrusions comprising a coarse grained plagioclase porphyry stock with related dikes and sills.

Mineralization in the Kena property area was first described in a report by G.M Dawson in Geological Survey of Canada Annual Report for 1888-89. Little is known about exploration on the claim area prior to 1973. Post-1973 exploration, however, has identified old prospect pits and trenches, as well as several old adits indicating periods of exploration activity in the early part of the century. Numerous exploration companies carried out geological, geochemical, geophysical surveys, trenching and drilling on the property from 1974-91. These companies explored the Elise Formation volcanics for gold and copper mineralization and discovered the Kena Gold zone (082FSW237), Kena Copper zone (082FSW332) and the Shaft/Cat zones

CAPSULE GEOLOGY

(082FSW331). The Kena Gold zone underwent the most thorough exploration with the Kena Copper and Shaft/Cat zones only being tested minimally. No additional work was done until 1999 when Sultan Minerals Inc. acquired and amalgamated several properties under the name Kena property.

The Kena property is underlain by volcanic rocks of the Elise Formation which are intruded by porphyritic bodies of the Silver King Intrusions. A large number of mineral occurrences, including the Kena Gold (082FSW237) and Shaft (082FSW331) on the east and the former Silver King mine (082FSW176) on the west, are spatially related to the Silver King porphyries. Recent exploration work and data compilation by Sultan Minerals have identified four gold-bearing zones on the Kena property. These are: the Gold Mountain (this description), Kena Gold, Shaft/Cat, and South Gold soil anomaly located about 1000 metres south of the Kena Copper zone (082FSW332).

The upper Elise Formation in the vicinity of the Gold Mountain zone is a sequence of mafic to intermediate flows, tuffs and minor epiclastic deposits. A number of cyclical sequences of pyroclastic rocks that typically grade upward from lapilli tuff to crystal tuff or fine tuff are common. Augite porphyry flows and flow breccias are a minor constituent. The dominant lithology is a plagioclase-augite lapilli tuff of andesitic composition. A number of generally highly deformed feldspar porphyries (Silver King Intrusions) occur within the Elise Formation. They have been dated as Aalenian to Toarcian (Middle Jurassic) and many are associated with copper, gold and silver mineralization. Outcrops of Silver King intrusions are typically cream coloured and form resistant ridges. Contacts with Rosslund Group rocks are either sharp and discordant or intensely sheared. The Silver King plutonic rocks are porphyritic, characterized by 30 to 60 per cent euhedral to subhedral plagioclase phenocrysts, 5-10 millimetres in size, set in a fine grained greenish grey groundmass.

In the Gold Mountain zone, the eastern margin of a Silver King porphyry body is in contact with Elise Formation volcanics on a relatively flat plateau where poor outcrop exposure occurs. In this zone, the Silver King unit is a coarse to medium grained plagioclase-hornblende porphyry. It is locally siliceous and in places weakly to strongly flooded with secondary potash feldspar. The plagioclase is weakly to moderately sericitized, and hornblende is weakly to locally highly chloritized. Epidote alteration is evident in many places. The porphyry is locally mineralized with 1 to 5 per cent disseminated pyrite, traces of chalcopyrite and malachite, and stringers and disseminations of magnetite and specular hematite. Mineralization in the Gold Mountain zone appears to be associated with classic porphyry-style alteration. In the area of the 2000 discovery trenches, the Silver King porphyry is intensely fractured and altered. Sulphide mineralization consists of 1 to 5 per cent disseminated and fracture coating pyrite with trace chalcopyrite (and accompanying malachite) and molybdenite. Heavy limonite and/or goethite and occasional pyrolusite occur on many of the fractures. Petrographic studies indicate that native gold occurs as clusters within quartz veinlets and as particles along the margins of pyrite grains.

The Gold Mountain zone was discovered by Sultan Minerals in 2000 and lies in the northwest portion of the Kena property, within the Silver King porphyry unit, adjacent to Elise Formation volcanics. The showing is about 600 metres north of the Shaft occurrence and is in a previously unexplored area and represents a new and unique style of gold porphyry mineralization. A gold soil anomaly from a soil geochemical survey completed in September 2000 over the Silver King porphyry unit was followed up by a program of prospecting and rock chip sampling. The rock samples yielded up to 5.48 grams per tonne gold along the intrusive-volcanic contact and up to 2.71 grams per tonne gold from outcrops within the intrusion. Late in 2000, an excavator trenching program was conducted in the Gold Mountain zone and chip sample results from the six discovery trenches yielded an average assay of 1.43 grams per tonne gold over their combined length of 181.7 metres. The best 3 metre chip sample assayed 11.38 grams per tonne gold; the six trenches tested an area measuring 120 by 100 metres. An induced polarization survey was completed in November and results show a large chargeability anomaly coincident with the gold soil geochemical anomaly (Sultan Minerals Inc. Annual Report 2000).

Sultan Minerals Inc. had drilled 45 holes by September 2002 and expanded the zone to include mineralization paralleling the western contact of the Silver Ring intrusion as well as the eastern contact (PR REL Sultan Minerals Inc., September 25, 2002).

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pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
EMPR OF 1988-1; 1989-11; 1991-16
EMPR PF (*Sultan Minerals Inc. Annual Report 2000; Vancouver MEG
Abstract (Feb.6, 2002): Kena Property's Gold Mountain Zone - A
New Gold Discovery in British Columbia by Linda Dandy, Sultan
Minerals Inc.)
GSC ANN RPT 1888-89, pp. 62B,63B
GSC MAP 52-13A; 1571A
GSC MEM 308
GSC OF 1195
GSC P 49-22; 52-13
N MINER Sept. 16, Dec.2, 2002
PR REL Sultan Minerals Inc. July 11, 2002; Sept.25, 2002; Jan. 21,23,
2003
WWW <http://www.sultanminerals.com>; <http://www.infomine.com/>
Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious
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Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral
deposits of the Lower Jurassic Rossland Group, southeastern
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Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12

DATE CODED: 2002/01/29
DATE REVISED: 2002/01/30

CODED BY: GO
REVISED BY: GO

FIELD CHECK: N
FIELD CHECK: N

RUN DATE: 25-Jun-2003
 RUN TIME: 16:37:09

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

PAGE: 1
 REPORT: RGEN0200

MINFILE NUMBER: **082FNE002** NAME: **TRUE BLUE (L.4859)** 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	58		Silver	3,390	
			Gold	31	
			Copper		4,300
1899	36		Silver	2,146	
			Gold	93	
			Copper		4,152
1898	2		Silver	93	
			Copper		92

SUMMARY TOTALS: 082FNE002

NAME: **TRUE BLUE (L.4859)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	96 tonnes	106 tons
Milled:	tonnes	tons
Recovery:		
Silver:	5,629 grams	181 ounces
Gold:	124 grams	4 ounces
Copper:	8,544 kilograms	18,836 pounds

Comments: 1902: Operated by True Blue Copper Mines Ltd.
 1898: Operated by The Hull Mines Ltd.

RUN DATE: 25-Jun-2003
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MINFILE NUMBER: 082FNE003		NAME: SILVER COIN		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1946	7		Silver	29,672		
			Lead			696
			Zinc			241
1940	4		Silver	17,573		
			Lead			221
			Zinc			70
1939	10		Silver	63,761		
			Lead			1,595
			Zinc			442
1938	8		Silver	31,974		
			Lead			713
			Zinc			136

SUMMARY TOTALS: 082FNE003

NAME: **SILVER COIN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	29 tonnes	32 tons
Milled:	tonnes	tons
Recovery:		
Silver:	142,980 grams	4,597 ounces
Lead:	3,225 kilograms	7,110 pounds
Zinc:	889 kilograms	1,960 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE005		NAME: VIGILANT		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>	
1953	737	737	Silver	40,185		
			Cadmium			92
			Lead			39,152
			Zinc			21,012
1952	1,770		Silver	118,938		
			Cadmium			197
			Lead			114,448
			Zinc			46,009
1951	1,107		Silver	115,050		
			Gold	31		
			Cadmium			30
			Lead			104,003
			Zinc			49,554
1950	477		Silver	100,338		
			Gold	31		
			Lead			89,087
			Zinc			32,616
1949	593		Silver	48,956		
			Lead			34,979
			Zinc			18,262

SUMMARY TOTALS: 082FNE005

NAME: **VIGILANT**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4,684 tonnes	5,163 tons
Milled:	737 tonnes	812 tons
Recovery:		
Silver:	423,467 grams	13,615 ounces
Gold:	62 grams	2 ounces
Cadmium:	319 kilograms	703 pounds
Lead:	381,669 kilograms	841,436 pounds
Zinc:	167,453 kilograms	369,171 pounds

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MINFILE NUMBER: **082FNE006** NAME: **NAMELESS** 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>
1953	445		Silver	24,478	
			Lead		31,131
			Zinc		13,231
1952	1,053		Silver	62,641	
			Lead		60,656
			Zinc		39,287
1951	1,132		Silver	61,428	
			Lead		64,068
			Zinc		47,809
1950	162		Silver	6,407	
			Lead		9,159
			Zinc		7,081

SUMMARY TOTALS: 082FNE006

NAME: **NAMELESS**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,792 tonnes	3,078 tons
Milled:		
Recovery:		
Silver:	154,954 grams	4,982 ounces
Lead:	165,014 kilograms	363,793 pounds
Zinc:	107,408 kilograms	236,794 pounds

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MINFILE NUMBER: 082FNE007		NAME: AMAZON		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1965	2,957	2,957	Silver	72,626		
			Gold	93		
			Cadmium			274
			Lead			25,842
			Zinc			52,369
1940	28		Silver	9,891		
			Lead			12,656
			Zinc			1,891
1939	2		Silver	871		
			Lead			1,235
			Zinc			46

SUMMARY TOTALS: 082FNE007

NAME: **AMAZON**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,987 tonnes	3,293 tons
Milled:	2,957 tonnes	3,260 tons
Recovery:		
Silver:	83,388 grams	2,681 ounces
Gold:	93 grams	3 ounces
Cadmium:	274 kilograms	604 pounds
Lead:	39,733 kilograms	87,596 pounds
Zinc:	54,306 kilograms	119,724 pounds

Comments: 1965: BLACK FOX production added to AMAZON and recorded as above.

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MINFILE NUMBER: 082FNE008	NAME: NOAH	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1952	349		Silver Lead Zinc	15,614	14,696 9,444

SUMMARY TOTALS: 082FNE008

	NAME: NOAH	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 349 tonnes	385 tons
	Milled: tonnes	tons
Recovery:	Silver: 15,614 grams	502 ounces
	Lead: 14,696 kilograms	32,399 pounds
	Zinc: 9,444 kilograms	20,820 pounds

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MINFILE NUMBER: 082FNE012		NAME: CROWN		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1972	47		Silver	66,343		
			Lead		2,140	
			Zinc		3,852	
1971	53		Silver	37,168		
			Lead		952	
			Zinc		1,534	
1968	27		Silver	15,894		
			Lead		276	
			Zinc		110	
1962	12		Silver	38,972		
			Lead		1,109	
			Zinc		465	

SUMMARY TOTALS: 082FNE012

NAME: **CROWN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	139 tonnes	153 tons
Milled:	tonnes	tons
Recovery:		
Silver:	158,377 grams	5,092 ounces
Lead:	4,477 kilograms	9,870 pounds
Zinc:	5,961 kilograms	13,142 pounds

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MINFILE NUMBER: 082FNE014		NAME: BUCKEYE		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>	
1954	83		Silver	7,745		
			Lead		6,943	
			Zinc		416	
1953	415		Silver	27,899		
			Lead		18,959	
			Zinc		24,162	

SUMMARY TOTALS: 082FNE014

NAME: **BUCKEYE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	498 tonnes	549 tons
Milled:		
Recovery:		
	Silver: 35,644 grams	1,146 ounces
	Lead: 25,902 kilograms	57,104 pounds
	Zinc: 24,578 kilograms	54,185 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE015		NAME: HIGHLAND (L.258)		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>	
1954	210		Silver	26,997		
			Lead			25,681
			Zinc			2,156
1953	81		Silver	72,594		
			Lead			41,376
			Zinc			3,182
1952	81		Silver	41,989		
			Lead			35,116
			Zinc			2,652
1951	58	15	Silver	33,840		
			Lead			26,723
			Zinc			3,221
1950	121		Silver	43,793		
			Lead			14,845
			Zinc			10,602
1949	69	137	Silver	44,664		
			Cadmium			235
			Lead			42,643
			Zinc			48,762
1948	27	200	Silver	49,951		
			Gold	31		
			Cadmium			313
			Lead			55,781
			Zinc			65,986
1947		27	Silver	10,917		
			Lead			11,883
			Zinc			2,781
1940	6		Silver	3,608		
			Lead			3,584
			Zinc			188
1927	358		Silver	42,704		
			Lead			50,534
			Zinc			8,388
1925	3,463		Silver	456,405		
			Lead			478,132
			Zinc			236,528
1924	3,615		Silver	320,703		
			Lead			342,621
1922	142		Silver	52,191		
			Gold	31		
			Lead			68,964
1921	780		Silver	10,824		
			Lead			17,591
1920	171		Silver	26,344		
			Lead			25,118
1919	2,696		Silver	159,154		
			Lead			188,344
1918	711		Silver	272,089		
			Lead			316,917
1917	8,586		Silver	468,691		
			Lead			472,544
1916	11,149		Silver	1,291,490		
			Lead			1,189,378
1915	32		Silver	14,712		
			Lead			13,785
1914	10,460		Silver	1,438,918		
			Lead			1,286,995
1913	4,777		Silver	625,761		
			Lead			526,836
1911	20		Silver	12,441		
			Lead			10,886
1910	100		Silver	62,673		
			Lead			57,497
1909	4,717		Silver	179,091		
			Lead			158,158
1907	11		Silver	5,785		
			Lead			5,395
1904	12,796		Silver	1,447,751		

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNE015		NAME: HIGHLAND (L.258)		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>
1904	12,796		Lead		1,307,499
1903	21,772		Silver Lead	2,375,336	1,849,371
1902	415		Silver Lead	344,248	269,635
1901	605		Silver Lead	512,329	409,154
1900	89		Silver Lead	91,443	56,009
1896	9		Silver Lead	12,441	6,804

SUMMARY TOTALS: 082FNE015

NAME: **HIGHLAND (L.258)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	88,127 tonnes	97,143 tons
Milled:	379 tonnes	418 tons
Recovery:		
Silver:	10,551,877 grams	339,250 ounces
Gold:	62 grams	2 ounces
Cadmium:	548 kilograms	1,208 pounds
Lead:	9,365,799 kilograms	20,648,047 pounds
Zinc:	384,446 kilograms	847,558 pounds

Comments:

1951: Tailings
 1949: Tailings
 1948: Tailings
 1947: Tailings

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MINFILE NUMBER: 082FNE016		NAME: KOOTENAY FLORENCE		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1972	17		Silver	1,773		
			Lead			1,306
			Zinc			1,712
1960	535	535	Silver	114,801		
			Cadmium			49
			Lead			94,986
			Zinc			51,364
1956	2		Silver	1,151		
			Lead			1,168
			Zinc			68
1953	1,891	1,891	Silver	105,532		
			Gold	124		
			Cadmium			576
			Lead			117,702
			Zinc			89,702
1952	19,857	19,490	Silver	880,153		
			Gold	2,706		
			Cadmium			3,735
			Lead			906,153
			Zinc			473,041
1951	4,249	4,249	Silver	143,882		
			Cadmium			236
			Lead			128,776
			Zinc			61,489
1950			Cadmium			1,511
1949			Cadmium			1,311
1948			Cadmium			998
1945			Cadmium			296
1944	9,463	9,463	Silver	391,836		
			Cadmium			787
			Lead			461,803
			Zinc			299,486
1943	11,834	11,834	Silver	197,255		
			Lead			175,985
			Zinc			334,956
1935	15		Silver	70,448		
			Gold	124		
			Lead			4,607
			Zinc			3,025
1929	37		Silver	12,721		
			Lead			14,019
1924	594	594	Silver	24,851		
			Lead			34,463
1923	7,494	7,494	Silver	386,548		
			Lead			412,807
1922	3,828	3,828	Silver	128,953		
			Lead			190,618
1921	454		Silver	220,271		
			Lead			276,783
1920	1,122		Silver	581,502		
			Lead			688,587
1919	20,117	20,117	Silver	790,203		
			Lead			932,499
1918	22,475	22,219	Silver	1,225,458		
			Lead			1,130,833
1917	7,140	6,967	Silver	334,140		
			Lead			420,169
1916	4,484	4,423	Silver	282,571		
			Lead			304,013
1913	15		Silver	3,888		
			Lead			3,806
1912	56		Silver	35,364		
			Lead			30,466

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MINFILE NUMBER: **082FNE016**

NAME: **KOOTENAY FLORENCE**

STATUS: Past Producer

SUMMARY TOTALS: 082FNE016

NAME: **KOOTENAY FLORENCE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	115,679 tonnes	127,514 tons
Milled:	113,104 tonnes	124,676 tons
Recovery:		
Silver:	5,933,301 grams	190,760 ounces
Gold:	2,954 grams	95 ounces
Cadmium:	9,499 kilograms	20,942 pounds
Lead:	6,331,549 kilograms	13,958,672 pounds
Zinc:	1,314,843 kilograms	2,898,732 pounds

Comments:

1972: KOOTENAY FLORENCE
1956: Clean-up material

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MINFILE NUMBER: 082FNE017		NAME: EARLY BIRD		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1951	3		Silver	373		
			Lead			607
			Zinc			331
1950	5		Silver	684		
			Lead			1,503
			Zinc			561
1949	5		Silver	684		
			Lead			1,082
			Zinc			372
1916	15		Silver	21,150		
			Lead			7,711
1915	70		Silver	11,819		
			Lead			22,763
1914	52		Silver	12,566		
			Lead			23,977

SUMMARY TOTALS: 082FNE017

NAME: **EARLY BIRD**

	<u>Metric</u>	<u>Imperial</u>
Mined:	150 tonnes	165 tons
Milled:		
Recovery:		
Silver:	47,276 grams	1,520 ounces
Lead:	57,643 kilograms	127,081 pounds
Zinc:	1,264 kilograms	2,787 pounds

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MINFILE NUMBER: 082FNE018		NAME: LAKESHORE		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>	
1959	653		Silver	35,955		
			Cadmium			100
			Lead			53,910
			Zinc			29,517
1950	12		Silver	2,239		
			Lead			3,608
			Zinc			928
1927	36		Silver	4,323		
			Lead			6,692
			Zinc			2,914
1926	13		Silver	3,452		
			Lead			5,947

SUMMARY TOTALS: 082FNE018

NAME: **LAKESHORE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	714 tonnes	787 tons
Milled:	tonnes	tons
Recovery:		
Silver:	45,969 grams	1,478 ounces
Cadmium:	100 kilograms	220 pounds
Lead:	70,157 kilograms	154,670 pounds
Zinc:	33,359 kilograms	73,544 pounds

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MINFILE NUMBER:	<u>082FNE019</u>	NAME:	<u>NICOLET</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>
1952	571		Silver	30,668	
			Lead		27,478
			Zinc		16,082
1951	5		Silver	529	
			Lead		962
			Zinc		636
1950	5		Silver	778	
			Lead		1,360
			Zinc		562
1929	17		Silver	2,022	
			Lead		2,733
			Zinc		1,964
1916	9		Silver	12,441	
			Lead		4,536

SUMMARY TOTALS: 082FNE019

NAME: NICOLET

	<u>Metric</u>	<u>Imperial</u>
Mined:	607 tonnes	669 tons
Milled:		
Recovery:		
Silver:	46,438 grams	1,493 ounces
Lead:	37,069 kilograms	81,723 pounds
Zinc:	19,244 kilograms	42,426 pounds

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MINFILE NUMBER: 082FNE021	NAME: NEW JERUSALEM	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1952	223		Silver	11,664	
			Gold	249	
			Cadmium		38
			Lead		7,474
			Zinc		5,674
1907	17		Silver	10,762	
			Lead		8,752

SUMMARY TOTALS: 082FNE021

NAME: **NEW JERUSALEM**

		Metric		Imperial	
	Mined:	240 tonnes		265 tons	
	Milled:	tonnes		tons	
Recovery:	Silver:	22,426 grams		721 ounces	
	Gold:	249 grams		8 ounces	
	Cadmium:	38 kilograms		84 pounds	
	Lead:	16,226 kilograms		35,772 pounds	
	Zinc:	5,674 kilograms		12,509 pounds	

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **082FNE022** NAME: **TIGER** 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	22		Silver	5,785	
			Gold	31	
			Lead		4,211
			Zinc		2,335

SUMMARY TOTALS: 082FNE022

NAME: **TIGER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	22 tonnes	24 tons
Milled:	tonnes	tons
Recovery:		
Silver:	5,785 grams	186 ounces
Gold:	31 grams	1 ounces
Lead:	4,211 kilograms	9,284 pounds
Zinc:	2,335 kilograms	5,148 pounds

Comments: 1928: See AR 1927-282

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MINFILE NUMBER: 082FNE023		NAME: AYESHA		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1952	39		Silver	7,962		
			Lead		3,911	
			Zinc		5,904	
1951	5		Silver	653		
			Lead		362	
			Zinc		534	
1950	12		Silver	2,955		
			Lead		1,572	
			Zinc		2,023	
1949	5		Silver	1,617		
			Lead		1,100	
			Zinc		845	
1911	9		Silver	15,552		
			Lead		10,886	

SUMMARY TOTALS: 082FNE023

NAME: **AYESHA**

	<u>Metric</u>	<u>Imperial</u>
Mined:	70 tonnes	77 tons
Milled:	70 tonnes	77 tons
Recovery:		
	Silver: 28,739 grams	924 ounces
	Lead: 17,831 kilograms	39,311 pounds
	Zinc: 9,306 kilograms	20,516 pounds

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MINFILE NUMBER: 082FNE024		NAME: SILVER HOARD (L.10712)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1973	808		Silver	119,902	
			Gold	31	
			Lead		4,203
			Zinc		9,173
1970	38		Silver	22,643	
			Lead		810
			Zinc		2,230
1969	181		Silver	87,493	
			Lead		3,620
			Zinc		7,058
1968	90		Silver	71,630	
			Lead		2,111
			Zinc		5,489
1967	13		Silver	9,393	
			Lead		396
			Zinc		868
1950	3		Silver	2,084	
			Lead		498
			Zinc		265
1949	96		Silver	116,823	
			Lead		4,235
			Zinc		5,739
1948	34		Silver	27,744	
			Lead		2,472
			Zinc		2,380
1938	4		Silver	4,354	
			Lead		309
			Zinc		286
1927	23		Silver	28,832	
			Lead		1,121
			Zinc		2,104
1926	22		Silver	54,119	
			Lead		1,603
			Zinc		2,281
1925	56		Silver	168,423	
			Lead		3,396
1924	21		Silver	64,788	
			Lead		2,115
1923	81		Silver	335,632	
			Lead		3,798
1922	73		Silver	292,679	
			Lead		4,908
1918	34		Silver	55,052	
			Lead		1,433
1917	67		Silver	119,093	
			Lead		3,147
1915	70		Silver	157,288	
			Lead		4,923
1914	39		Silver	51,569	
			Lead		930
1913	1,105		Silver	1,739,062	
			Lead		31,039
1912	183		Silver	391,400	
			Lead		6,414
1895	11		Silver	44,788	
1889	18		Silver	74,647	

SUMMARY TOTALS: 082FNE024

NAME: **SILVER HOARD (L.10712)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3,070 tonnes	3,384 tons
Milled:	tonnes	tons
Recovery: Silver:	4,039,438 grams	129,871 ounces
Gold:	31 grams	1 ounces
Lead:	83,481 kilograms	184,044 pounds
Zinc:	37,873 kilograms	83,496 pounds

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MINFILE NUMBER: **082FNE025** NAME: **NO. ONE** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1929	3		Silver	11,197	
			Lead		118
1924	9		Silver	32,005	
			Lead		136
1922	68		Silver	103,791	
			Lead		529
1921	200		Silver	350,251	
			Lead		493
1920	630		Silver	676,366	
			Lead		5,655
1919	199		Silver	72,408	
1918	4,894		Silver	1,438,141	
1916	1,908		Silver	934,863	
			Gold	1,337	
1915	6,143		Silver	3,850,489	
			Gold	3,421	
			Lead		6,245
1914	4,432		Silver	4,827,683	
			Gold	2,613	
			Lead		40,971
1913	3,608		Silver	4,472,518	
			Lead		58,825
1912	475		Silver	1,442,961	
			Lead		14,108
1911	114		Silver	489,312	
			Lead		4,322
1909	10		Silver	30,916	
			Lead		400
1908	13		Silver	56,483	
1907	20		Silver	111,224	
			Lead		935
1906	87		Silver	153,120	
1905	122		Silver	242,417	
			Lead		2,785
1904	9		Silver	17,107	
1902	28		Silver	107,399	
1901	93		Silver	297,749	
1899	35		Silver	144,038	
1898	1,266		Silver	1,999,767	
1896	5,443		Silver	18,661,800	
1895	1,388		Silver	3,569,069	
1894	3,175		Silver	10,886,050	
1893	77		Silver	264,376	
1890	1,860		Silver	6,376,115	
1889	132		Silver	395,070	

SUMMARY TOTALS: 082FNE025

NAME: **NO. ONE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	36,441 tonnes	40,169 tons
Milled:		
Recovery:		
Silver:	62,014,685 grams	1,993,816 ounces
Gold:	7,371 grams	237 ounces
Lead:	135,522 kilograms	298,775 pounds

Comments:

- 1896: Estimate
- 1895: Estimate
- 1894: Estimate
- 1893: Estimate
- 1890: Estimate
- 1889: Estimate

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE026		NAME: STAR		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1956	126		Silver	9,922		
			Gold	31		
			Lead		6,112	
			Zinc		268	
1955	50		Silver	8,491		
			Gold	31		
			Lead		3,558	
			Zinc		2,874	
1951	423		Silver	102,422		
			Gold	404		
			Lead		37,615	
			Zinc		34,804	
1950	122		Silver	44,228		
			Gold	93		
			Lead		17,023	
			Zinc		16,767	
1949	5		Silver	2,830		
			Lead		1,028	
			Zinc		411	

SUMMARY TOTALS: 082FNE026

NAME: **STAR**
Metric

Imperial

Mined:	726 tonnes	800 tons
Milled:	tonnes	tons
Recovery:		
Silver:	167,893 grams	5,398 ounces
Gold:	559 grams	18 ounces
Lead:	65,336 kilograms	144,041 pounds
Zinc:	55,124 kilograms	121,528 pounds

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MINFILE NUMBER: 082FNE027	NAME: JEWEL	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1937	24		Silver Lead	6,221	6,855

SUMMARY TOTALS: 082FNE027

	NAME: JEWEL	
	<u>Metric</u>	<u>Imperial</u>
	24 tonnes	26 tons
Mined:		
Milled:		
Recovery:	6,221 grams	200 ounces
	6,855 kilograms	15,113 pounds

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MINFILE NUMBER: 082FNE028		NAME: SPOKANE (L.212)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1958	3		Silver Lead Zinc	684	966 375
1957	4		Silver Lead Zinc	3,328	2,492 45
1955	5		Silver Lead Zinc	778	1,856 268
1954	25		Silver Lead Zinc	11,664	13,560 1,083
1953	45		Silver Lead Zinc	27,340	25,250 3,893
1952	29		Silver Lead Zinc	14,307	15,158 2,423
1951	12,100	12,066	Silver Gold Lead Zinc	603,896 156	482,985 233,417
1950	12,174		Silver Gold Lead Zinc	721,154 31	613,717 332,299
1949	10,845	10,802	Silver Lead Zinc	31,259	365,995 284,414
1948	12,490	12,393	Silver Gold Lead Zinc	57,789 31	318,028 192,809
1947	17,597	17,597	Silver Lead Zinc	483,030	416,058 227,799
1946	8,049	8,049	Silver Lead Zinc	304,685	322,820 101,616
1945	8,981	8,981	Silver Lead Zinc	399,611	351,505 135,580
1944	23		Silver Lead	34,307	252
1943	72		Silver Lead Zinc	49,547	42,412 4,055
1942	333		Silver Lead	224,812	201,663
1929	58		Silver Lead	19,968	20,157
1926	61		Silver Lead	44,166	36,170
1925	27		Silver Lead	18,133	16,030
1924	46		Silver Lead	29,952	27,927
1922	39		Silver Lead	22,487	22,511
1921	20		Silver Lead	19,284	22,112
1920	415		Silver Lead	239,306	209,835
1919	401		Silver Lead	243,910	215,556
1918	200		Silver Lead	131,503	106,376
1917	77		Silver	42,113	

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE028		NAME: SPOKANE (L.212)		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	77		Lead		43,118
1915	18		Silver Lead	8,211	10,874
1907	395		Silver Lead	267,019	247,252
1906	121		Silver Lead	100,556	77,158
1899	59		Silver Lead	80,868	41,277

SUMMARY TOTALS: 082FNE028

NAME: **SPOKANE (L.212)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	84,712 tonnes	93,379 tons
Milled:	69,888 tonnes	77,038 tons
Recovery:		
Silver:	4,235,667 grams	136,180 ounces
Gold:	218 grams	7 ounces
Lead:	4,271,070 kilograms	9,416,095 pounds
Zinc:	1,520,076 kilograms	3,351,193 pounds

Comments:

1950: SPOKANE TRINKET
 1949: SPOKANE
 1948: SPOKANE
 1944: Estimate. 1944-1951 AINSMORE formerly SPOKANE TRINKET
 1943: AINSMORE
 1942: AINSMORE

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE029		NAME: BANKER (L.147)		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	52		Silver Lead Zinc	35,271	30,701 1,751
1959	129		Silver Gold Lead Zinc	107,772 31	83,883 5,216
1937	3,101		Silver Lead	1,005,498	329,370
1936	497		Silver Lead Zinc	404,650	293,750 1,538
1935	147		Silver Lead Zinc	149,948	96,352 3,538
1930	51		Silver Lead Zinc	39,967	30,577 1,715
1929	84		Silver Lead Zinc	30,357	34,262 2,743
1928	200		Silver Lead Zinc	101,396	80,286 4,050
1927	75		Silver Lead Zinc	36,048	31,417 4,016
1909	10		Silver Lead	6,034	6,278

SUMMARY TOTALS: 082FNE029

NAME: **BANKER (L.147)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4,346 tonnes	4,791 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,916,941 grams	61,631 ounces
Gold:	31 grams	1 ounces
Lead:	1,016,876 kilograms	2,241,827 pounds
Zinc:	24,567 kilograms	54,161 pounds

Comments: 1909: See MAESTRO and SPOKANE TRINKET

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **082FNE030** NAME: **HIGHLANDER (L.557)** 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	1,197		Silver	89,763	
			Gold	31	
			Cadmium		204
			Lead		82,133
			Zinc		42,604
1960	4,256	3,924	Silver	308,448	
			Gold	93	
			Cadmium		450
			Lead		278,563
			Zinc		99,542
1959	5,334	5,294	Silver	712,725	
			Gold	93	
			Cadmium		576
			Lead		409,050
			Zinc		856,714
1958	46,683	46,683	Silver	2,763,408	
			Gold	653	
			Lead		2,745,545
			Zinc		77,266
1957	59,184	59,184	Silver	3,062,432	
			Gold	684	
			Lead		2,906,641
			Zinc		392,324
1956	48,189	48,189	Silver	3,130,455	
			Gold	809	
			Lead		2,879,344
			Zinc		458,931
1955	51,291	51,283	Silver	2,963,774	
			Gold	249	
			Lead		2,248,176
			Zinc		581,520
1954	48,770	48,770	Silver	3,496,724	
			Lead		2,869,592
			Zinc		679,773
1953	47,514	47,514	Silver	3,843,522	
			Gold	93	
			Lead		2,296,143
			Zinc		1,009,670
1952	50,888	50,888	Silver	4,077,821	
			Gold	1,151	
			Lead		2,630,800
			Zinc		776,994
1951	32,981	32,981	Silver	1,771,191	
			Gold	840	
			Cadmium		741
			Lead		1,412,336
			Zinc		222,612
1949	10		Silver	5,816	
			Lead		4,372
			Zinc		655
1910	4		Silver	1,897	
			Lead		1,592
1908	5		Lead		3,491
1907	15		Silver	13,592	
			Lead		7,091
1906	29		Silver	62,299	
			Lead		10,983
1905	214		Silver	55,115	
			Lead		37,234
1896	11		Silver	26,127	
1895	226		Silver	256,600	
			Lead		158,121
1889	77		Silver	237,938	
			Lead		42,411

SUMMARY TOTALS: 082FNE030

NAME: **HIGHLANDER (L.557)**

Metric Imperial

Mined: 396,878 tonnes 437,483 tons
 Milled: 394,710 tonnes 435,093 tons

Recovery:

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MINFILE NUMBER: **082FNE030**

NAME: **HIGHLANDER (L.557)**

STATUS: Past Producer

Silver:	26,879,647	grams	864,199	ounces
Gold:	4,696	grams	151	ounces
Cadmium:	1,971	kilograms	4,345	pounds
Lead:	21,023,618	kilograms	46,349,131	pounds
Zinc:	5,198,605	kilograms	11,460,959	pounds

Comments:

1961: Estimated
1959: From stockpile
1955: Clean-up ore

RUN DATE: 25-Jun-2003
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MINFILE NUMBER: 082FNE032	NAME: SHARON	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1964	3		Silver Lead Zinc	964	699 66

SUMMARY TOTALS: 082FNE032

NAME: **SHARON**
Metric

Imperial

Mined:	3 tonnes	3 tons
Milled:	tonnes	tons
Recovery:		
Silver:	964 grams	31 ounces
Lead:	699 kilograms	1,541 pounds
Zinc:	66 kilograms	146 pounds

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MINFILE NUMBER: 082FNE034		NAME: HECTOR & DANIRA		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>
1949	11		Silver	3,079	
			Lead		2,353
			Zinc		739
1942	5		Silver	1,586	
			Lead		3,408
			Zinc		288

SUMMARY TOTALS: 082FNE034

NAME: **HECTOR & DANIRA**

	<u>Metric</u>	<u>Imperial</u>
Mined:	16 tonnes	18 tons
Milled:	tonnes	tons
Recovery:		
Silver:	4,665 grams	150 ounces
Lead:	5,761 kilograms	12,701 pounds
Zinc:	1,027 kilograms	2,264 pounds

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MINFILE NUMBER: 082FNE035	NAME: EDEN & CRESCENT	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1937	20		Silver	6,469	
			Lead		8,292
1916	25		Silver	34,213	
			Lead		12,701

SUMMARY TOTALS: 082FNE035

NAME: **EDEN & CRESCENT**

		<u>Metric</u>	<u>Imperial</u>
	Mined:	45 tonnes	50 tons
	Milled:		
Recovery:	Silver:	40,682 grams	1,308 ounces
	Lead:	20,993 kilograms	46,282 pounds

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MINFILE NUMBER: 082FNE036	NAME: BELLE AIRE	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1950	4		Silver Lead Zinc	249	327 28

SUMMARY TOTALS: 082FNE036

	NAME: BELLE AIRE	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 4 tonnes	4 tons
	Milled: tonnes	tons
Recovery:	Silver: 249 grams	8 ounces
	Lead: 327 kilograms	721 pounds
	Zinc: 28 kilograms	62 pounds

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MINFILE NUMBER: 082FNE037		NAME: DAISY BELL		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1951	70		Silver	12,161		
			Lead		7,890	
			Zinc		3,510	
1950	7		Silver	2,271		
			Lead		1,468	
			Zinc		519	
1949	70		Silver	20,093		
			Lead		13,513	
			Zinc		5,246	
1948	3		Silver	622		
			Lead		481	
			Zinc		215	

SUMMARY TOTALS: 082FNE037

NAME: **DAISY BELL**

	<u>Metric</u>	<u>Imperial</u>
Mined:	150 tonnes	165 tons
Milled:	tonnes	tons
Recovery:		
Silver:	35,147 grams	1,130 ounces
Lead:	23,352 kilograms	51,482 pounds
Zinc:	9,490 kilograms	20,922 pounds

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MINFILE NUMBER: 082FNE041		NAME: BERENGARIA		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>	
1964	8		Silver	20,373		
			Lead		5,408	
			Zinc		259	
1957	112		Silver	12,721		
			Lead		8,283	
			Zinc		8,897	
1928	321		Silver	22,612		
			Lead		28,349	
			Zinc		29,228	

SUMMARY TOTALS: 082FNE041

NAME: **BERENGARIA**

	<u>Metric</u>	<u>Imperial</u>
Mined:	441 tonnes	486 tons
Milled:	tonnes	tons
Recovery:		
Silver:	55,706 grams	1,791 ounces
Lead:	42,040 kilograms	92,682 pounds
Zinc:	38,384 kilograms	84,622 pounds

Comments: 1964: Minister of Mines Annual Report 1964, page A56.

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MINFILE NUMBER: 082FNE043		NAME: BLUEBELL		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		24	Silver	22,674		
			Lead		7,204	
			Zinc		955	
1977		238	Silver	39,221		
			Lead		18,024	
			Zinc		112,717	
1976		119	Silver	18,475		
			Lead		6,099	
			Zinc		20,471	
1975			Silver	53,902		
			Cadmium		101	
			Lead		11,957	
			Zinc		14,648	
1974			Silver	2,955		
			Copper		55	
			Lead		3,338	
			Zinc		423	
1973			Silver	15,209		
			Lead		18,793	
			Zinc		2,555	
1971	232,961	236,178	Silver	8,763,550		
			Gold	2,333		
			Cadmium		50,795	
			Copper		135,442	
			Lead		13,303,250	
			Zinc		11,505,038	
1970	220,442	223,646	Silver	9,597,857		
			Gold	2,519		
			Cadmium		50,816	
			Copper		141,066	
			Lead		9,528,112	
			Zinc		11,507,488	
1969	209,519	209,519	Silver	9,484,145		
			Gold	2,146		
			Cadmium		50,706	
			Copper		130,634	
			Lead		9,366,361	
			Zinc		10,957,374	
1968	228,153	228,153	Silver	10,758,403		
			Gold	1,866		
			Cadmium		57,746	
			Copper		154,039	
			Lead		9,986,872	
			Zinc		12,019,500	
1967	231,817	231,817	Silver	9,789,980		
			Cadmium		59,818	
			Copper		171,003	
			Lead		10,068,065	
			Zinc		12,855,466	
1966	223,520	223,520	Silver	10,613,214		
			Cadmium		60,944	
			Copper		182,343	
			Lead		11,411,381	
			Zinc		13,207,906	
1965	232,539	232,539	Silver	10,261,097		
			Cadmium		56,258	
			Copper		176,174	
			Lead		11,111,077	
			Zinc		12,679,419	
1964	233,935	233,935	Silver	10,078,087		
			Cadmium		58,989	
			Copper		161,297	
			Lead		10,050,829	
			Zinc		12,895,473	
1963	232,677	232,677	Silver	10,897,558		
			Cadmium		59,482	
			Copper		185,428	
			Lead		11,280,696	
			Zinc		13,290,750	
1962	215,675	215,675	Silver	9,243,532		
			Cadmium		61,681	
			Copper		95,980	

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MINFILE NUMBER:	<u>082FNE043</u>	NAME:	<u>BLUEBELL</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>
1962	215,675	215,675	Lead		9,600,089
			Zinc		10,692,237
1961	229,354	229,354	Silver	9,895,699	
			Cadmium		63,625
			Copper		145,421
			Lead		10,173,220
			Zinc		13,220,466
1960	231,849	231,849	Silver	11,022,810	
			Cadmium		64,132
			Copper		166,921
			Lead		11,652,029
			Zinc		13,564,273
1959	228,034	228,034	Silver	9,578,200	
			Cadmium		63,304
			Copper		111,583
			Lead		9,623,150
			Zinc		13,685,555
1958	232,110	232,110	Silver	11,295,241	
			Cadmium		67,776
			Copper		145,492
			Lead		12,494,544
			Zinc		14,420,828
1957	232,345	232,345	Silver	11,234,061	
			Cadmium		63,241
			Copper		135,484
			Lead		11,759,499
			Zinc		14,097,408
1956	226,002	229,084	Silver	11,465,561	
			Cadmium		64,533
			Copper		158,681
			Lead		11,879,719
			Zinc		14,005,172
1955	219,345	219,345	Silver	10,758,683	
			Cadmium		58,864
			Copper		156,598
			Lead		11,327,052
			Zinc		12,860,735
1954	147,992	147,992	Silver	7,658,367	
			Cadmium		43,817
			Copper		125,366
			Lead		8,276,691
			Zinc		9,560,465
1953	196,315	196,315	Silver	10,597,476	
			Cadmium		53,754
			Copper		176,374
			Lead		11,344,468
			Zinc		11,820,543
1952	123,569	123,569	Silver	7,029,122	
			Cadmium		31,561
			Lead		7,109,069
			Zinc		7,184,365
1927	17,008	17,008	Silver	1,078,123	
			Lead		1,156,462
			Zinc		1,049,734
1926	28,150	28,150	Silver	1,331,830	
			Lead		1,216,278
			Zinc		1,209,729
1925	15,904	15,798	Silver	871,195	
			Lead		673,749
			Zinc		580,315
1922	60		Silver	12,068	
			Lead		7,015
1921	3,224	3,144	Silver	165,437	
			Lead		172,146
1920	11,743	9,809	Silver	626,321	
			Lead		621,665
1919	1,489	408	Silver	190,786	
			Lead		146,476
1918	7,145	2,787	Silver	964,037	
			Lead		652,972
1917	53,140	52,244	Silver	2,027,947	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNE043		NAME: BLUEBELL		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	53,140	52,244	Lead		1,556,608	
1916	50,811	50,811	Silver Lead	1,722,329	1,745,341	
1915	21,373	21,373	Silver Lead	813,499	975,619	
1914	43,771	43,771	Silver Lead	1,443,335	1,869,806	
1913	72,992	72,992	Silver Lead	2,728,573	3,189,163	
1912	27,406	27,406	Silver Lead	1,393,321	1,718,505	
1910	11,859	11,859	Silver Lead	486,824	646,773	
1909	53,281	53,281	Silver Lead	2,309,864	3,040,568	
1908	17,157	17,081	Silver Lead	733,689	1,028,359	
1906	8,190	8,164	Silver Lead	537,491	610,665	
1895	47,173		Silver Lead	1,399,635	1,360,770	

SUMMARY TOTALS: 082FNE043

NAME: **BLUEBELL**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4,820,029 tonnes	5,313,172 tons
Milled:	4,774,123 tonnes	5,262,570 tons
Recovery:		
Silver:	221,011,383 grams	7,105,671 ounces
Gold:	8,864 grams	285 ounces
Cadmium:	1,141,943 kilograms	2,517,553 pounds
Copper:	2,855,381 kilograms	6,295,036 pounds
Lead:	233,800,528 kilograms	515,441,788 pounds
Zinc:	249,022,008 kilograms	548,999,397 pounds

Comments:

1982: Tailings.
 1974: 8 tonnes lead conc. shipped.
 1973: Lead conc. 59 tonnes, salvage from Kootenay Bay.
 1957: Includes 530 tons tailings recovered from Kootenay Lake.
 1956: Includes 3397 tons of tailings recovered from Kootenay Lake.

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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REPORT: RGEN0200

MINFILE NUMBER: 082FNE044	NAME: COMFORT	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1916	454		Silver Lead	77,758	113,398

SUMMARY TOTALS: 082FNE044

	NAME: COMFORT	
	<u>Metric</u>	<u>Imperial</u>
	454 tonnes	500 tons
Mined:		
Milled:		
Recovery:		
	77,758 grams	2,500 ounces
Silver:		
Lead:	113,398 kilograms	250,000 pounds

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

MINFILE PRODUCTION REPORT
GEOLOGICAL SURVEY BRANCH
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PAGE: 38
REPORT: RGEN0200

MINFILE NUMBER: **082FNE045** NAME: **TAM O'SHANTER (L.401)** 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	51		Silver	29,610	
1918	34		Silver	22,145	

SUMMARY TOTALS: 082FNE045

NAME: **TAM O'SHANTER (L.401)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	85 tonnes	94 tons
Milled:		tons
Recovery: Silver:	51,755 grams	1,664 ounces

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MINFILE NUMBER: <u>082FNE047</u>		NAME: <u>HUMBOLT (L.2015)</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>
1964	5		Silver	3,919	
			Lead		1,669
			Zinc		785
1963	3		Silver	2,799	
			Lead		964
			Zinc		303
1952	19		Silver	21,710	
			Lead		7,418
			Zinc		1,600
1948	17		Silver	26,095	
			Lead		8,969
			Zinc		873
1923	7		Silver	15,707	
			Lead		5,080

SUMMARY TOTALS: 082FNE047

NAME: HUMBOLT (L.2015)

	<u>Metric</u>	<u>Imperial</u>
Mined:	51 tonnes	56 tons
Milled:	51 tonnes	56 tons
Recovery:		
	Silver: 70,230 grams	2,258 ounces
	Lead: 24,100 kilograms	53,131 pounds
	Zinc: 3,561 kilograms	7,851 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE048		NAME: SKYLINE		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1969	363		Silver	47,494		
1921	19		Silver	39,190		
			Lead		39	
1920	125		Silver	160,305		
			Lead		31	
1919	114		Silver	139,373		
			Lead		2,060	
1918	29		Silver	30,419		
1896	998		Silver	1,984,371		
1895	1,361		Silver	3,499,088		
1890	86		Silver	827,340		
1889	14		Silver	104,973		

SUMMARY TOTALS: 082FNE048

NAME: **SKYLINE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3,109 tonnes	3,427 tons
Milled:	tonnes	tons
Recovery:	Silver: 6,832,553 grams	219,671 ounces
	Lead: 2,130 kilograms	4,696 pounds

Comments:

1969: Operated by W.E. Lane.
 1920: Operated by lessees, R. Sheridan, E. Mathews, M. Hamilton, J.Sime.
 1919: Operated by lessee, O. Nelson.
 1896: Operated by A.W. McCune.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE052		NAME: SULLIVAN		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
2001	1,320,000	1,320,000	Lead Zinc		31,752,000 72,576,000	
2000	1,613,000	1,613,000	Silver Lead Zinc	19,356,000	33,113,000 92,535,000	
1999	1,730,300	1,730,300	Silver Lead Zinc	27,684,800	36,700,000 92,080,000	
1998	1,917,400	1,917,400	Silver Lead Zinc	16,678,000	49,000,000 96,330,000	
1997	1,580,572	1,580,572	Silver Lead Zinc	18,775,000	43,955,864 101,023,428	
1996	1,538,370	1,538,370	Silver Bismuth Cadmium Lead Antimony Zinc	20,236,638	9,412 358,630 53,258,097 37,388 113,578,621	
1995	1,616,217	1,616,216	Silver Bismuth Cadmium Lead Antimony Zinc	23,169,000	12,468 351,637 59,213,713 376,312 113,148,525	
1994	1,658,997	1,613,094	Silver Lead Zinc	18,741,363	46,988,655 104,949,781	
1993	1,364,300	1,364,000	Silver Lead Zinc	21,457,106	41,833,673 91,819,044	
1992	1,760,788	1,760,788	Silver Lead Zinc	37,297,216	64,814,527 92,966,842	
1991	1,688,254	1,688,254	Silver Lead Zinc	54,944,462	78,378,000 101,493,000	
1990	440,480	399,596	Silver Lead Zinc	9,697,038	14,968,863 21,067,779	
1989	1,822,861	1,653,573	Silver Lead Zinc	48,796,284	64,406,866 80,477,746	
1988	2,038,144	2,038,163	Silver Lead Zinc	95,243,201	105,006,620 102,488,460	
1987	1,264,303	1,686,600	Silver Lead Zinc	70,836,084	68,549,627 64,586,155	
1986	1,275,590	1,859,100	Silver Lead Zinc	81,753,684	91,776,934 88,044,392	
1985	1,464,659	1,973,301	Silver Lead Tin Zinc	111,216,453	114,049,293 110 82,385,337	
1984	2,472,236	2,472,236	Silver Lead Tin Zinc	102,983,487	95,172,159 169,356 91,670,301	
1983	1,523,266	2,017,383	Silver Lead Tin Zinc	127,609,074	111,437,071 136,377 69,505,850	
1982	2,195,384	2,446,247	Silver Lead Tin Zinc	95,864,617	76,006,790 119,975 63,634,613	
1981	2,051,720	2,209,667	Silver	116,505,665		

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MINFILE NUMBER:	<u>082FNE052</u>	NAME:	<u>SULLIVAN</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>
1981	2,051,720	2,209,667	Lead Tin Zinc		86,733,470 124,213 65,309,242
1980	3,474,563	2,132,416	Silver Lead Tin Zinc	86,394,417	76,095,523 113,056 51,804,218
1979	1,853,639	2,047,726	Silver Lead Zinc	107,342,730	92,146,668 70,745,854
1978	2,058,304	2,107,869	Silver Lead Zinc	114,039,181	88,863,212 64,417,720
1977	2,194,218	2,194,218	Silver Lead Zinc	89,609,454	75,125,898 76,890,967
1976	2,124,886	2,124,886	Silver Lead Zinc	84,586,817	77,065,578 77,435,404
1975	2,002,916	2,002,916	Silver Gold Cadmium Copper Lead Zinc	73,570,507 5,132	34,701 437,533 68,047,946 75,418,513
1974	1,285,011	1,285,010	Silver Gold Cadmium Copper Lead Tin Zinc	56,221,689 2,861	157,032 164,018 51,260,206 143,815 56,285,076
1973	2,008,873	2,008,873	Silver Gold Cadmium Copper Lead Tin Zinc	98,007,824 4,728	250,138 280,409 85,222,304 138,221 94,006,528
1972	1,746,411	1,746,411	Silver Gold Cadmium Copper Lead Tin Zinc	98,483,233 5,070	226,605 269,160 88,941,288 159,230 84,910,506
1971	1,819,169	1,819,169	Silver Gold Cadmium Copper Lead Tin Zinc	110,331,330 5,630	249,104 250,563 97,004,757 144,695 92,457,064
1970	1,923,701	1,923,701	Silver Gold Cadmium Copper Lead Tin Zinc	89,811,281 5,008	203,507 237,137 86,911,836 119,619 75,499,602
1969	1,957,261	1,967,020	Silver Gold Cadmium Copper Lead Tin Zinc	97,996,411 5,350	213,630 252,105 91,110,809 130,828 80,536,356
1968	1,955,652	2,297,909	Silver Gold Cadmium Copper Lead Tin	98,916,280 4,386	155,069 242,126 79,840,226 162,472

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MINFILE NUMBER:	<u>082FNE052</u>	NAME:	<u>SULLIVAN</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>
1968	1,955,652	2,297,909	Zinc		66,092,001
1967	1,921,749	2,228,068	Silver	95,259,780	
			Gold	4,168	
			Cadmium		115,800
			Copper		132,085
			Lead		74,736,210
			Tin		198,584
			Zinc		60,707,578
1966	1,937,428	1,937,428	Silver	97,678,660	
			Gold	8,802	
			Cadmium		174,802
			Copper		174,537
			Lead		79,876,149
			Tin		322,390
			Zinc		70,441,477
1965	2,283,185	2,283,185	Silver	89,124,869	
			Gold	8,740	
			Cadmium		266,934
			Copper		162,476
			Lead		92,532,814
			Tin		171,097
			Zinc		98,282,883
1964	2,470,047	2,470,047	Silver	90,132,544	
			Gold	10,108	
			Cadmium		336,092
			Copper		262,538
			Lead		96,316,571
			Tin		159,822
			Zinc		123,753,141
1963	1,580,315	1,580,315	Silver	127,024,994	
			Gold	11,135	
			Copper		331,756
			Lead		116,717,778
			Tin		420,506
			Zinc		119,461,091
1962	2,343,308	2,343,308	Silver	120,264,259	
			Gold	10,979	
			Copper		278,595
			Lead		113,930,922
			Tin		295,260
			Zinc		118,536,675
1961	2,233,200	2,233,200	Silver	165,021,445	
			Gold	11,415	
			Copper		373,849
			Lead		134,248,125
			Tin		507,726
			Zinc		92,634,871
1960	2,288,411	2,288,411	Silver	164,322,437	
			Gold	11,259	
			Copper		355,705
			Lead		123,833,699
			Tin		282,005
			Zinc		106,199,027
1959	2,213,878	2,213,878	Silver	107,362,704	
			Gold	8,864	
			Cadmium		13
			Copper		186,698
			Lead		91,033,808
			Tin		339,033
			Zinc		110,737,353
1958	2,217,043	2,217,043	Silver	96,511,085	
			Gold	9,766	
			Cadmium		81
			Copper		194,409
			Lead		93,173,464
			Tin		360,829
			Zinc		124,244,470
1957	2,198,621	2,198,621	Silver	79,072,379	
			Gold	8,678	
			Copper		150,317
			Lead		78,332,664
			Tin		321,642
			Zinc		111,489,450
1956	2,512,142	2,512,142	Silver	80,597,359	

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MINFILE NUMBER: <u>082FNE052</u>		NAME: <u>SULLIVAN</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>	
1956	2,512,142	2,512,142	Gold	9,238		
			Copper		123,016	
			Lead		86,071,479	
			Tin		343,338	
			Zinc		118,480,653	
1955	2,573,286	2,573,286	Silver	90,439,717		
			Gold	10,420		
			Copper		112,981	
			Lead		102,296,557	
			Tin		177,457	
			Zinc		120,366,257	
1954	2,432,726	2,432,726	Silver	118,033,614		
			Gold	9,549		
			Copper		134,729	
			Lead		121,759,082	
			Tin		151,403	
			Zinc		125,611,838	
1953	2,397,904	2,397,904	Silver	91,761,128		
			Gold	3,577		
			Cadmium		112	
			Lead		94,249,701	
			Tin		291,774	
			Zinc		104,240,030	
1952	2,448,962	2,448,962	Silver	88,528,593		
			Cadmium		985	
			Lead		97,521,978	
			Tin		96,212	
			Zinc		117,089,448	
1951	2,298,079	2,298,079	Silver	99,462,075		
			Lead		112,734,805	
			Tin		157,268	
			Zinc		125,115,292	
1950	2,432,115	2,432,115	Silver	130,285,802		
			Lead		122,269,586	
			Tin		361,240	
			Zinc		111,954,449	
1949	2,084,402	2,084,402	Silver	124,743,371		
			Lead		117,323,725	
			Tin		280,825	
			Zinc		117,664,344	
1948	2,071,659	2,071,659	Silver	151,719,034		
			Lead		147,691,788	
			Tin		313,581	
			Zinc		121,645,340	
1947	2,043,631	2,043,631	Silver	144,797,093		
			Lead		142,460,305	
			Tin		323,953	
			Zinc		121,012,438	
1946	2,093,348	2,093,347	Silver	192,012,878		
			Lead		171,416,560	
			Tin		396,522	
			Zinc		135,123,372	
1945	2,209,779	2,209,779	Silver	158,719,449		
			Lead		156,463,735	
			Tin		385,544	
			Zinc		132,801,578	
1944	1,942,633	1,942,633	Silver	140,887,135		
			Lead		129,312,086	
			Tin		234,336	
			Zinc		103,998,314	
1943	2,268,598	2,268,598	Silver	225,502,380		
			Lead		196,953,326	
			Tin		352,411	
			Zinc		151,667,483	
1942	2,447,058	2,447,058	Silver	270,379,654		
			Lead		230,817,708	
			Tin		561,482	
			Zinc		180,742,778	
1941	2,398,570	2,398,570	Silver	258,424,998		
			Lead		205,383,996	
			Tin		234,336	
			Zinc		165,381,926	

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MINFILE NUMBER: 082FNE052		NAME: SULLIVAN		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	2,253,756	2,253,756	Silver Lead Zinc	274,356,328	207,412,482 140,103,320	
1939	1,896,971	1,896,971	Silver Lead Zinc	233,645,954	168,513,399 127,693,954	
1938	2,061,920	2,061,784	Silver Lead Zinc	251,980,179	187,671,722 138,897,188	
1937	2,013,657	2,013,555	Silver Lead Zinc	259,075,144	187,994,590 131,346,538	
1936	1,725,229	1,724,981	Silver Lead Zinc	215,194,441	167,349,975 107,571,600	
1935	1,688,530	1,686,648	Silver Lead Zinc	209,146,929	153,093,589 104,402,935	
1934	1,582,259	1,580,074	Silver Lead Zinc	202,199,545	150,877,453 103,902,600	
1933	1,282,383	1,271,015	Silver Lead Zinc	149,759,732	120,400,647 88,610,744	
1932	1,312,620	1,306,811	Silver Lead Zinc	137,949,923	115,317,144 97,401,868	
1931	1,471,190	1,462,567	Silver Lead Zinc	137,252,531	118,817,013 97,577,489	
1930	1,745,203	1,733,575	Silver Lead Zinc	169,586,122	147,434,418 111,047,921	
1929	1,610,176	1,596,524	Silver Lead Zinc	163,932,871	139,432,093 115,205,245	
1928	1,427,249	1,346,697	Silver Lead Zinc	179,341,546	141,529,048 100,905,107	
1927	1,152,724	1,132,641	Silver Lead Zinc	164,062,820	127,998,848 79,937,594	
1926	1,010,065	981,559	Silver Lead Zinc	145,831,361	116,086,847 75,417,628	
1925	1,013,873	991,727	Silver Lead Zinc	115,319,193	102,195,811 70,674,795	
1924	937,173	937,173	Silver Lead Zinc	87,105,009	83,308,724 53,731,188	
1923	403,767	169,384	Silver Lead Zinc	45,735,780	45,179,024 43,794,636	
1922	325,456	325,456	Silver Lead Zinc	42,479,078	37,417,242 44,223,156	
1921	269,671	269,671	Silver Lead Zinc	26,083,131	26,524,163 44,741,390	
1920	231,733	231,733	Silver Lead Zinc	16,680,041	20,366,763 38,807,094	
1919	119,654	119,654	Silver Lead Zinc	3,932,850	3,834,352 20,698,676	
1918	118,073	118,073	Silver Lead Zinc	6,975,501	7,760,080 20,188,389	

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MINFILE NUMBER:	<u>082FNE052</u>	NAME:	<u>SULLIVAN</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>
1917	102,239	102,239	Silver Lead Zinc	4,600,134	5,904,139 18,792,316
1916	89,181	89,181	Silver Lead Zinc	15,600,954	12,004,533 11,218,994
1915	39,992	39,992	Silver Lead	14,750,691	11,938,628
1914	32,204	32,204	Silver Lead	14,758,591	10,968,984
1913	28,294	28,294	Silver Lead	10,100,046	7,790,819
1912	26,088	26,088	Silver Lead	10,953,792	7,812,895
1911	22,425	22,425	Silver Lead	5,704,384	4,871,871
1910	20,287	20,287	Silver Lead	5,267,417	4,026,226
1908	1,108	1,108	Silver Lead	243,039	182,765
1907	25,255	25,255	Silver Lead	5,549,739	4,167,226
1906	22,122	22,122	Silver Lead	6,065,831	4,176,630
1905	20,485	20,485	Silver Lead	7,048,935	5,210,720
1903	305	305	Silver Lead	138,937	90,196
1901	2,618	2,618	Silver Lead	1,289,437	806,430
1900	4,151	4,151	Silver Lead	2,277,268	1,399,082

SUMMARY TOTALS: 082FNE052

NAME: **SULLIVAN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	149,173,608 tonnes	164,435,754 tons
Milled:	150,453,162 tonnes	165,846,221 tons
Recovery:		
Silver:	9,264,200,966 grams	297,850,546 ounces
Gold:	174,863 grams	5,622 ounces
Bismuth:	21,880 kilograms	48,237 pounds
Cadmium:	3,094,872 kilograms	6,823,023 pounds
Copper:	5,106,742 kilograms	11,258,436 pounds
Lead:	8,412,076,665 kilograms	18,545,449,281 pounds
Antimony:	413,700 kilograms	912,052 pounds
Tin:	9,702,543 kilograms	21,390,440 pounds
Zinc:	7,944,445,846 kilograms	17,514,500,090 pounds

Comments:

2001: Closed December 21, 2001.
 2000: Silver based on 12 grams per tonne.
 1999: Silver based on 12 grams per tonne.
 1996: Estimated antimony, bismuth and cadmium.

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MINFILE NUMBER: **082FNE053** NAME: **NORTH STAR MINE** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1929	103		Silver Lead Zinc	31,787	12,910 6,304
1921	113		Silver Lead	39,003	18,689
1920	6,046		Silver Lead	1,745,376	603,901
1919	6,460		Silver Lead	2,041,228	775,054
1918	2,223		Silver Lead	628,156	390,330
1917	54		Silver Lead	37,541	25,433
1916	14		Silver Lead	7,434	5,030
1910	528		Silver Lead	342,351	42,074
1909	2,194		Silver Lead	1,139,769	301,289
1908	3,504		Silver Lead	1,546,379	728,794
1907	2,416		Silver Lead	1,118,588	569,228
1906	2,561		Silver Lead	2,176,743	895,911
1905	628		Silver Lead	358,742	120,259
1904	4,603		Silver Lead	4,752,196	1,683,380
1903	546		Silver Lead	748,649	235,245
1902	3,285		Silver Lead	3,561,480	1,368,824
1901	9,819		Silver Lead	8,236,168	5,329,407
1900	14,363		Silver Lead	10,826,768	7,589,029
1899	53		Silver Lead	120,680	25,645
1898	1,788		Silver Lead	2,170,367	1,037,180
1895	29		Silver Lead	44,788	17,418

SUMMARY TOTALS: 082FNE053

NAME: **NORTH STAR MINE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	61,330 tonnes	67,605 tons
Milled:		
Recovery:		
Silver:	41,674,193 grams	1,339,854 ounces
Lead:	21,775,030 kilograms	48,005,710 pounds
Zinc:	6,304 kilograms	13,898 pounds

Comments: 1917: NORTH STAR HILL

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MINFILE NUMBER: 082FNE055		NAME: RICE (L.14951,14952)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1974	235		Silver	4,852	
			Gold	3,546	
			Copper		235
			Lead		683
			Zinc		235
1973	1,246		Silver	8,553	
			Gold	10,948	
			Copper		1,072
			Lead		2,603
			Zinc		1,246

SUMMARY TOTALS: 082FNE055

NAME: **RICE (L.14951,14952)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,481 tonnes	1,633 tons
Milled:	1,481 tonnes	1,633 tons
Recovery:		
Silver:	13,405 grams	431 ounces
Gold:	14,494 grams	466 ounces
Copper:	1,307 kilograms	2,881 pounds
Lead:	3,286 kilograms	7,244 pounds
Zinc:	1,481 kilograms	3,265 pounds

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MINFILE NUMBER: 082FNE056		NAME: ANDERSON		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	266		Silver	3,577		
			Gold	1,773		
1938	39		Silver	653		
			Gold	311		
1937	76		Silver	964		
			Gold	1,089		
			Lead			200

SUMMARY TOTALS: 082FNE056

NAME: **ANDERSON**

	<u>Metric</u>	<u>Imperial</u>
Mined:	381 tonnes	420 tons
Milled:	tonnes	tons
Recovery:		
Silver:	5,194 grams	167 ounces
Gold:	3,173 grams	102 ounces
Lead:	200 kilograms	441 pounds

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MINFILE NUMBER: 082FNE057	NAME: BIRDIE L.	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1937	23		Silver	15,054	
			Gold	31	
			Lead		3,452

SUMMARY TOTALS: 082FNE057

	NAME: BIRDIE L.	
	<u>Metric</u>	<u>Imperial</u>
	23 tonnes	25 tons
Mined:		
Milled:	tonnes	tons
Recovery:		
	15,054 grams	484 ounces
Silver:		
Gold:	31 grams	1 ounces
Lead:	3,452 kilograms	7,610 pounds

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MINFILE NUMBER: 082FNE076		NAME: KRAO		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>	
1964	41		Silver	8,927		
			Lead		3,641	
			Zinc		3,394	
1963	10		Silver	7,309		
			Lead		2,707	
			Zinc		252	
1960	58		Silver	5,256		
			Cadmium		6	
			Lead		2,964	
			Zinc		1,419	
1946	4		Silver	4,603		
			Lead		1,027	
			Zinc		573	
1939	11		Silver	17,200		
			Lead		935	
			Zinc		1,470	
1937	16		Silver	292,275		
			Lead		531	
			Zinc		1,613	
1936	15		Silver	21,057		
			Lead		7,434	
1923	90		Silver	435,069		
			Lead		3,058	
1921	93		Silver	1,658,163		
			Lead		6,866	
1920	112		Silver	609,837		
			Lead		14,713	
1908	44		Silver	39,408		
			Lead		13,494	
1907	24		Silver	33,529		
			Lead		6,740	
1906	398		Silver	398,958		
			Lead		37,996	
1905	536		Silver	275,728		
			Lead		72,379	
1889	11		Silver	35,457		
			Lead		5,443	

SUMMARY TOTALS: 082FNE076

NAME: **KRAO**

Metric
 1,463 tonnes
 Milled: tonnes

Imperial
 1,613 tons
 tons

Recovery:

Silver: 3,842,776 grams
 Cadmium: 6 kilograms
 Lead: 179,928 kilograms
 Zinc: 8,721 kilograms

123,548 ounces
 13 pounds
 396,673 pounds
 19,227 pounds

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MINFILE NUMBER: **082FNE077** NAME: **UNITED** 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	10		Silver	12,161	
			Gold	93	
			Lead		3,228
1920	10		Silver	5,070	
			Lead		3,836
1919	25		Silver	12,939	
			Lead		10,562
1918	17		Silver	9,797	
			Lead		7,150
1906	714		Silver	55,488	
			Lead		56,384

SUMMARY TOTALS: 082FNE077

NAME: **UNITED**

	<u>Metric</u>	<u>Imperial</u>
Mined:	776 tonnes	855 tons
Milled:		
Recovery:		
	Silver: 95,455 grams	3,069 ounces
	Gold: 93 grams	3 ounces
	Lead: 81,160 kilograms	178,927 pounds

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MINFILE NUMBER: 082FNE079		NAME: NEOSHO (L.302)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1950	75		Silver	37,852		
			Lead		1,648	
			Zinc		3,773	
1949	50		Silver	54,150		
			Lead		1,495	
			Zinc		4,035	
1922	10		Silver	12,783		
			Lead			365

SUMMARY TOTALS: 082FNE079

NAME: **NEOSHO (L.302)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	135 tonnes	149 tons
Milled:	tonnes	tons
Recovery:		
Silver:	104,785 grams	3,369 ounces
Lead:	3,508 kilograms	7,734 pounds
Zinc:	7,808 kilograms	17,214 pounds

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MINFILE NUMBER: 082FNE080		NAME: CROW-FLEDGLING		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	113		Silver	7,651	
			Cadmium		10
			Lead		6,583
			Zinc		2,964
1949	16		Silver	4,914	
			Lead		2,148
			Zinc		3,529
1948	34		Silver	11,508	
			Lead		4,264
			Zinc		3,546
1937	6		Silver	1,120	
			Lead		399

SUMMARY TOTALS: 082FNE080

NAME: **CROW-FLEDGLING**

	<u>Metric</u>	<u>Imperial</u>
Mined:	169 tonnes	186 tons
Milled:	tonnes	tons
Recovery:		
Silver:	25,193 grams	810 ounces
Cadmium:	10 kilograms	22 pounds
Lead:	13,394 kilograms	29,529 pounds
Zinc:	10,039 kilograms	22,132 pounds

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MINFILE NUMBER: 082FNE081	NAME: FIREBRAND	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1924	15		Silver Lead	56,981	1,569

SUMMARY TOTALS: 082FNE081

	NAME: FIREBRAND	
	<u>Metric</u>	<u>Imperial</u>
	15 tonnes	17 tons
Mined:		
Milled:		
Recovery:	56,981 grams	1,832 ounces
	1,569 kilograms	3,459 pounds

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MINFILE NUMBER: 082FNE084		NAME: SILVER HILL (L.2852)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1952	15		Silver	6,718	
			Lead		534
			Zinc		337
1950	680		Silver	309,506	
			Gold	31	
			Lead		20,570
			Zinc		15,785
1926	23		Silver	59,096	
			Lead		7,078
1917	8		Silver	11,197	
			Lead		3,266
1902	732		Silver	547,848	
			Copper		26
			Lead		35,409
1901	746		Silver	1,250,123	
			Lead		92,544

SUMMARY TOTALS: 082FNE084

NAME: **SILVER HILL (L.2852)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,204 tonnes	2,429 tons
Milled:		
Recovery:		
Silver:	2,184,488 grams	70,233 ounces
Gold:	31 grams	1 ounces
Copper:	26 kilograms	57 pounds
Lead:	159,401 kilograms	351,419 pounds
Zinc:	16,122 kilograms	35,543 pounds

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MINFILE NUMBER: 082FNE096	NAME: FERGUS (L.977)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1907	7		Silver Lead	4,914	3,094

SUMMARY TOTALS: 082FNE096

NAME: **FERGUS (L.977)**

	<u>Metric</u>		<u>Imperial</u>
	Mined:	7 tonnes	8 tons
	Milled:		tons
Recovery:	Silver:	4,914 grams	158 ounces
	Lead:	3,094 kilograms	6,821 pounds

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MINFILE NUMBER: 082FNE113		NAME: CRAWFORD BAY		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	29,027		Dolomite		29,027,000
1988	45,500		Dolomite		45,500,000
1987	31,897		Dolomite		31,896,614
1986	27,502		Dolomite		27,502,211
1985	27,330		Dolomite		27,329,849
1984	25,096		Dolomite		25,096,357
1983	29,174		Dolomite		29,174,152
1982	29,729		Dolomite		29,729,349
1981	39,776		Dolomite		39,775,513
1980	41,746		Dolomite		41,745,918
1979	37,098		Dolomite		37,098,411
1978	36,838		Dolomite		36,838,049
1977	35,969		Dolomite		35,968,966
1976	34,911		Dolomite		34,911,188
1975	28,027		Dolomite		28,026,564
1974	29,313		Dolomite		29,312,952
1973	35,326		Dolomite		35,325,772
1972	45,000		Dolomite		45,000,000
1971	45,000		Dolomite		45,000,000
1970	10,102		Dolomite		10,101,501
1969	12,483		Dolomite		12,483,768
1968	8,662		Dolomite		8,661,800
1966	5,348		Dolomite		5,347,854
1965	2,970		Dolomite		2,970,123
1964	2,960		Dolomite		2,960,144
1963	55,215		Dolomite		55,214,889
1962	11,126		Dolomite		11,125,713

SUMMARY TOTALS: 082FNE113

NAME: **CRAWFORD BAY**

	<u>Metric</u>	<u>Imperial</u>
Mined:	763,125 tonnes	841,201 tons
Milled:		tons
Recovery:	Dolomite: 763,124,657 kilograms	1,682,401,408 pounds

Comments: 1992: 1989-1991: Production statistics not available.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE114		NAME: CRAWFORD CREEK QUARTZITE		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>
1986	1,276		Silica		1,276,409
1985	1,469		Silica		1,468,732
1984	1,348		Silica		1,348,076
1983	1,500		Silica		1,500,483
1982	2,035		Silica		2,034,815
1981	1,958		Silica		1,957,705
1980	2,798		Silica		2,797,758
1979	2,355		Silica		2,355,051
1978	1,873		Silica		1,873,336
1977	1,452		Silica		1,452,403
1976	1,016		Silica		1,016,047
1975	1,255		Silica		1,254,636
1974	951		Silica		950,730
1973	1,038		Silica		1,037,819
1972	796		Silica		795,601

SUMMARY TOTALS: 082FNE114

NAME: **CRAWFORD CREEK QUARTZITE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	23,120 tonnes	25,485 tons
Milled:		
Recovery: Silica:	23,119,601 kilograms	50,969,981 pounds

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MINFILE NUMBER: 082FNE116		NAME: STEMWINDER (L.2998)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1926	25,620	25,620	Silver	1,955,197	
			Gold	1,306	
			Lead		945,317
			Zinc		3,990,900

SUMMARY TOTALS: 082FNE116

		NAME: STEMWINDER (L.2998)	
		<u>Metric</u>	<u>Imperial</u>
Recovery:	Mined:	25,620 tonnes	28,241 tons
	Milled:	25,620 tonnes	28,241 tons
	Silver:	1,955,197 grams	62,861 ounces
	Gold:	1,306 grams	42 ounces
	Lead:	945,317 kilograms	2,084,067 pounds
	Zinc:	3,990,900 kilograms	8,798,426 pounds

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MINFILE NUMBER: 082FNE121	NAME: KIRBY	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1920	8		Silver Lead	7,558	1,778

SUMMARY TOTALS: 082FNE121

	NAME: KIRBY	
	<u>Metric</u>	<u>Imperial</u>
	8 tonnes	9 tons
Mined:		
Milled:		
Recovery:	7,558 grams	243 ounces
	1,778 kilograms	3,920 pounds

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MINFILE NUMBER: 082FNE128		NAME: NOR		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1983		5	Silver	8,274		
			Zinc		214	
1980		14	Silver	4,248		
			Gold	3		
			Lead		64	
			Zinc		107	
1973	67		Silver	16,236		
			Lead		391	
			Zinc		705	

SUMMARY TOTALS: 082FNE128

NAME: **NOR**

	<u>Metric</u>	<u>Imperial</u>
Mined:	67 tonnes	74 tons
Milled:	19 tonnes	21 tons
Recovery:		
Silver:	28,758 grams	925 ounces
Gold:	3 grams	ounces
Lead:	455 kilograms	1,003 pounds
Zinc:	1,026 kilograms	2,262 pounds

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MINFILE NUMBER: 082FNE133	NAME: GENERAL - GRANT	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1972	5	5	Silver Lead Zinc	7,589	107 146

SUMMARY TOTALS: 082FNE133

NAME: **GENERAL - GRANT**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5 tonnes	6 tons
Milled:	5 tonnes	6 tons
Recovery:		
Silver:	7,589 grams	244 ounces
Lead:	107 kilograms	236 pounds
Zinc:	146 kilograms	322 pounds

Comments:

1972: Between 1889, 1916-1921 24 tons mined, 9604 oz Ag, 5489 lb Pb.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE140		NAME: ALBION (L.3340)		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>	
1925	75		Silver	55,052		
			Lead		40,640	
1924	34		Silver	28,242		
			Lead		17,886	
			Zinc		1,655	
1917	11		Silver	1,120		
			Zinc		4,790	

SUMMARY TOTALS: 082FNE140

NAME: **ALBION (L.3340)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	120 tonnes	132 tons
Milled:	tonnes	tons
Recovery:		
Silver:	84,414 grams	2,714 ounces
Lead:	58,526 kilograms	129,028 pounds
Zinc:	6,445 kilograms	14,209 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE141		NAME: AUGUST FRACTION (L.6287)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1951	43		Silver	1,928	
			Lead		2,200
			Zinc		1,316
1950	56		Silver	34,151	
			Lead		33,731
			Zinc		2,718
1948	9		Silver	9,238	
			Lead		8,966
			Zinc		4,548
1947	32		Silver	2,426	
			Lead		1,784
			Zinc		604
1894	4		Silver	24,882	
			Lead		1,814

SUMMARY TOTALS: 082FNE141

NAME: **AUGUST FRACTION (L.6287)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	144 tonnes	159 tons
Milled:	tonnes	tons
Recovery:	Silver: 72,625 grams	2,335 ounces
	Lead: 48,495 kilograms	106,913 pounds
	Zinc: 9,186 kilograms	20,252 pounds

Comments:

1950: Includes 2 tonnes from Dixie Fraction.
 1948: Operated by Besecker, mill cleanup(10 tons ore, 48 tons conc.).
 1947: King Solomon operated by L.D. Besecker, from dump (MM01259).
 1894: King Solomon (MM01259). Annual Report 1894, p. 736.

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MINFILE NUMBER: 082FNE142	NAME: NORTHWIND	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1899	1		Silver	2,239	

SUMMARY TOTALS: 082FNE142

	NAME: NORTHWIND	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 1 tonnes	1 tons
	Milled: tonnes	tons
Recovery:	Silver: 2,239 grams	72 ounces

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MINFILE NUMBER: 082FNE143		NAME: CAREY		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1952	563		Silver	40,589		
			Lead		38,789	
			Zinc		30,093	
1951	10		Silver	1,462		
			Lead		1,816	
			Zinc		863	
1950	12		Silver	1,369		
			Lead		2,066	
			Zinc		1,064	

SUMMARY TOTALS: 082FNE143

NAME: **CAREY**

	<u>Metric</u>	<u>Imperial</u>
Mined:	585 tonnes	645 tons
Milled:	tonnes	tons
Recovery:		
Silver:	43,420 grams	1,396 ounces
Lead:	42,671 kilograms	94,073 pounds
Zinc:	32,020 kilograms	70,592 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE144		NAME: DIXIE FRACTION		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1955	99		Silver	4,914	
			Lead		4,506
			Zinc		349
1954	134		Silver	11,166	
			Lead		9,394
			Zinc		935
1951	1		Silver	218	
			Lead		227
			Zinc		91

SUMMARY TOTALS: 082FNE144

NAME: **DIXIE FRACTION**

	<u>Metric</u>	<u>Imperial</u>
Mined:	234 tonnes	258 tons
Milled:	tonnes	tons
Recovery:		
Silver:	16,298 grams	524 ounces
Lead:	14,127 kilograms	31,145 pounds
Zinc:	1,375 kilograms	3,031 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE146		NAME: LAURA M		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1960	489		Silver	33,094		
			Cadmium			64
			Lead			28,686
			Zinc			15,212
1959	2,966		Silver	207,924		
			Cadmium			361
			Lead			199,434
			Zinc			81,722
1958	974		Silver	117,632		
			Cadmium			76
			Lead			123,770
			Zinc			2,821
1957	7		Silver	2,271		
			Lead			2,435
			Zinc			638
1956	4		Silver	1,275		
			Lead			1,159
			Zinc			371
1950	26		Silver	9,020		
			Lead			9,612
			Zinc			1,877

SUMMARY TOTALS: 082FNE146

NAME: **LAURA M**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4,466 tonnes	4,923 tons
Milled:		
Recovery:		
Silver:	371,216 grams	11,935 ounces
Cadmium:	501 kilograms	1,105 pounds
Lead:	365,096 kilograms	804,899 pounds
Zinc:	102,641 kilograms	226,285 pounds

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MINFILE NUMBER: 082FNE147	NAME: JEANETTE	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1926	10		Silver Lead	2,955	5,002

SUMMARY TOTALS: 082FNE147

NAME: **JEANETTE**

	Mined:	10 tonnes	11 tons
	Milled:		tons
Recovery:	Silver:	2,955 grams	95 ounces
	Lead:	5,002 kilograms	11,028 pounds

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MINFILE NUMBER: 082FNE148	NAME: LULU	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1954	5		Silver Lead Zinc	3,515	3,249 200

SUMMARY TOTALS: 082FNE148

NAME: **LULU**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5 tonnes	6 tons
Milled:	tonnes	tons
Recovery:		
Silver:	3,515 grams	113 ounces
Lead:	3,249 kilograms	7,163 pounds
Zinc:	200 kilograms	441 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNE149		NAME: BLACK DIAMOND & LITTLE PHIL		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>
1964	5		Silver	9,673	
			Lead		1,379
			Zinc		369
1963	9		Silver	10,762	
			Lead		1,983
			Zinc		837
1959	23		Silver	44,228	
			Lead		12,259
			Zinc		1,050
1958	15		Silver	16,827	
			Lead		6,329
			Zinc		928
1953	7		Silver	18,164	
			Lead		4,184
			Zinc		559
1950	54		Silver	39,719	
			Lead		9,530
			Zinc		3,079
1949	328		Silver	126,994	
			Gold	31	
			Cadmium		26
			Lead		16,959
			Zinc		7,113
1920	5		Silver	2,488	
			Lead		2,268
1919	18		Silver	10,171	
			Lead		9,861
1918	102		Silver	38,257	
			Lead		34,571
1917	27		Silver	19,253	
			Lead		13,501
1899	301		Silver	272,027	
			Lead		163,482
1895	91		Silver	93,309	
			Lead		58,967

SUMMARY TOTALS: 082FNE149

NAME: **BLACK DIAMOND & LITTLE PHIL**

	<u>Metric</u>	<u>Imperial</u>
Mined:	985 tonnes	1,086 tons
Milled:		
Recovery:		
Silver:	701,872 grams	22,566 ounces
Gold:	31 grams	1 ounces
Cadmium:	26 kilograms	57 pounds
Lead:	335,273 kilograms	739,150 pounds
Zinc:	13,935 kilograms	30,721 pounds

Comments:

1949: Milled is estimate.

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MINFILE NUMBER: 082FNE150	NAME: LITTLE MAMIE (L.2830)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1921	10		Silver Lead	17,107	4,989

SUMMARY TOTALS: 082FNE150

	NAME: LITTLE MAMIE (L.2830)		
	<u>Metric</u>	<u>Imperial</u>	
	10 tonnes	11 tons	
	Milled:	tons	
Recovery:	Silver:	17,107 grams	550 ounces
	Lead:	4,989 kilograms	10,999 pounds

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MINFILE NUMBER: **082FNE155** NAME: **PROCTER** 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	318		Limestone		317,515
1938	1,040		Limestone		1,039,634
1937	3,748		Limestone		3,748,471
1936	2,107		Limestone		2,107,390

SUMMARY TOTALS: 082FNE155

NAME: **PROCTER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	7,213 tonnes	7,951 tons
Milled:		
Recovery:		
Limestone:	7,213,010 kilograms	15,901,961 pounds
Comments:		
1960:	Minister of Mines Annual Report 1960, p. 145 (for 1936-38;1960)	

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MINFILE NUMBER: 082FNE164	NAME: LA FRANCE CREEK	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1927	64		Limestone		63,503
1923	20		Limestone		19,950

SUMMARY TOTALS: 082FNE164

	NAME: LA FRANCE CREEK		
	<u>Metric</u>	<u>Imperial</u>	
	84 tonnes	93 tons	
Recovery:	Mined:	Milled:	
	Limestone:	83,453 kilograms	183,982 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	<u>082FNE165</u>	NAME:	<u>PILOT BAY</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>
1989			Silver	29,366	
			Lead		4,191
			Zinc		94,438
1980			Silver	530,314	
			Gold	317	
			Lead		5,820
			Zinc		13,194
1979	208		Silver	73,746	
			Gold	31	
			Lead		824
			Zinc		2,100
1978	8		Silver	1,275	
			Lead		527
			Zinc		3,746
1952	1,010		Silver	97,508	
			Lead		37,611
			Zinc		274,719
1951	490		Silver	62,330	
			Lead		20,656
			Zinc		237,777
1950	110		Silver	17,324	
			Gold	31	
			Lead		8,408
			Zinc		5,384
1949	136		Silver	41,802	
			Gold	31	
			Lead		25,603
			Zinc		7,052
1948	724		Silver	141,021	
			Gold	218	
			Lead		60,971
			Zinc		95,135

SUMMARY TOTALS: 082FNE165

NAME: **PILOT BAY**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,686 tonnes	2,961 tons
Milled:	tonnes	tons
Recovery:		
Silver:	994,686 grams	31,980 ounces
Gold:	628 grams	20 ounces
Lead:	164,611 kilograms	362,905 pounds
Zinc:	733,545 kilograms	1,617,189 pounds

Comments:

1989: Custom ore.
 1980: Clean up. Operated by D. Pearce 1978-1980.
 1979: Clean up.
 1978: Conc.; lead 2 t, zinc 6 t. Ore from Pilot Bay Smelter clean up.
 1952: Ore from tailings. Operated by G.L. Green 1951-1952.
 1951: Ore from tailings. Lead concentrate 21 t, zinc concentrate 468 t.
 1948: Operated by H.T. Steams. Ore is from dumps around the mill.

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MINFILE NUMBER: **082FNW001** NAME: **APEX (L.1911)** 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>
1925	26		Silver Lead	3,919	555
1924	25		Silver Gold	127,522 124	
1916	27		Silver Gold Lead	76,824 31	2,442
1913	18		Silver Gold	71,972 93	
1912	58		Silver Gold Lead	240,209 218	1,406

SUMMARY TOTALS: 082FNW001

NAME: **APEX (L.1911)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	154 tonnes	170 tons
Milled:	tonnes	tons
Recovery:		
Silver:	520,446 grams	16,733 ounces
Gold:	466 grams	15 ounces
Lead:	4,403 kilograms	9,707 pounds

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MINFILE NUMBER: **082FNW002** NAME: **MOWITCH (L.4558)** 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>
1925	8		Silver	16,422	
			Gold	62	
1920	31		Silver	84,973	
			Gold	62	
1919	10		Silver	75,891	
			Gold	622	
1904	18		Silver	70,915	
			Gold	62	
1902	16		Silver	67,960	
			Gold	62	

SUMMARY TOTALS: 082FNW002

NAME: **MOWITCH (L.4558)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	83 tonnes	91 tons
Milled:	tonnes	tons
Recovery:		
Silver:	316,161 grams	10,165 ounces
Gold:	870 grams	28 ounces

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MINFILE NUMBER:	<u>082FNW003</u>	NAME:	<u>BOSUN</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>
1976	13		Silver	8,598	
			Lead		546
			Zinc		1,959
1974	15		Silver	23,607	
			Copper		37
			Lead		1,313
			Zinc		3,233
1962	38		Silver	49,640	
			Cadmium		20
			Lead		3,255
			Zinc		3,690
1960	13		Silver	10,140	
			Lead		482
			Zinc		2,071
1959	11		Silver	13,561	
			Lead		1,418
			Zinc		1,302
1957	69	69	Silver	38,910	
			Gold	31	
			Cadmium		29
			Lead		2,978
			Zinc		5,465
1952	61		Silver	163,477	
			Gold	31	
			Lead		21,729
			Zinc		7,363
1951	288		Silver	99,561	
			Lead		3,000
			Zinc		17,765
1950	400	215	Silver	596,244	
			Gold	124	
			Lead		62,763
			Zinc		47,246
1949	1,108		Silver	1,268,754	
			Gold	311	
			Cadmium		125
			Lead		188,805
			Zinc		42,747
1948	1,083		Silver	959,465	
			Gold	187	
			Cadmium		344
			Lead		80,968
			Zinc		107,154
1947	264		Silver	851,196	
			Gold	156	
			Lead		83,461
			Zinc		53,369
1946	54		Silver	188,484	
			Gold	31	
			Lead		27,779
			Zinc		1,337
1943	7		Silver	16,174	
			Lead		901
			Zinc		2,257
1942	35		Silver	83,947	
			Lead		2,139
			Zinc		13,688
1941	29		Silver	79,966	
			Gold	31	
			Cadmium		90
			Lead		3,896
			Zinc		11,457
1940	86		Silver	185,872	
			Gold	62	
			Cadmium		206
			Lead		7,678
			Zinc		31,511
1939	82		Silver	215,139	
			Gold	31	
			Lead		12,266
			Zinc		27,870

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW003		NAME: BOSUN		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	83		Silver	248,700		
			Gold	62		
			Lead			19,707
			Zinc			23,250
1937	101		Silver	269,259		
			Gold	31		
			Lead			18,202
			Zinc			29,293
1936	161		Silver	404,339		
			Gold	93		
			Lead			27,309
			Zinc			47,061
1935	311		Silver	958,719		
			Gold	156		
			Lead			74,462
			Zinc			76,282
1934	439		Silver	1,243,405		
			Gold	311		
			Lead			97,562
			Zinc			105,735
1933	55		Silver	142,794		
			Gold	31		
			Lead			13,303
			Zinc			11,286
1932	20		Silver	60,340		
			Lead			5,610
			Zinc			4,295
1930	184		Silver	512,795		
			Lead			33,228
			Zinc			44,349
1929	869		Silver	2,058,179		
			Lead			180,124
			Zinc			146,282
1928	1,042	923	Silver	2,283,302		
			Gold	62		
			Lead			190,652
			Zinc			189,456
1927	1,357	1,129	Silver	3,342,080		
			Gold	156		
			Lead			269,363
			Zinc			266,604
1926	2,731	2,082	Silver	3,743,526		
			Gold	62		
			Lead			264,744
			Zinc			245,062
1925	656		Silver	1,818,592		
			Lead			118,927
			Zinc			162,943
1924	1,412		Silver	5,356,310		
			Gold	156		
			Lead			317,590
			Zinc			283,079
1923	1,194		Silver	3,616,626		
			Gold	280		
			Lead			226,858
			Zinc			253,983
1922	1,733		Silver	5,084,096		
			Lead			313,547
			Zinc			140,427
1921	232		Silver	1,159,302		
			Lead			109,876
			Zinc			23,864
1920	2,173	2,173	Silver	168,050		
			Lead			12,711
			Zinc			6,580
1919	15,397	15,064	Silver	8,003,611		
			Gold	31		
			Lead			553,830
			Zinc			480,819
1918	25,188	25,070	Silver	2,489,920		
			Lead			166,104

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MINFILE NUMBER: 082FNW003		NAME: BOSUN		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	25,188	25,070	Zinc		223,495	
1906	157		Silver	252,463		
			Gold	746		
			Lead		65,396	
1903	943		Silver	2,304,701		
			Lead		134,154	
1902	700		Silver	2,324,918		
			Lead		234,676	
1901	624		Silver	1,888,170		
			Lead		200,931	
1900	959		Silver	2,804,278		
			Lead		346,762	
1899	449		Silver	1,463,396		
			Lead		175,552	
1898	396		Silver	1,592,722		
			Lead		229,950	

SUMMARY TOTALS: 082FNW003

NAME: **BOSUN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	63,222 tonnes	69,690 tons
Milled:	46,725 tonnes	51,505 tons
Recovery:		
Silver:	60,447,328 grams	1,943,424 ounces
Gold:	3,172 grams	102 ounces
Cadmium:	814 kilograms	1,795 pounds
Copper:	37 kilograms	82 pounds
Lead:	4,906,507 kilograms	10,816,993 pounds
Zinc:	3,145,629 kilograms	6,934,923 pounds

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MINFILE NUMBER: 082FNW004		NAME: HARTNEY (L.4864)		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	11		Silver	29,859	
			Lead		5,443
1914	21		Silver	28,677	
			Lead		1,338
			Zinc		6,309
1913	4		Silver	9,797	
			Lead		1,338
			Zinc		743
1912	5		Silver	9,984	
			Lead		1,444
			Zinc		848
1907	5		Silver	14,494	
			Lead		2,222
1906	4		Silver	5,194	
			Lead		2,382
1905	6		Silver	16,578	
			Lead		3,235
1903	36		Silver	99,529	
			Lead		14,515
1902	15		Silver	41,274	
			Lead		5,789
1901	133		Silver	235,792	
			Lead		39,532
1900	16		Silver	31,632	
			Lead		4,638

SUMMARY TOTALS: 082FNW004

NAME: **HARTNEY (L.4864)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	256 tonnes	282 tons
Milled:		
Recovery:		
Silver:	522,810 grams	16,809 ounces
Lead:	81,876 kilograms	180,506 pounds
Zinc:	7,900 kilograms	17,417 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW005		NAME: CALIFORNIA (L.918)		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>
1907	98		Silver	278,248	
			Lead		41,479
1906	85		Silver	259,959	
			Lead		46,738
1905	92		Silver	248,917	
			Lead		45,611
1898	31		Silver	105,719	
			Lead		16,949
1896	2		Silver	13,996	
			Lead		1,007

SUMMARY TOTALS: 082FNW005

NAME: **CALIFORNIA (L.918)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	308 tonnes	340 tons
Milled:	tonnes	tons
Recovery: Silver:	906,839 grams	29,156 ounces
Lead:	151,784 kilograms	334,626 pounds

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 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW006		NAME: SILVER BELL (L.1887)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1909	13		Silver	24,509	
			Lead		7,373
1906	22		Silver	60,153	
			Lead		14,663
1905	87		Silver	243,910	
			Lead		50,536
1904	36		Silver	99,530	
			Lead		21,772
1901	33		Silver	116,387	
			Gold	280	
			Lead		12,647
1899	69		Silver	305,867	
			Lead		25,781
1898	43		Silver	528,938	
			Gold	404	
			Lead		21,164

SUMMARY TOTALS: 082FNW006

NAME: **SILVER BELL (L.1887)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	303 tonnes	334 tons
Milled:	tonnes	tons
Recovery:		
	Silver: 1,379,294 grams	44,345 ounces
	Gold: 684 grams	22 ounces
	Lead: 153,936 kilograms	339,371 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: <u>082FNW007</u>		NAME: <u>IDAHO (L.472)</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>
1984	10		Silver	13,872	
			Lead		1,295
			Zinc		1,995
1964	3		Silver	7,092	
			Lead		1,174
			Zinc		294
1963	14		Silver	59,500	
			Lead		9,418
			Zinc		383
1962	6		Silver	29,672	
			Lead		4,492
			Zinc		232
1922	582		Silver	900,183	
			Gold	715	
			Lead		94,126
			Zinc		160,864
1920	169		Silver	652,852	
			Lead		43,183
1919	1,112	1,105	Silver	279,523	
			Lead		2,352
			Zinc		40,085
1918	167		Silver	479,173	
			Lead		29,899
1917	149		Silver	362,443	
			Lead		12,594
1916	237		Silver	830,699	
			Lead		45,221
1915	48		Silver	157,754	
			Lead		11,741
1913	248		Silver	906,652	
			Lead		94,409
1912	233		Silver	272,960	
			Lead		13,397
1911	57		Silver	133,308	
			Lead		18,338
1910	111		Silver	319,770	
			Lead		34,355
1907	70		Silver	230,815	
			Lead		23,587
1906	18		Silver	63,699	
			Lead		9,666
1905	1,288		Silver	860,558	
			Lead		66,623
			Zinc		21,382
1904	8,879		Silver	2,562,794	
			Lead		450,892
1903	487		Silver	790,358	
			Lead		134,471
1900	1,015		Silver	2,454,929	
			Lead		355,710
1899	1,833		Silver	3,260,092	
			Lead		205,662
1898	3,205		Silver	10,353,660	
			Lead		451,393
1895	6,622		Silver	22,705,190	
1893	18		Silver	124,412	
			Lead		10,886

SUMMARY TOTALS: 082FNW007

NAME: IDAHO (L.472)

	<u>Metric</u>	<u>Imperial</u>
Mined:	26,581 tonnes	29,301 tons
Milled:	1,105 tonnes	1,218 tons
Recovery:		
Silver:	48,811,960 grams	1,569,339 ounces
Gold:	715 grams	23 ounces
Lead:	2,124,884 kilograms	4,684,566 pounds
Zinc:	225,235 kilograms	496,558 pounds

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MINFILE NUMBER: **082FNW007**

NAME: **IDAHO (L.472)**

STATUS: Past Producer

Comments:

Comments:

1984: Crude ore.
1963: Crude ore.
1962: Crude ore.
1893: Production figures include the Alamo (082FNW008).

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW008		NAME: ALAMO (L.737)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1969	181		Silver	36,079	
			Gold	31	
			Cadmium		38
			Lead		3,478
			Zinc		5,403
1928	103		Silver	187,893	
			Gold	62	
			Lead		10,991
1927	54		Zinc		15,844
			Silver	85,689	
1926	58		Gold	31	
			Lead		1,926
			Zinc		12,129
1920	142		Silver	78,442	
			Gold	31	
			Lead		1,758
			Silver	588,096	
			Lead		37,410

SUMMARY TOTALS: 082FNW008

NAME: **ALAMO (L.737)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	538 tonnes	593 tons
Milled:	tonnes	tons
Recovery:		
Silver:	976,199 grams	31,385 ounces
Gold:	155 grams	5 ounces
Cadmium:	38 kilograms	84 pounds
Lead:	55,563 kilograms	122,495 pounds
Zinc:	47,240 kilograms	104,146 pounds

Comments: 1969: Geology, Exploration and Mining in B.C. 1969, page 428.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW010		NAME: QUEEN BESS (L.215)		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>
1978	8		Silver	43,389	
			Gold	10	
			Lead		6,284
			Zinc		135
1961	4		Silver	19,564	
			Lead		2,566
			Zinc		44
1937	41		Silver	145,344	
			Gold	31	
			Lead		28,522
			Zinc		1,456
1936	28		Silver	74,647	
			Gold	31	
			Lead		17,235
			Zinc		66
1929	57		Silver	51,289	
			Gold	62	
			Lead		8,039
			Zinc		12,357
1928	44		Silver	97,757	
			Gold	62	
			Lead		25,254
			Zinc		2,971
1927	29		Silver	85,906	
			Gold	62	
			Lead		16,922
			Zinc		977
1926	40		Silver	145,500	
			Gold	62	
			Lead		22,954
1925	73		Silver	361,261	
			Gold	156	
			Lead		52,392
			Zinc		1,238
1924	78		Silver	398,927	
			Gold	31	
			Lead		55,498
1922	34		Silver	67,400	
			Gold	31	
			Lead		18,203
1921	61		Silver	156,635	
			Gold	187	
			Lead		35,181
1920	484		Silver	1,108,387	
			Lead		250,330
1919	3,126		Silver	8,138,971	
			Lead		1,647,343
1918	4,821		Silver	12,407,484	
			Lead		2,493,728
1917	1,994		Silver	5,714,461	
			Lead		1,032,343
1916	174		Silver	528,782	
			Gold	62	
			Lead		79,481
1908	5		Silver	30,699	
			Gold	62	
			Lead		2,922
1907	17		Silver	69,515	
			Lead		11,869
1906	44		Silver	156,759	
			Lead		24,592
1905	13		Silver	34,835	
			Lead		7,138
1904	6		Silver	18,133	
			Lead		3,209
1902	268		Silver	894,989	
			Lead		155,900
1901	1,030		Silver	2,134,754	
			Lead		463,592

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW010		NAME: QUEEN BESS (L.215)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1900	1,025		Silver	2,549,389		
			Lead		573,830	
1899	1,559		Silver	3,728,379		
			Lead		708,231	
1898	1,474		Silver	3,698,147		
			Lead		788,127	
1893	36		Silver	119,436		
			Lead		26,853	

SUMMARY TOTALS: 082FNW010

NAME: **QUEEN BESS (L.215)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	16,573 tonnes	18,269 tons
Milled:		
Recovery:		
Silver:	42,980,739 grams	1,381,861 ounces
Gold:	849 grams	27 ounces
Lead:	8,558,538 kilograms	18,868,341 pounds
Zinc:	19,244 kilograms	42,426 pounds

Comments: 1961: See MM01125 (Bess).

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW011		NAME: SILVERITE		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>	
1949	4		Silver	2,364		381
			Lead			1,027
			Zinc			
1942	3		Silver	6,034		1,389
			Lead			184
			Zinc			
1940	35		Silver	80,028		18,529
			Gold	31		2,616
			Lead			
			Zinc			
1939	6		Silver	24,696		3,628
			Lead			193
			Zinc			
1938	11		Silver	38,443		7,824
			Lead			169
			Zinc			
1919	44		Silver	102,578		26,169
			Lead			

SUMMARY TOTALS: 082FNW011

NAME: **SILVERITE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	103 tonnes	114 tons
Milled:		
Recovery:		
Silver:	254,143 grams	8,171 ounces
Gold:	31 grams	1 ounces
Lead:	57,920 kilograms	127,692 pounds
Zinc:	4,189 kilograms	9,235 pounds

Comments: 1938: Use Annual Report 1938 if 19 tonnes mined figures are used.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW012		NAME: PALMITA (L.4880)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1951	2		Silver	5,599	
			Lead		1,476
			Zinc		21
1939	1		Silver	2,613	
			Lead		395
			Zinc		68
1938	61		Silver	94,273	
			Gold	31	
			Lead		19,457
			Zinc		6,091
1937	29		Silver	68,240	
			Lead		14,319
1936	220		Silver	515,905	
			Lead		119,508
1935	193		Silver	486,140	
			Gold	124	
			Lead		119,292
			Zinc		11,092
1934	24		Silver	51,849	
			Gold	31	
			Lead		11,720
			Zinc		2,663
1930	181		Silver	387,419	
			Gold	936	
			Lead		84,844
			Zinc		15,004

SUMMARY TOTALS: 082FNW012

NAME: **PALMITA (L.4880)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	711 tonnes	784 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,612,038 grams	51,828 ounces
Gold:	1,122 grams	36 ounces
Lead:	371,011 kilograms	817,939 pounds
Zinc:	34,939 kilograms	77,027 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW013		NAME: HINCKLEY (L.1720)		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	1,905	1,905	Silver	512,934		
			Lead			92,712
			Zinc			90,294
1988			Silver	173,230		
			Gold	419		
			Lead			38,611
			Zinc			105,031
1956	90		Silver	50,667		
			Gold	31		
			Cadmium			59
			Lead			7,510
			Zinc			7,581
1955	13		Silver	33,529		
			Gold	31		
			Lead			6,904
			Zinc			684
1937	2		Silver	5,256		
			Lead			1,162
			Zinc			6
1936	1		Silver	2,830		
			Lead			653
			Zinc			7

SUMMARY TOTALS: 082FNW013

NAME: **HINCKLEY (L.1720)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,011 tonnes	2,217 tons
Milled:	1,905 tonnes	2,100 tons
Recovery:		
Silver:	778,446 grams	25,028 ounces
Gold:	481 grams	15 ounces
Cadmium:	59 kilograms	130 pounds
Lead:	147,552 kilograms	325,296 pounds
Zinc:	203,603 kilograms	448,868 pounds

Comments:

1997: Calculated from grades. GCNL #10 (Jan.15), 1998.
 1988: Figures from custom smelter report.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW014		NAME: CINDERELLA (L.3621)		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>
1936	12		Silver	26,096	
			Lead		6,977
			Zinc		11
1924	2		Silver	4,790	
			Lead		1,172
1914	13		Silver	28,801	
			Lead		7,264
1913	7		Silver	19,719	
			Lead		5,024
1905	22		Silver	41,865	
			Lead		12,005
1904	170		Silver	453,046	
			Lead		117,372

SUMMARY TOTALS: 082FNW014

NAME: **CINDERELLA (L.3621)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	226 tonnes	249 tons
Milled:	tonnes	tons
Recovery:		
Silver:	574,317 grams	18,465 ounces
Lead:	149,814 kilograms	330,283 pounds
Zinc:	11 kilograms	24 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **082FNW015** NAME: **HALLMAC** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1990			Gold	33	
1989			Silver	1,768,320	
1984	553	553	Silver	328,656	
			Gold	611	
			Lead		23,550
			Zinc		3,196
1983	905		Silver	1,704,128	
			Lead		248,013
1982	1,073		Silver	1,960,359	
			Lead		273,946
1981	728		Silver	1,600,616	
			Lead		255,771
1980	41		Silver	180,618	
			Gold	28	
			Lead		30,109
			Zinc		414
1966	658	658	Silver	25,940	
			Gold	31	
			Cadmium		64
			Lead		6,520
			Zinc		10,345
1965	247	247	Silver	29,268	
			Cadmium		81
			Lead		6,281
			Zinc		14,019
1951	3,836		Silver	156,355	
			Cadmium		237
			Lead		30,108
			Zinc		144,730

SUMMARY TOTALS: 082FNW015

NAME: **HALLMAC**

	<u>Metric</u>	<u>Imperial</u>
Mined:	8,041 tonnes	8,864 tons
Milled:	1,458 tonnes	1,607 tons
Recovery:		
Silver:	7,754,260 grams	249,305 ounces
Gold:	703 grams	23 ounces
Cadmium:	382 kilograms	842 pounds
Lead:	874,298 kilograms	1,927,497 pounds
Zinc:	172,704 kilograms	380,747 pounds
Comments:		
1990:	Custom ore; unknown tonnage.	
1989:	Custom ore; unknown tonnage.	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNW016		NAME: MERCURY (L.3531)		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	18		Silver	5,381	
			Lead		668
			Zinc		1,186
1937	5		Silver	19,937	
			Lead		1,622
			Zinc		449
1921	4		Silver	29,548	
			Lead		2,182
1915	15		Silver	24,789	
			Lead		907
1906	34		Silver	248,326	
			Lead		14,719
1903	13		Silver	102,640	
			Lead		3,574
1902	93		Silver	476,591	
			Lead		38,579
1901	19		Silver	149,326	
			Lead		8,715

SUMMARY TOTALS: 082FNW016

NAME: **MERCURY (L.3531)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	201 tonnes	222 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,056,538 grams	33,968 ounces
Lead:	70,966 kilograms	156,453 pounds
Zinc:	1,635 kilograms	3,605 pounds

Comments:

1980: Crude ore; MM01303.
 1921: Production from Redress Fraction No. 2 (Lot 3209); MM01369.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW017		NAME: MAJESTIC (L.1405)		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>
1922	5		Silver	6,096	
			Lead		2,659
1921	5		Silver	3,484	
			Lead		2,722
1916	4		Silver	7,714	
			Lead		2,926
1912	3		Silver	2,271	
			Lead		1,097
1910	4		Silver	5,910	
			Lead		2,526
1907	26		Silver	54,990	
			Lead		17,214
1906	64		Silver	125,283	
			Lead		43,782
1905	73		Silver	166,525	
			Lead		50,588
1904	37		Silver	80,152	
			Lead		25,324

SUMMARY TOTALS: 082FNW017

NAME: **MAJESTIC (L.1405)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	221 tonnes	244 tons
Milled:	tonnes	tons
Recovery:		
Silver:	452,425 grams	14,546 ounces
Lead:	148,838 kilograms	328,132 pounds

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MINFILE NUMBER: 082FNW018	NAME: SAPPHIRE (L.1857)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1899	15		Silver Lead	41,087	9,116

SUMMARY TOTALS: 082FNW018

	NAME: SAPPHIRE (L.1857)		
	<u>Metric</u>	<u>Imperial</u>	
	15 tonnes	17 tons	
	Milled:	tons	
Recovery:	Silver:	41,087 grams	1,321 ounces
	Lead:	9,116 kilograms	20,097 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNW019		NAME: AJAX (L.585)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1900	9		Silver	21,585		
			Lead		658	
1899	136		Silver	258,497		
			Gold	31		
			Lead		44,645	
1898	17		Silver	41,149		
			Lead		7,643	

SUMMARY TOTALS: 082FNW019

NAME: **AJAX (L.585)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	162 tonnes	179 tons
Milled:	tonnes	tons
Recovery:	Silver: 321,231 grams	10,328 ounces
	Gold: 31 grams	1 ounces
	Lead: 52,946 kilograms	116,726 pounds

Comments:

1900: Ajax.
 1899: Treasure Vault and Ajax.
 1898: Treasure Vault.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW020		NAME: LAST CHANCE (L.717)		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>
1922	12		Silver	44,104	
			Lead		3,568
1921	64		Silver	218,561	
			Lead		30,516
1920	24		Silver	79,126	
			Lead		9,255
1908	54		Silver	152,094	
			Lead		24,476
1907	286		Silver	606,384	
			Lead		74,756
1904	291		Silver	704,732	
			Lead		106,027
1903	32		Silver	104,008	
			Lead		13,577
1902	226		Silver	735,150	
			Lead		74,036
1901	1,285		Silver	4,797,140	
			Lead		481,313
1900	2,282		Silver	8,879,378	
			Lead		814,600
1899	1,932		Silver	7,729,220	
			Lead		790,137
1898	1,489		Silver	6,610,445	
			Lead		757,683
1896	308		Silver	1,924,654	
			Lead		191,234
1895	163		Silver	951,752	
			Lead		122,469

SUMMARY TOTALS: 082FNW020

NAME: **LAST CHANCE (L.717)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	8,448 tonnes	9,312 tons
Milled:	tonnes	tons
Recovery: Silver:	33,536,748 grams	1,078,230 ounces
Lead:	3,493,647 kilograms	7,702,171 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **082FNW021** NAME: **SURPRISE** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1929	57	35	Silver Gold Lead Zinc	53,373 31	4,232 3,610
1927	22	22	Silver Lead Zinc	25,909	1,965 4,137
1926	156	123	Silver Lead Zinc	602,310	36,846 29,522
1925	139		Silver Lead Zinc	412,737	33,203 26,484
1924	101		Silver Lead Zinc	420,761	23,419 13,573
1923	47		Silver Lead Zinc	202,978	13,327 6,260
1922	63		Silver Lead Zinc	250,566	15,355 8,338
1921	4		Silver Lead Zinc	16,360	973 687
1920	1,974	1,961	Silver Gold Lead Zinc	1,892,835 93	123,684 82,083
1919	7,367	6,913	Silver Lead Zinc	7,408,921	575,871 388,999
1918	12,690	12,611	Silver Lead Zinc	19,876,621	1,691,273 1,038,224
1917	10,087	10,060	Silver Lead Zinc	12,317,068	1,190,914 931,538
1916	707		Silver Lead Zinc	2,700,456	381,455 27,841
1915	10,088	9,741	Silver Lead Zinc	9,081,983	1,053,861 963,705
1914	445		Silver Lead	1,747,989	253,965
1913	172		Silver Lead Zinc	648,684	94,506 12,247
1902	56		Silver Lead	242,043	21,012
1901	154		Silver Lead	933,774	82,913
1900	32		Silver Lead	118,098	7,904
1894	23		Silver	155,515	
1893	91		Silver	712,259	

SUMMARY TOTALS: 082FNW021

NAME: **SURPRISE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	44,475 tonnes	49,025 tons
Milled:	41,466 tonnes	45,708 tons
Recovery:		
Silver:	59,821,240 grams	1,923,295 ounces
Gold:	124 grams	4 ounces
Lead:	5,606,678 kilograms	12,360,606 pounds
Zinc:	3,537,248 kilograms	7,798,295 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNW022		NAME: FOURTH OF JULY (L.2052)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1979	2		Silver	2,364	
			Lead		470
			Zinc		117
1937	2		Silver	4,323	
			Lead		657
1898	3		Silver	9,487	
			Lead		1,319
			Zinc		386

SUMMARY TOTALS: 082FNW022

NAME: **FOURTH OF JULY (L.2052)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	7 tonnes	8 tons
Milled:	tonnes	tons
Recovery:		
	Silver: 16,174 grams	520 ounces
	Lead: 2,446 kilograms	5,393 pounds
	Zinc: 503 kilograms	1,109 pounds

Comments: 1898: Twelve tonnes mined in 1901 but no records of gross metal content.

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MINFILE NUMBER: 082FNW023	NAME: BOADICEA	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1937	8		Silver Lead	12,472	2,407

SUMMARY TOTALS: 082FNW023

	NAME: BOADICEA	
	<u>Metric</u>	<u>Imperial</u>
	8 tonnes	9 tons
Mined:		
Milled:		
Recovery:	12,472 grams	401 ounces
	2,407 kilograms	5,307 pounds

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MINFILE NUMBER: **082FNW025** NAME: **LUCKY BOY (L.632)** 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>
1976	2		Silver	11,353	
			Lead		1,942
			Zinc		94
1903	2		Silver	7,715	
			Lead		1,278

SUMMARY TOTALS: 082FNW025

NAME: **LUCKY BOY (L.632)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4 tonnes	4 tons
Milled:	tonnes	tons
Recovery: Silver:	19,068 grams	613 ounces
Lead:	3,220 kilograms	7,099 pounds
Zinc:	94 kilograms	207 pounds

Comments:

1976: Crude ore.
 1903: Calculated from grade (GSC Memoir 184, p. 230).

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MINFILE NUMBER: 082FNW027	NAME: ALMEDA (L.628)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1903	13		Silver Lead	52,129	7,815

SUMMARY TOTALS: 082FNW027

	NAME: ALMEDA (L.628)	
	<u>Metric</u>	<u>Imperial</u>
	13 tonnes	14 tons
Mined:		
Milled:		
Recovery:		
	52,129 grams	1,676 ounces
	7,815 kilograms	17,229 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	082FNW028		NAME:	BELL (L.1165)		STATUS:	Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>			
1944	351		Zinc		40,542			
1943	211		Zinc		76,288			
1941	4		Silver	2,395				
			Gold	62				
1940	6		Silver	13,157				
			Gold	62				
1938	44		Silver	29,921				
			Gold	124				
1918	446		Silver	112,935				
			Lead		14,594			
			Zinc		165,657			
1917	562		Zinc		241,854			
1916	565		Zinc		237,551			

SUMMARY TOTALS: 082FNW028

NAME: **BELL (L.1165)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,189 tonnes	2,413 tons
Milled:	tonnes	tons
Recovery:		
Silver:	158,408 grams	5,093 ounces
Gold:	248 grams	8 ounces
Lead:	14,594 kilograms	32,174 pounds
Zinc:	761,892 kilograms	1,679,684 pounds

Comments:

- 1943: Minister of Mines Annual Report 1943, page 71.
- 1940: Minister of Mines Annual Report 1940, page 26.
- 1918: Includes minor production from Sunset-Trade Dollar (082FNW227).
- 1917: Includes minor production from Sunset-Trade Dollar (082FNW227).
- 1916: Includes minor production from Sunset-Trade Dollar (082FNW227).

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MINFILE NUMBER: 082FNW030		NAME: GREEN HORN (L.1306)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1965	12		Silver	5,941	
			Gold	31	
			Lead		1,308
			Zinc		1,076
1915	2		Silver	4,603	
			Lead		1,021

SUMMARY TOTALS: 082FNW030

NAME: **GREEN HORN (L.1306)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	14 tonnes	15 tons
Milled:	tonnes	tons
Recovery:	Silver: 10,544 grams	339 ounces
	Gold: 31 grams	1 ounces
	Lead: 2,329 kilograms	5,135 pounds
	Zinc: 1,076 kilograms	2,372 pounds

Comments: 1915: Production from Home Rule claim.

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MINFILE NUMBER: 082FNW031	NAME: ORO (L.2434)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1927	7		Silver Lead Zinc	7,278	527 113

SUMMARY TOTALS: 082FNW031

NAME: **ORO (L.2434)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	7 tonnes	8 tons
Milled:	tonnes	tons
Recovery:		
Silver:	7,278 grams	234 ounces
Lead:	527 kilograms	1,162 pounds
Zinc:	113 kilograms	249 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW032		NAME: CHAMBERS (L.1752)		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	2,288		Silver	387,627	
			Gold	155	
			Cadmium		1,611
			Lead		73,417
			Zinc		235,738
1965	2		Silver	4,230	
			Lead		1,082
			Zinc		58
1964	8		Silver	20,373	
			Lead		5,408
			Zinc		259
1921	5		Silver	15,956	
			Lead		3,817
1896	18		Silver	62,206	
			Lead		12,701

SUMMARY TOTALS: 082FNW032

NAME: **CHAMBERS (L.1752)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,321 tonnes	2,558 tons
Milled:	tonnes	tons
Recovery:		
Silver:	490,392 grams	15,766 ounces
Gold:	155 grams	5 ounces
Cadmium:	1,611 kilograms	3,552 pounds
Lead:	96,425 kilograms	212,581 pounds
Zinc:	236,055 kilograms	520,412 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW033		NAME: GREY COPPER (L.580)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1983	9		Silver	28,086	
			Lead		768
			Zinc		4,936
1979	684		Silver	39,167	
			Cadmium		114
			Lead		3,099
			Zinc		15,241
1978	19		Silver	6,096	
			Lead		671
			Zinc		4,993
1933	2		Silver	6,003	
			Lead		235
			Zinc		29
1931	2		Silver	18,631	
			Gold	31	
			Lead		787
			Zinc		31
1917	56		Silver	45,161	
			Lead		2,294

SUMMARY TOTALS: 082FNW033

NAME: **GREY COPPER (L.580)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	772 tonnes	851 tons
Milled:	tonnes	tons
Recovery:		
Silver:	143,144 grams	4,602 ounces
Gold:	31 grams	1 ounces
Cadmium:	114 kilograms	251 pounds
Lead:	7,854 kilograms	17,315 pounds
Zinc:	25,230 kilograms	55,623 pounds

Comments: 1983: Ore mined came from dump.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	<u>082FNW034</u>	NAME:	<u>BLUE BIRD (L.540)</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	5		Silver Lead Zinc	27,091	3,649 259
1980	11		Silver Lead Zinc	13,958	1,803 612
1926	5		Silver Lead Zinc	9,020	517 27
1905	34		Silver Lead	140,057	20,185
1904	10		Silver Lead	35,364	5,032
1903	34		Silver Lead	131,410	17,738
1898	54		Silver Lead		
1896	218		Silver Lead	1,005,125	163,292
1894	218		Silver Lead	1,022,667	168,735
1893	218		Silver Lead	895,766	128,820
1892	91		Silver Lead	447,883	64,410

SUMMARY TOTALS: 082FNW034

NAME: **BLUE BIRD (L.540)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	898 tonnes	990 tons
Milled:	898 tonnes	990 tons
Recovery:	Silver: 3,728,341 grams	119,869 ounces
	Lead: 574,181 kilograms	1,265,852 pounds
	Zinc: 898 kilograms	1,980 pounds

Comments: 1898: Recoveries not known.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW035		NAME: RECO		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1966	5		Silver Lead Zinc	13,001	2,311 668	
1965	90	84	Silver Gold Cadmium Lead Zinc	116,916 31	375 13,377 50,345	
1964	8		Silver Lead Zinc	15,769	2,203 1,186	
1960	104		Silver Cadmium Lead Zinc	32,223	39 6,294 6,420	
1959	501		Silver Gold Cadmium Lead Zinc	203,382 31	190 43,237 33,145	
1958	9		Silver Lead Zinc	22,892	5,399 178	
1935	5		Silver Lead Zinc	14,992	2,413 193	
1919	17		Silver Lead Zinc	44,540	2,087 6,653	
1918	34		Silver Lead Zinc	103,231	7,716 8,235	
1917	27		Silver Lead	152,778	15,283	
1916	98		Silver Lead Zinc	365,305	41,963 3,477	
1915	64		Lead		38,328	
1913	70		Silver Lead	324,746	43,138	
1912	150		Silver Lead	699,942	97,212	
1911	18		Silver Lead	61,833	9,122	
1910	6		Silver Lead	26,655	2,929	
1909	755		Silver Lead Zinc	2,878,054	300,631 10,489	
1908	457		Silver Lead	2,048,972	183,900	
1907	103		Silver Lead	386,984	33,479	
1906	253		Silver Lead	905,999	123,387	
1905	690		Silver Lead Zinc	2,542,204	271,610 47,959	
1904	855		Silver Lead	3,609,130	369,588	
1903	127		Silver Lead	1,031,220	75,444	
1902	486		Silver Lead	3,984,263	291,752	
1901	518		Silver Lead	3,268,458	263,672	
1900	40		Silver Lead	268,108	20,116	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **082FNW035** NAME: **RECO** 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>
1899	221		Silver Lead	1,454,812	71,965
1898	306		Silver Lead	2,610,226	117,451
1896	591		Silver Lead	6,537,726	164,635
1895	372		Silver Lead	1,978,151	158,757
1894	73		Silver Lead	437,930	55,157
1893	36		Silver Lead	248,824	23,587

SUMMARY TOTALS: 082FNW035

NAME: **RECO**

	<u>Metric</u>	<u>Imperial</u>
Mined:	7,089 tonnes	7,814 tons
Milled:	84 tonnes	93 tons
Recovery:		
Silver:	36,389,266 grams	1,169,940 ounces
Gold:	62 grams	2 ounces
Cadmium:	604 kilograms	1,332 pounds
Lead:	2,858,143 kilograms	6,301,125 pounds
Zinc:	168,948 kilograms	372,466 pounds

Comments:

- 1966: Crude ore.
- 1965: 81 tonnes of lead concentrate from Deadman (Lot 613).
- 1964: Crude ore.
- 1959: 18 tonnes of crude ore.
- 1958: Crude ore.
- 1905: Includes 103 tonnes mined from the Reco No. 3-Goodenough vein.
- 1901: Includes 238 tonnes mined from the Reco No. 3-Goodenough vein.
- 1900: Includes 13 tonnes mined from the Reco No. 3-Goodenough vein.
- 1898: Includes 15 tonnes mined from the Reco No. 3-Goodenough vein.
- 1896: Includes 6 tonnes mined from the Reco No. 3-Goodenough vein.
- 1895: Includes 18 tonnes mined from the Reco No. 3-Goodenough vein.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>082FNW036</u>	NAME:	<u>SLOCAN SOVEREIGN (L.1927)</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>
1968	27		Silver	26,064	
			Gold	31	
			Copper		47
			Lead		6,342
			Zinc		992
1966	13		Silver	39,190	
			Lead		8,434
			Zinc		483
1965	5		Silver	14,432	
			Lead		3,342
			Zinc		196
1938	24		Silver	45,068	
			Lead		11,794
			Zinc		1,922
1937	90		Silver	108,705	
			Lead		26,102
			Zinc		16,540
1936	4		Silver	5,194	
			Lead		1,375
			Zinc		346
1930	45		Silver	47,525	
			Gold	62	
			Lead		12,538
			Zinc		2,431
1929	39		Silver	46,375	
			Lead		9,265
			Zinc		4,507
1926	23		Silver	17,107	
			Lead		4,070
			Zinc		3,630
1924	16		Silver	33,871	
			Lead		8,272
1923	30		Silver	62,019	
			Lead		14,602
1922	24		Silver	54,990	
			Gold	31	
			Lead		11,784
1920	39		Silver	95,051	
			Lead		20,391
1919	3,194		Silver	1,104,934	
			Lead		141,808
			Zinc		109,749
1918	218		Silver	484,740	
			Lead		110,834
1917	143		Silver	242,479	
			Lead		56,772
1916	73		Silver	195,513	
			Lead		44,447
1909	5		Silver	8,989	
			Lead		1,513
1908	62		Silver	134,614	
			Lead		28,614
1907	103		Silver	203,134	
			Lead		43,259
1906	19		Silver	42,953	
			Lead		9,992
1904	27		Silver	70,448	
			Lead		15,759
1901	114		Silver	219,058	
			Lead		35,598
1900	57		Silver	121,271	
			Lead		23,057
1898	145		Silver	248,824	
			Lead		58,967

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MINFILE NUMBER: **082FNW036**

NAME: **SLOCAN SOVEREIGN (L.1927)**

STATUS: Past Producer

SUMMARY TOTALS: 082FNW036

NAME: **SLOCAN SOVEREIGN (L.1927)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4,539 tonnes	5,003 tons
Milled:		
Recovery:		
Silver:	3,672,548 grams	118,075 ounces
Gold:	124 grams	4 ounces
Copper:	47 kilograms	104 pounds
Lead:	708,931 kilograms	1,562,925 pounds
Zinc:	140,796 kilograms	310,402 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	<u>082FNW037</u>	NAME:	<u>NOBLE FIVE (L.467)</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	4	4	Silver Lead Zinc	11,228	2,659 499
1965	178	178	Cadmium		354
1956	21	21	Silver Lead Zinc	49,796	11,440 1,414
1955	1,361	1,361	Silver Cadmium Lead Zinc	59,562	469 1,614 70,616
1954	59	59	Silver Cadmium Lead Zinc	16,485	124 768 18,482
1952	1,796	1,796	Silver Gold Lead Zinc	117,725 31	30,326 4,399
1948	30	30	Silver Lead Zinc	17,262	2,172 8,353
1945	30	30	Silver Cadmium Lead Zinc	50,636	49 8,041 7,100
1944	2,177	2,177	Silver Lead	183,166	32,371
1943	4,214	4,214	Silver Lead Zinc	211,500	36,287 190,508
1940			Silver Cadmium Lead Zinc	12,161	150 763 20,993
1938	18		Silver Lead Zinc	62,828	13,197 637
1937	2,947	2,947	Silver Gold Cadmium Lead Zinc	821,555 124	815 129,500 145,691
1936	8		Silver Lead Zinc	26,531	4,941 817
1935	2,089	2,089	Silver Lead Zinc	344,435	60,873 60,924
1930	1,598	1,575	Silver Gold Lead Zinc	555,468 124	82,869 84,276
1929	19,192	19,151	Silver Lead Zinc	6,550,634	830,518 622,419
1928	93		Silver Lead Zinc	45,473	11,973 6,930
1927	1,130		Silver Lead Zinc	250,535	41,697 153,080
1926	134		Silver Lead Zinc	57,105	9,531 6,669
1922	1,733		Silver Lead Zinc	35,177	7,478 123,519
1920	34		Silver Lead	94,491	18,566

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	<u>082FNW037</u>	NAME:	<u>NOBLE FIVE (L.467)</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>
1913	18		Silver	54,492	
			Lead		9,289
			Zinc		24,675
1912	160		Silver	409,813	
			Lead		79,689
			Zinc		36,287
1911	28		Silver	103,449	
			Lead		15,497
1901	51		Silver	263,971	
			Lead		26,285
1900	26		Silver	58,007	
			Lead		12,247
1899	52		Silver	126,434	
			Lead		25,805
1895	91		Silver	466,545	
			Lead		63,503
1894	544		Silver	2,799,270	
			Lead		381,016
1893	318		Silver	1,632,907	
			Lead		222,259

SUMMARY TOTALS: 082FNW037

NAME: **NOBLE FIVE (L.467)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	40,134 tonnes	44,240 tons
Milled:	35,632 tonnes	39,278 tons
Recovery:		
Silver:	15,488,641 grams	497,971 ounces
Gold:	279 grams	9 ounces
Cadmium:	1,961 kilograms	4,323 pounds
Lead:	2,173,174 kilograms	4,791,027 pounds
Zinc:	1,588,288 kilograms	3,501,575 pounds

Comments:

- 1982: Wild Goose (MM01462).
- 1956: Ore from stock.
- 1954: Milled in 1952.
- 1948: Clean-up.
- 1944: Clean-up.
- 1943: See MM01332 for split production comments.
- 1940: Clean-up.

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MINFILE NUMBER:	082FNW038	NAME:	MADISON-ARGENTA	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1911	2		Silver Lead		
1900	41		Silver Lead	124,941	3,616
1898	18		Silver Lead		

SUMMARY TOTALS: 082FNW038

NAME: **MADISON-ARGENTA**

		<u>Metric</u>		<u>Imperial</u>
	Mined:	61 tonnes		67 tons
	Milled:			
Recovery:	Silver:	124,941 grams		4,017 ounces
	Lead:	3,616 kilograms		7,972 pounds

Comments:

1911: Shipped to Trail smelter; recoveries not known.
1900: Production from Argenta vein.
1898: Recoveries not known.

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MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	082FNW040	NAME:	VICTORIA	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1918	1		Silver	2,582	
			Lead		438
1917	2		Silver	1,866	
			Lead		769

SUMMARY TOTALS: 082FNW040

NAME: **VICTORIA**

	Mined:	3 tonnes	3 tons
	Milled:	tonnes	tons
Recovery:	Silver:	4,448 grams	143 ounces
	Lead:	1,207 kilograms	2,661 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNW042		NAME: ELKHORN (L.859)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1951	2,751		Silver	33,218		
			Lead		6,582	
			Zinc		30,508	
1936	5		Silver	6,003		
			Lead		2,356	
			Zinc		268	
1930	43		Silver	16,827		
			Gold	62		
			Lead		4,696	
			Zinc		9,478	
1928	39		Silver	15,085		
			Gold	31		
			Lead		5,150	
			Zinc		4,778	
1923	4		Silver	6,780		
			Lead		2,164	
1916	5		Silver	4,790		
			Lead		1,536	
1908	15		Silver	29,175		
			Lead		8,073	
1907	38		Silver	98,005		
			Lead		24,884	

SUMMARY TOTALS: 082FNW042

NAME: **ELKHORN (L.859)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,900 tonnes	3,197 tons
Milled:	tonnes	tons
Recovery:		
Silver:	209,883 grams	6,748 ounces
Gold:	93 grams	3 ounces
Lead:	55,441 kilograms	122,226 pounds
Zinc:	45,032 kilograms	99,279 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW043		NAME: WONDERFUL (L.481)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1979	120		Silver Lead Zinc	20,218	1,645 3,772
1960	2		Silver Lead Zinc	5,941	1,078 28
1956	9		Silver Lead Zinc	18,537	4,772 930
1951	304		Silver Lead Zinc	22,021	4,987 2,747
1936	4		Silver Lead Zinc	8,864	2,174 276
1935	1		Silver Lead Zinc	1,524	370 135
1928	31		Silver Lead Zinc	8,242	800 3,169
1927	626		Silver Gold Lead Zinc	424,276 373	29,980 82,951
1926	763		Silver Gold Lead Zinc	451,149 435	16,579 115,308
1925	2,981		Silver Gold Lead Zinc	670,083 653	16,484 184,965
1923	9,673		Silver Gold Lead Zinc	3,865,792 3,110	495,679 320,603
1922	4,826		Silver Gold Lead Zinc	943,167 746	113,051 203,910
1920	22		Silver Lead	68,800	12,889
1919	7,965		Silver Lead Zinc	1,885,184	143,506 294,967
1918	91		Silver Lead	236,010	46,601
1917	220		Silver Lead	429,501	88,349
1916	284		Silver Gold Lead	780,685 933	141,520
1915	179		Silver Gold Lead	501,038 467	82,030
1914	90		Silver Gold Lead	269,974 156	43,127
1913	28		Silver Lead	52,533	12,371
1906	5		Silver Lead	22,083	4,045
1905	11		Silver Lead	48,707	8,649
1903	9		Silver Lead Zinc	34,431	4,800 748
1902	142		Silver	579,698	

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MINFILE NUMBER: **082FNW043** NAME: **WONDERFUL (L.481)** 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	142		Lead		61,673
1901	48		Silver Lead	179,838	20,217
1899	9		Silver Lead	35,768	6,308
1896	363		Silver Lead	1,492,944	255,825

SUMMARY TOTALS: 082FNW043

NAME: **WONDERFUL (L.481)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	28,806 tonnes	31,753 tons
Milled:	tonnes	tons
Silver:	13,057,008 grams	419,792 ounces
Gold:	6,873 grams	221 ounces
Lead:	1,619,509 kilograms	3,570,405 pounds
Zinc:	1,214,509 kilograms	2,677,533 pounds

Recovery:

Comments:

1951: MM01425, confirmed by Minister of Mines Annual Report 1951.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW045		NAME: CORINTH (L.1264)		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>
1978	7		Silver	1,680	
			Lead		443
			Zinc		1,350
1950	3		Silver	3,515	
			Lead		1,494
			Zinc		186
1948	33		Silver	33,125	
			Gold	78	
			Lead		12,514
			Zinc		4,020
1925	16		Silver	27,402	
			Lead		9,144
1906	26		Silver	38,941	
			Lead		15,381
1900	69		Silver	158,905	
			Lead		30,234

SUMMARY TOTALS: 082FNW045

NAME: **CORINTH (L.1264)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	154 tonnes	170 tons
Milled:	tonnes	tons
Recovery:		
Silver:	263,568 grams	8,474 ounces
Gold:	78 grams	3 ounces
Lead:	69,210 kilograms	152,582 pounds
Zinc:	5,556 kilograms	12,249 pounds

Comments:

1950: MM01425, confirmed by Minister of Mines Annual Report 1950.
 1948: MM01425, confirmed by Minister of Mines Annual Report 1948.

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MINFILE NUMBER: 082FNW046		NAME: SUNSHINE		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	8		Silver	18,164		
			Gold	31		
			Lead		4,229	
1916	20		Silver	51,320		
			Lead		6,804	
1908	10		Silver	25,193		
			Lead		4,345	
1906	15		Silver	57,821		
			Lead		8,206	
1905	11		Silver	29,144		
			Lead		7,206	
1895	41		Silver	108,860		
			Lead		22,680	

SUMMARY TOTALS: 082FNW046

NAME: **SUNSHINE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	105 tonnes	116 tons
Milled:	tonnes	tons
Recovery:		
Silver:	290,502 grams	9,340 ounces
Gold:	31 grams	1 ounces
Lead:	53,470 kilograms	117,881 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW048		NAME: CARNATION (L.575)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1951	2		Silver Lead Zinc	4,759	967 125
1928	383	383	Silver Gold Lead Zinc	195,638 93	10,148 19,473
1927	90		Silver Gold Lead	131,939 62	339
1926	24		Silver Gold Lead	33,031 31	10,082
1922	3		Silver Lead	10,730	1,455

SUMMARY TOTALS: 082FNW048

NAME: **CARNATION (L.575)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	502 tonnes	553 tons
Milled:	383 tonnes	422 tons
Recovery:		
Silver:	376,097 grams	12,092 ounces
Gold:	186 grams	6 ounces
Lead:	22,991 kilograms	50,686 pounds
Zinc:	19,598 kilograms	43,206 pounds

Comments:

1951: Operated by E.H. Peterson.
 1927: Minnie Ha Ha included in production.
 1926: Operated by Victoria Syndicate Ltd.
 1922: Carnation and Tender Foot (082FNW183).

RUN DATE: 25-Jun-2003
 RUN TIME: 16:37:09

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MINFILE NUMBER: **082FNW049** NAME: **EVENING (L.3169)** 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>
1914	5		Silver Lead	25,909	1,339
1913	14		Silver Lead	40,434	1,287
1911	38		Silver Lead	187,618	8,466

SUMMARY TOTALS: 082FNW049

NAME: **EVENING (L.3169)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	57 tonnes	63 tons
Milled:	tonnes	tons
Recovery:	Silver: 253,961 grams	8,165 ounces
	Lead: 11,092 kilograms	24,454 pounds

Comments:

1914: MM01186, Evening and Jennie.
 1913: Margaret Fr. and Evening and Jennie.
 1911: Production to March 1911, GSC Memoir 184, p. 40.

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MINFILE NUMBER: <u>082FNW050</u>		NAME: <u>SILVANA</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>	
1993	4,460	4,200	Silver Lead Zinc	2,019,000	237,000 236,480	
1992	16,500	16,500	Silver Lead Zinc	9,527,100	1,265,400 1,543,400	
1991	31,920	31,920	Silver Lead Zinc	12,153,100	1,496,160 1,832,100	
1990	32,381	32,321	Silver Lead Zinc	12,740,280	1,749,072 1,749,344	
1989	26,581	25,190	Silver Lead Zinc	15,135,667	1,753,249 2,393,727	
1988	26,861	26,861	Silver Lead Zinc	13,070,956	1,679,253 1,965,886	
1987	27,745	25,653	Silver Lead Zinc	15,320,111	2,340,634 1,406,769	
1986	23,381	21,929	Silver Lead Zinc	14,865,629	2,103,701 1,508,152	
1985	22,728	23,058	Silver Lead Zinc	14,561,404	2,075,875 1,398,437	
1984	7,659	7,381	Silver Lead Zinc	5,085,107	764,554 405,948	
1983	29,636	28,234	Silver Cadmium Lead Zinc	8,187,524	4,966 778,115 758,587	
1982	27,555	26,196	Silver Cadmium Lead Zinc	9,735,699	50 868,502 654,701	
1981	23,723	27,671	Silver Cadmium Lead Zinc	11,059,618	4,139 1,092,290 813,878	
1980	32,780	29,820	Silver Cadmium Lead Zinc	7,687,934	4,410 791,327 726,989	
1979	20,863	19,625	Silver Cadmium Lead Zinc	9,021,470	4,961 912,566 813,375	
1978	15,967	15,967	Silver Cadmium Lead Zinc	7,579,024	3,724 883,758 638,881	
1977	16,646	15,996	Silver Cadmium Lead Zinc	9,163,815	3,995 1,102,548 712,759	
1976	17,818	16,694	Silver Cadmium Lead Zinc	7,408,703	4,643 836,172 743,490	
1975	10,928	10,928	Silver Cadmium Lead Zinc	6,228,905	2,940 591,365 471,192	
1974	8,098	8,098	Silver Cadmium Lead Zinc	4,752,632	2,683 361,101 406,165	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW050		NAME: SILVANA		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1973	12,760	12,654	Silver	5,913,707		
			Cadmium		4,324	
			Lead		651,506	
			Zinc		628,753	
1972	24,883	24,883	Silver	12,919,346		
			Cadmium		10,833	
			Lead		1,358,704	
			Zinc		1,518,016	
1971	35,520	35,520	Silver	21,193,802		
			Cadmium		15,295	
			Lead		2,156,732	
			Zinc		2,211,647	
1970	13,570	12,004	Silver	7,650,591		
			Cadmium		5,296	
			Lead		841,442	
			Zinc		761,178	
1913	1		Silver	1,617		
			Lead		278	

SUMMARY TOTALS: 082FNW050

NAME: **SILVANA**

	<u>Metric</u>	<u>Imperial</u>
Mined:	510,964 tonnes	563,241 tons
Milled:	499,303 tonnes	550,387 tons
Recovery:		
Silver:	242,982,741 grams	7,812,065 ounces
Cadmium:	72,259 kilograms	159,304 pounds
Lead:	28,691,304 kilograms	63,253,480 pounds
Zinc:	26,299,854 kilograms	57,981,237 pounds

Comments: 1913: Production from the Mascot workings.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	<u>082FNW052</u>	NAME:	<u>RUTH-HOPE</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>
1962	297		Silver	204,876	
			Gold	124	
			Cadmium		182
			Lead		26,286
			Zinc		30,370
1960	2		Silver	5,816	
			Lead		966
			Zinc		35
1959	490		Silver	199,899	
			Gold	93	
			Cadmium		585
			Lead		27,764
			Zinc		82,693
1951	6,537		Silver	427,604	
			Lead		42,903
			Zinc		123,476
1950	39		Silver	147,428	
			Gold	31	
			Lead		25,075
			Zinc		1,541
1949	19		Silver	58,847	
			Lead		10,335
			Zinc		1,177
1948	5		Silver	9,891	
			Lead		1,297
			Zinc		1,375
1942	32		Silver	66,312	
			Gold	31	
			Lead		14,479
			Zinc		3,974
1941	82		Silver	183,165	
			Gold	62	
			Lead		33,833
			Zinc		12,880
1940	34		Silver	104,382	
			Gold	31	
			Lead		20,860
			Zinc		1,791
1939	158		Silver	462,253	
			Gold	93	
			Lead		90,280
			Zinc		12,918
1938	118		Silver	373,485	
			Gold	93	
			Lead		73,854
			Zinc		8,080
1937	445		Silver	139,528	
			Gold	62	
			Cadmium		291
			Lead		21,292
			Zinc		35,958
1935	211		Silver	529,000	
			Gold	124	
			Lead		97,326
			Zinc		17,289
1934	102		Silver	369,783	
			Gold	62	
			Lead		59,583
			Zinc		3,734
1933	112		Silver	360,515	
			Gold	62	
			Lead		61,333
1931	176		Silver	694,374	
			Gold	124	
			Lead		95,017
			Zinc		10,041
1930	1,887		Silver	916,232	
			Gold	498	
			Lead		140,492
			Zinc		98,026
1929	12,046		Silver	7,298,350	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: <u>082FNW052</u>		NAME: <u>RUTH-HOPE</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>
1929	12,046		Gold	1,680	
			Lead		897,300
			Zinc		558,295
1928	11,893		Silver	6,964,428	
			Gold	3,173	
			Lead		780,623
			Zinc		409,326
1927	1,191		Silver	1,851,468	
			Gold	311	
			Lead		204,197
			Zinc		66,130
1926	1,108		Silver	990,444	
			Gold	311	
			Lead		101,874
			Zinc		30,018
1925	1,109		Silver	995,576	
			Gold	342	
			Lead		114,513
			Zinc		24,448
1924	408		Silver	1,063,194	
			Gold	249	
			Lead		116,918
1923	403		Silver	1,412,356	
			Gold	156	
			Lead		198,302
1922	30		Silver	99,810	
			Lead		18,186
1921	135		Silver	371,183	
			Lead		61,591
1920	269		Silver	232,402	
			Lead		18,030
1919	638		Silver	582,591	
			Lead		47,078
1918	30		Silver	104,133	
			Zinc		9,051
1917	257		Silver	353,392	
			Lead		26,408
			Zinc		63,091
1916	725		Silver	1,639,812	
			Lead		176,746
1915	479		Silver	2,018,460	
			Lead		240,517
1914	321		Silver	1,353,167	
			Lead		175,031
1913	377		Silver	1,796,696	
			Lead		201,690
1912	622		Silver	2,862,720	
			Lead		297,334
1911	525		Silver	2,473,622	
			Lead		241,037
1910	679		Silver	3,338,036	
			Lead		340,314
1909	350		Silver	1,806,027	
			Lead		160,208
1908	6,464		Silver	2,204,767	
			Lead		278,471
1907	457		Silver	1,354,194	
			Lead		180,145
1906	306		Silver	1,156,192	
			Lead		146,312
1905	376		Silver	1,779,745	
			Lead		178,525
1904	752		Silver	1,311,800	
			Lead		186,231
1903	734		Silver	2,193,041	
			Lead		380,438
1902	679		Silver	2,316,023	

MINFILE PRODUCTION REPORT
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 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW052		NAME: RUTH-HOPE		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1902	679		Lead		340,618
1901	328		Silver Lead	1,083,597	190,411
1900	1,011		Silver Lead	3,025,296	544,234
1899	13		Silver Lead	30,916	4,151
1898	3,662		Silver Lead	10,653,368	1,484,118
1896	1,361		Silver Lead	4,665,450	884,500
1895	91		Silver Lead	311,030	63,503

SUMMARY TOTALS: 082FNW052

NAME: **RUTH-HOPE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	60,575 tonnes	66,773 tons
Milled:		
Recovery:		
Silver:	76,946,676 grams	2,473,889 ounces
Gold:	7,712 grams	248 ounces
Cadmium:	1,058 kilograms	2,332 pounds
Lead:	10,122,529 kilograms	22,316,350 pounds
Zinc:	1,605,717 kilograms	3,539,999 pounds

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MINFILE NUMBER: 082FNW053		NAME: SILVERSMITH		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1965	86	86	Silver	55,488		
			Cadmium			73
			Lead			10,698
			Zinc			5,503
1964	472	472	Silver	147,833		
			Gold	62		
			Cadmium			237
			Lead			21,835
			Zinc			36,217
1963	643	643	Silver	316,628		
			Gold	187		
			Cadmium			343
			Lead			38,607
			Zinc			51,210
1958	581	483	Silver	512,515		
			Gold	156		
			Cadmium			251
			Lead			71,492
			Zinc			45,255
1957	2,055	1,962	Silver	787,248		
			Gold	373		
			Cadmium			1,146
			Lead			111,294
			Zinc			179,421
1956	3,200	3,200	Silver	407,698		
			Gold	218		
			Cadmium			1,091
			Lead			58,353
			Zinc			162,256
1954	635	635	Silver	112,002		
			Gold	31		
			Cadmium			62
			Lead			14,007
			Zinc			27,406
1953	37,824	37,824	Silver	2,883,590		
			Gold	1,182		
			Cadmium			13,330
			Lead			282,314
			Zinc			1,963,826
1951	241		Silver	33,498		
			Lead			3,245
			Zinc			18,832
1950	2,082	2,023	Silver	342,537		
			Gold	156		
			Cadmium			611
			Lead			32,546
			Zinc			97,347
1949	26		Silver	41,896		
			Gold	31		
			Lead			9,043
			Zinc			4,276
1948	19		Silver	44,726		
			Lead			10,068
			Zinc			1,994
1947	11		Silver	30,979		
			Lead			6,778
			Zinc			800
1936	25		Silver	85,409		
			Gold	31		
			Lead			15,608
			Zinc			1,241
1934	514		Silver	238,342		
			Gold	124		
			Lead			19,014
			Zinc			40,632
1933	59		Silver	77,260		
			Gold	62		
			Lead			2,399
			Zinc			30,386
1932	27		Silver	110,976		
			Gold	62		
			Lead			9,789

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW053		NAME: SILVERSMITH		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>
1932	27		Zinc		5,539
1931	2,267		Silver	745,881	
			Gold	249	
			Lead		120,887
			Zinc		127,020
1930	635		Silver	148,952	
			Gold	62	
			Lead		28,060
			Zinc		2,517
1928	6,314		Silver	2,376,145	
			Gold	1,928	
			Lead		212,324
			Zinc		300,122
1927	4,424		Silver	155,951	
			Lead		3,209
			Zinc		519
1926	16,861		Silver	10,861,665	
			Lead		961,577
			Zinc		861,844
1925	33,510		Silver	18,642,516	
			Gold	6,127	
			Lead		1,702,762
			Zinc		1,344,780
1924	34,282		Silver	17,368,164	
			Gold	8,429	
			Lead		1,405,138
			Zinc		1,478,754
1923	34,378	34,102	Silver	19,565,964	
			Gold	6,407	
			Lead		2,074,319
			Zinc		1,317,742
1922	32,880	32,368	Silver	20,377,193	
			Gold	6,283	
			Lead		2,628,436
			Zinc		827,854
1921	606	424	Silver	1,582,707	
			Gold	62	
			Lead		295,477
1920	15,232	15,056	Silver	6,749,040	
			Lead		1,252,842
			Zinc		125,598
1919	13,208	12,861	Silver	4,299,305	
			Lead		646,861
			Zinc		292,333
1918	327	246	Silver	1,174,978	
			Lead		181,217
1917	13,072	13,072	Silver	948,144	
			Lead		130,846
			Zinc		380,306
1916	13,819	13,720	Silver	4,570,119	
			Lead		1,015,705
			Zinc		605,146
1915	16,369	16,181	Silver	2,164,924	
			Lead		537,550
			Zinc		17,185
1914	5,941	5,365	Silver	3,039,945	
			Lead		486,828
			Zinc		216,074
1913	432		Silver	1,286,824	
			Lead		228,073
1912	22		Silver	59,718	
			Lead		6,532
1910	156		Silver	443,435	
			Lead		47,309
1909	58		Silver	156,075	
			Lead		17,585
1908	400		Silver	1,043,101	
			Lead		136,379
1905	32,658		Silver	9,573,503	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **082FNW053** NAME: **SILVERSMITH** 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>
1905	32,658		Lead		546,910
			Zinc		1,181,250
1904	2,333		Silver	8,320,737	
			Lead		871,330
1903	1,455		Silver	5,884,439	
			Lead		741,228
1902	1,247		Silver	3,693,948	
			Lead		397,890
1901	4,013		Silver	9,632,724	
			Lead		1,576,989
1900	1,030		Silver	3,177,171	
			Lead		588,336
1899	757		Silver	1,967,700	
			Lead		467,146
1898	2,468		Silver	6,840,669	
			Lead		1,696,636
1896	13,841		Silver	47,453,847	
			Lead		9,670,448
1895	363		Silver	1,244,120	
			Lead		254,010
1894	762		Silver	2,612,652	
			Lead		533,422
1893	490		Silver	1,716,886	
			Gold	5,287	
			Lead		342,914

SUMMARY TOTALS: 082FNW053

NAME: **SILVERSMITH**

	<u>Metric</u>	<u>Imperial</u>
Mined:	355,110 tonnes	391,442 tons
Milled:	190,723 tonnes	210,236 tons
Recovery:		
Silver:	226,107,767 grams	7,269,523 ounces
Gold:	37,509 grams	1,206 ounces
Cadmium:	17,144 kilograms	37,796 pounds
Lead:	32,524,265 kilograms	71,703,710 pounds
Zinc:	11,751,185 kilograms	25,906,921 pounds

Comments:

- 1934: Estimate.
- 1933: Clean-up.
- 1932: Clean-up.
- 1928: Estimate.
- 1893: Includes Big Boulder (MM01127).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>082FNW054</u>	NAME:	<u>RICHMOND-EUREKA</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>
1961	522		Silver	206,679	
			Gold	93	
			Cadmium		253
			Lead		22,504
			Zinc		40,863
1959	484		Silver	245,900	
			Gold	93	
			Cadmium		247
			Lead		33,755
			Zinc		54,320
1951	10,389		Silver	796,361	
			Lead		79,885
			Zinc		407,031
1950	7,612		Silver	624,548	
			Gold	342	
			Cadmium		999
			Lead		50,889
			Zinc		147,680
1926	54		Silver	159,403	
			Gold	62	
			Lead		27,169
			Zinc		1,421
1920	3		Silver	8,709	
			Lead		1,003
1919	3,901		Silver	783,205	
			Lead		71,977
			Zinc		109,749
1918	60		Silver	61,273	
			Lead		4,309
1916	33		Silver	33,436	
			Lead		2,357
1914	346		Silver	492,889	
			Lead		46,341
1913	738		Silver	931,348	
			Lead		110,343
1912	1,284		Silver	1,446,321	
			Lead		107,841
1911	2,022		Silver	2,372,257	
			Lead		191,669
1910	3,762		Silver	5,852,092	
			Lead		517,689
1909	2,856		Silver	5,889,198	
			Lead		558,525
1908	2,485		Silver	4,745,323	
			Lead		446,913
1907	36		Silver	126,371	
			Lead		17,962
1896	63		Silver	217,721	
			Lead		31,751

SUMMARY TOTALS: 082FNW054

NAME: **RICHMOND-EUREKA**

	<u>Metric</u>	<u>Imperial</u>
Mined:	36,650 tonnes	40,400 tons
Milled:	36,650 tonnes	40,400 tons
Recovery:		
Silver:	24,993,034 grams	803,544 ounces
Gold:	590 grams	19 ounces
Cadmium:	1,499 kilograms	3,305 pounds
Lead:	2,322,882 kilograms	5,121,077 pounds
Zinc:	761,064 kilograms	1,677,858 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW055		NAME: FREDDIE LEE (L.475)		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	3		Silver	7,247		
			Lead		1,483	
			Zinc		100	
1921	23		Silver	134,583		
			Lead		13,925	
1919	5		Silver	26,500		
			Gold	93		
			Lead		2,289	
1918	33		Silver	191,501		
			Lead		19,197	
1917	62		Silver	346,767		
			Lead		44,537	
1893	506		Silver	1,679,562		
			Lead		285,762	
1892	109		Silver	447,883		
			Lead		76,203	

SUMMARY TOTALS: 082FNW055

NAME: **FREDDIE LEE (L.475)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	741 tonnes	817 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,834,043 grams	91,116 ounces
Gold:	93 grams	3 ounces
Lead:	443,396 kilograms	977,521 pounds
Zinc:	100 kilograms	220 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW056		NAME: NOONDAY (L.2136)		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>
1954	4		Silver	4,354	
			Lead		1,525
			Zinc		276
1931	7		Silver	21,897	
			Lead		3,085
			Zinc		118
1928	9		Silver	17,698	
			Lead		1,278
			Zinc		2,293
1923	4		Silver	4,292	
			Lead		1,695
1922	23		Silver	25,629	
			Lead		10,262
1919	11		Silver	22,550	
			Lead		4,300
1917	56		Silver	67,649	
			Lead		23,589
1916	163		Silver	225,497	
			Gold	31	
			Lead		64,603
1914	17		Silver	26,935	
			Lead		7,828
1910	14		Silver	49,516	
			Lead		4,382
			Zinc		2,259
1906	31		Silver	35,706	
			Lead		12,251
1894	18		Silver	46,655	
			Lead		12,701

SUMMARY TOTALS: 082FNW056

NAME: **NOONDAY (L.2136)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	357 tonnes	394 tons
Milled:	tonnes	tons
Recovery:		
Silver:	548,378 grams	17,631 ounces
Gold:	31 grams	1 ounces
Lead:	147,499 kilograms	325,180 pounds
Zinc:	4,946 kilograms	10,904 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **082FNW057** NAME: **IVANHOE (L.743)** 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	26		Silver Lead Zinc	71,506	10,694 5,202
1934	20		Silver Lead Zinc	55,239	8,293 1,964
1931	13		Silver Lead Zinc	42,642	4,839 2,376
1929	66		Silver Lead Zinc	161,207	23,871 11,840
1928	63		Silver Gold Lead Zinc	115,828 31	19,977 13,634
1921	5		Silver Lead Zinc	9,362	213 1,959
1920	41		Silver Lead	12,566	1,872
1919	1,854	1,854	Silver Lead Zinc	563,555	73,358 34,516
1918	48		Silver Lead	98,908	19,232
1917	1,002		Silver Lead	164,037	25,697
1916	36		Silver Lead	137,475	14,370
1915	16		Silver Lead	19,159	3,026
1914	6		Silver Lead	14,339	3,651
1913	33		Silver Lead	128,082	20,771
1905	4,638		Silver Lead Zinc	1,517,982	194,973 258,809
1904	11,703		Silver Lead	3,567,265	699,289
1903	4,662		Silver Lead	1,630,730	267,149
1902	5,242		Silver Lead	1,343,339	262,291
1901	10,459		Silver Lead	3,363,136	501,463
1899	70		Silver Lead	192,496	37,763
1898	154		Silver Lead	528,751	92,532
1895	136		Silver Lead	466,545	81,646

SUMMARY TOTALS: 082FNW057

NAME: **IVANHOE (L.743)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	40,293 tonnes	44,415 tons
Milled:	1,854 tonnes	2,044 tons
Recovery:		
Silver:	14,204,149 grams	456,673 ounces
Gold:	31 grams	1 ounces
Lead:	2,366,970 kilograms	5,218,274 pounds
Zinc:	330,300 kilograms	728,187 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW059		NAME: WAKEFIELD (L.1527)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1929	36		Silver	33,653	
			Lead		6,230
			Zinc		5,568
1919	37		Silver	102,391	
			Lead		18,793
1915	29		Silver	110,416	
			Lead		17,454
1907	77		Silver	252,059	
			Lead		37,954
1906	363		Silver	211,500	
			Lead		39,916
1905	454		Silver	288,947	
			Lead		46,435
1904	4,082		Silver	447,883	
			Lead		185,065
1903	200		Silver	645,823	
			Lead		130,237
1900	3,180		Silver	1,942,040	
			Lead		396,399
1899	485		Silver	1,997,746	
			Lead		232,743

SUMMARY TOTALS: 082FNW059

NAME: **WAKEFIELD (L.1527)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	8,943 tonnes	9,858 tons
Milled:		
Recovery:		
Silver:	6,032,458 grams	193,948 ounces
Lead:	1,111,226 kilograms	2,449,833 pounds
Zinc:	5,568 kilograms	12,275 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW060		NAME: MAMMOTH (L.13572)		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	46		Silver	83,196	
			Gold	22	
			Copper		46
			Lead		6,465
			Zinc		2,022
1978	15		Silver	16,982	
			Lead		3,784
			Zinc		5,279
1977	45		Silver	143,229	
			Lead		24,053
			Zinc		4,982
1976	9		Silver	16,111	
			Lead		3,553
			Zinc		1,352
1966	67		Silver	311,714	
			Gold	31	
			Lead		22,763
			Zinc		6,025
1962	5,891	5,891	Silver	1,577,423	
			Gold	342	
			Cadmium		2,263
			Lead		295,359
			Zinc		343,710
1961	3,085	3,085	Silver	720,494	
			Gold	187	
			Cadmium		1,137
			Lead		132,346
			Zinc		322,606
1959			Silver	483,947	
			Gold	93	
			Cadmium		331
			Lead		53,167
			Zinc		45,640
1958	13,326	12,087	Silver	6,366,100	
			Gold	1,275	
			Cadmium		5,089
			Lead		645,656
			Zinc		667,550
1937	31,484	31,484	Silver	9,203,875	
			Gold	1,648	
			Cadmium		11,638
			Lead		865,589
			Zinc		2,207,355
1936	8,605	8,605	Silver	2,862,347	
			Lead		293,926
			Zinc		410,218
1935	56		Silver	107,057	
			Lead		14,617
			Zinc		1,628
1934	24		Silver	88,021	
			Lead		7,876
			Zinc		3,074
1933	26		Silver	56,141	
			Lead		2,873
			Zinc		3,353
1929	575		Silver	1,617,791	
			Lead		126,317
			Zinc		67,970
1928	259		Silver	819,688	
			Lead		47,219
			Zinc		30,344
1927	309		Silver	1,088,729	
			Lead		71,812
			Zinc		34,917
1926	38		Silver	86,093	
			Lead		3,195
1925	5		Silver	21,181	
			Lead		1,533

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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MINFILE NUMBER: **082FNW060**

NAME: **MAMMOTH (L.13572)**

STATUS: Past Producer

SUMMARY TOTALS: 082FNW060

NAME: **MAMMOTH (L.13572)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	63,865 tonnes	70,399 tons
Milled:	61,152 tonnes	67,409 tons
Recovery:		
Silver:	25,670,119 grams	825,312 ounces
Gold:	3,598 grams	116 ounces
Cadmium:	20,458 kilograms	45,102 pounds
Copper:	46 kilograms	101 pounds
Lead:	2,622,103 kilograms	5,780,746 pounds
Zinc:	4,158,025 kilograms	9,166,873 pounds

Comments:

1980: See Hecla, 082FNW062 for other production.
1978: Possibly concentrate.
1977: Probably concentrate.
1966: See Hecla, 082FNW062 for other production.
1959: Clean-up and salvage material.
1958: Minister of Mines Annual Report 1958.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW061		NAME: ECHO (L.719)		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	13		Silver	12,939	
			Lead		1,760
			Zinc		639
1926	23		Silver	13,903	
			Gold	31	
			Lead		1,742
			Zinc		2,911
1922	4		Silver	12,130	
			Lead		2,081
1919	586		Silver	1,577,668	
			Lead		175,826
			Zinc		100,653
1918	40		Silver	137,009	
			Lead		19,237
1917	73		Silver	241,764	
			Lead		30,821
1913	13		Silver	52,129	
			Lead		7,815

SUMMARY TOTALS: 082FNW061

NAME: **ECHO (L.719)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	752 tonnes	829 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,047,542 grams	65,830 ounces
Gold:	31 grams	1 ounces
Lead:	239,282 kilograms	527,526 pounds
Zinc:	104,203 kilograms	229,728 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>082FNW062</u>		NAME:	<u>HECLA</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>			
1983	710		Silver	39,937				
			Gold	27				
			Lead				622	
			Zinc				22,590	
1982	388		Silver	23,110				
			Lead				355	
			Zinc				13,491	
1981	74		Silver	92,266				
			Gold	45				
			Cadmium				391	
			Lead				483	
			Zinc				43,318	
1980	489		Silver	570,065				
			Gold	228				
			Copper				390	
			Lead				29,784	
			Zinc				41,665	
1975	12		Silver	55,301				
			Lead				2,651	
			Zinc				1,106	
1966	6,471	6,471	Silver	1,348,253				
			Cadmium				1,999	
			Lead				154,819	
			Zinc				278,318	
1965	9,911	9,911	Silver	3,981,153				
			Cadmium				2,570	
			Lead				384,763	
			Zinc				434,971	
1964	2,763	2,763	Silver	1,191,711				
			Gold	156				
			Cadmium				618	
			Lead				74,001	
			Zinc				76,413	

SUMMARY TOTALS: 082FNW062

NAME: **HECLA**

	<u>Metric</u>	<u>Imperial</u>
Mined:	20,818 tonnes	22,948 tons
Milled:	19,145 tonnes	21,104 tons
Recovery:		
Silver:	7,301,796 grams	234,758 ounces
Gold:	456 grams	15 ounces
Cadmium:	5,578 kilograms	12,297 pounds
Copper:	390 kilograms	860 pounds
Lead:	647,478 kilograms	1,427,444 pounds
Zinc:	911,872 kilograms	2,010,333 pounds

Comments:

1981: Crude ore.
 1980: Figures combined with Monarch (082FNW060) in BC METAL MM01290.
 1975: Crude ore.
 1966: Figures combined with Monarch (082FNW060) in BC METAL MM01290.
 1965: Figures include Mammoth (082FNW060); BC METAL MM01290.
 1964: Figures include Mammoth (082FNW060).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW063		NAME: LUCKY THOUGHT (L.10636)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1979	562		Silver	82,825	
			Gold	24	
			Cadmium		123
			Copper		143
			Lead		5,868
			Zinc		17,094
1977	327		Silver	329,630	
			Cadmium		191
			Copper		144
			Lead		25,407
			Zinc		28,819
1976	44		Silver	141,674	
			Lead		11,059
			Zinc		8,458
1971	115		Silver	508,130	
			Gold	31	
			Lead		39,636
			Zinc		8,867
1956	82		Silver	5,630	
			Cadmium		36
			Lead		456
			Zinc		5,057
1950	24		Silver	24,696	
			Lead		1,972
			Zinc		6,104
1937	75		Silver	144,847	
			Gold	62	
			Lead		11,184
			Zinc		21,183
1935	172		Silver	365,274	
			Lead		31,126
			Zinc		39,288
1934	53		Silver	245,216	
			Gold	31	
			Lead		28,214
			Zinc		6,640
1930	73		Silver	134,552	
			Gold	31	
			Lead		13,264
			Zinc		17,043
1929	359		Silver	836,608	
			Gold	218	
			Lead		75,115
			Zinc		84,645
1928	59		Silver	86,684	
			Lead		5,798
			Zinc		19,112
1925	3,856		Silver	815,614	
			Lead		51,672
			Zinc		142,802
1924	1,937		Silver	681,995	
			Gold	187	
			Lead		57,913
			Zinc		117,511
1918	112		Silver	38,910	
1917	800		Silver	703,021	
			Lead		65,598
			Zinc		178,898
1916	547		Silver	959,496	
			Lead		78,647
1915	91		Silver	204,938	
			Lead		14,548
1914	33		Silver	133,587	
			Lead		15,095

SUMMARY TOTALS: 082FNW063

NAME: **LUCKY THOUGHT (L.10636)**

<u>Metric</u>		<u>Imperial</u>
9,321 tonnes		10,275 tons
Mined:		
Milled:		

Recovery:

Silver:	6,443,327 grams	207,157 ounces
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MINFILE NUMBER: **082FNW063**

NAME: **LUCKY THOUGHT (L.10636)**

STATUS: Past Producer

Gold:	584 grams	19 ounces
Cadmium:	350 kilograms	772 pounds
Copper:	287 kilograms	633 pounds
Lead:	532,572 kilograms	1,174,120 pounds
Zinc:	701,521 kilograms	1,546,589 pounds

Comments:

1979: AU.
1977: Lucky Thought.
1976: MM01284 (Lucky Spot).
1971: Lucky Thought.
1914: Lucky Thought 1914-1937.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	<u>082FNW064</u>	NAME:	<u>VAN ROI</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>
1958	330	317	Silver	309,164	
			Gold	62	
			Cadmium		207
			Lead		23,539
			Zinc		28,875
1957	7,002	7,002	Silver	3,079,850	
			Gold	684	
			Cadmium		2,383
			Lead		214,355
			Zinc		328,363
1956	5,261	5,261	Silver	2,135,812	
			Gold	187	
			Cadmium		2,217
			Lead		159,464
			Zinc		366,369
1955	1,322	1,301	Silver	571,673	
			Gold	187	
			Cadmium		759
			Lead		153,089
			Zinc		94,073
1954	908		Silver	208,172	
			Gold	31	
			Lead		62,819
			Zinc		2,415
1953	5	5	Silver	7,962	
			Lead		3,069
			Zinc		468
1952	23,587	23,587	Silver	2,644,533	
			Gold	809	
			Cadmium		8,635
			Lead		321,908
			Zinc		773,951
1951	2,181	2,181	Silver	1,324,926	
			Gold	280	
			Cadmium		807
			Lead		88,915
			Zinc		337,959
1950	1,330	1,324	Silver	295,168	
			Gold	684	
			Cadmium		323
			Lead		34,336
			Zinc		46,930
1949	4,656		Silver	1,254,446	
			Gold	4,759	
			Cadmium		1,382
			Lead		130,228
			Zinc		183,048
1948	626		Silver	201,423	
			Gold	93	
			Cadmium		280
			Lead		14,102
			Zinc		35,679
1947	8		Silver	11,788	
			Lead		2,431
			Zinc		1,169
1928	1,829		Silver	486,420	
			Gold	280	
			Lead		105,700
			Zinc		113,530
1927	282		Silver	292,244	
			Gold	156	
			Lead		65,241
			Zinc		83,721
1926	665		Silver	198,313	
			Gold	124	
			Lead		30,712
			Zinc		22,616
1925	3,810		Silver	422,472	
			Gold	156	
			Lead		64,819
			Zinc		56,241
1924	5,670		Silver	697,702	

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW064		NAME: VAN ROI		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	5,670		Gold	311		
			Lead			76,903
			Zinc			203,489
1923	3,445		Silver	740,283		
			Gold	311		
			Lead			123,329
			Zinc			148,937
1922	1,814		Silver	278,932		
			Gold	124		
			Lead			27,326
			Zinc			72,696
1921	572		Silver	286,583		
			Gold	62		
			Lead			36,760
1920	135		Silver	391,867		
			Lead			37,397
1919	14,028		Silver	2,820,793		
			Lead			323,713
			Zinc			462,845
1918	22,932		Silver	2,748,728		
			Lead			503,932
			Zinc			582,315
1917	14,606		Silver	1,270,340		
			Lead			224,224
			Zinc			349,609
1914	9,884		Silver	4,901,677		
			Lead			260,196
			Zinc			293,683
1913	17,102		Silver	3,950,237		
			Lead			304,869
			Zinc			311,517
1912	48,532		Silver	16,887,063		
			Lead			1,185,375
			Zinc			898,470
1911	30,596		Silver	7,082,433		
			Lead			966,473
			Zinc			1,077,977
1910	29,314		Silver	7,251,353		
			Lead			637,201
			Zinc			719,814
1909	12,609		Silver	4,554,350		
			Lead			622,021
			Zinc			3,894
1908	7,854		Silver	3,275,644		
			Lead			416,763
1907	10,523		Silver	2,565,375		
			Lead			436,322
1906	367		Silver	1,009,666		
			Lead			71,788
1905	73		Silver	212,185		
			Lead			8,581
1903	15		Silver	62,952		
			Lead			4,676
1900	111		Silver	322,787		
			Lead			27,297
1899	356		Silver	2,062,844		
			Gold	249		
			Lead			121,342
1898	288		Silver	1,824,160		
			Lead			169,278
1894	14		Silver	108,705		
			Lead			8,165
1893	64		Silver	7,939,352		
			Lead			22,680

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MINFILE NUMBER: **082FNW064**

NAME: **VAN ROI**

STATUS: Past Producer

SUMMARY TOTALS: 082FNW064

NAME: **VAN ROI**

	<u>Metric</u>	<u>Imperial</u>
Mined:	284,706 tonnes	313,835 tons
Milled:	40,978 tonnes	45,171 tons
Recovery:		
Silver:	86,690,377 grams	2,787,156 ounces
Gold:	9,549 grams	307 ounces
Cadmium:	16,993 kilograms	37,463 pounds
Lead:	8,091,338 kilograms	17,838,342 pounds
Zinc:	7,600,653 kilograms	16,756,567 pounds
Comments:		
1954:	Estimate.	
1952:	Estimate.	
1950:	Estimate.	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW065		NAME: HEWITT (L.4440)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1983	3,166		Silver	846,379	
			Gold	159	
			Lead		48,633
			Zinc		110,442
1976	855		Silver	325,493	
			Cadmium		332
			Lead		24,039
			Zinc		47,632
1970	2,035	2,035	Silver	1,037,067	
			Gold	93	
			Cadmium		815
			Lead		67,639
			Zinc		113,742
1967	4		Silver	4,230	
			Lead		331
			Zinc		219
1966	298	298	Silver	157,692	
			Gold	31	
			Cadmium		93
			Lead		10,558
			Zinc		13,117
1964	1,245	1,245	Silver	1,100,238	
			Gold	187	
			Cadmium		726
			Lead		47,673
			Zinc		70,705
1962	566		Silver	505,486	
			Gold	93	
			Cadmium		280
			Lead		19,764
			Zinc		38,407
1961	256		Silver	283,753	
			Gold	31	
			Cadmium		155
			Lead		12,634
			Zinc		22,163
1955	24		Silver	59,811	
			Lead		4,163
			Zinc		3,265
1954	15		Silver	43,700	
			Lead		3,554
			Zinc		2,692
1947	265		Silver	171,626	
			Gold	93	
			Lead		7,137
			Zinc		22,918
1942	229		Silver	275,013	
			Gold	187	
			Lead		15,853
			Zinc		50,776
1941	218		Silver	483,621	
			Gold	156	
			Lead		25,088
			Zinc		35,943
1940	287		Silver	267,330	
			Gold	124	
			Lead		18,022
			Zinc		32,062
1939	209		Silver	283,317	
			Gold	93	
			Lead		9,781
			Zinc		35,674
1938	133		Silver	431,212	
			Gold	62	
			Lead		24,177
			Zinc		18,382
1937	285		Silver	970,071	
			Gold	31	
			Lead		62,121
			Zinc		36,122
1936	12		Silver	25,225	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW065		NAME: HEWITT (L.4440)		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>
1936	12		Lead		2,904
1935	6		Silver Lead Zinc	30,885	514 638
1929	3,603	3,603	Silver Gold Lead Zinc	1,381,067 311	51,836 125,054
1928	12,861	12,861	Silver Gold Lead Zinc	8,875,645 1,742	345,285 383,391
1927	949	907	Silver Lead Zinc	164,131	4,388 13,027
1926	116		Silver Lead Zinc	56,732	1,306 1,866
1925	1,633	1,633	Silver Lead Zinc	889,328	22,855 33,446
1924	1,919		Silver Gold Lead Zinc	1,436,554 280	35,551 2,786
1923	122		Silver Lead	567,692	11,828
1920	608		Silver Lead	174,581	3,587
1919	9,384		Silver Lead Zinc	3,658,584	115,093 25,640
1918	17,598		Silver Lead Zinc	6,632,621	256,796 343,305
1916	3,711		Silver Lead Zinc	1,265,301	27,525 76,825
1915	22,935		Silver Lead Zinc	5,669,579	137,564 628,612
1914	16,858		Silver Lead Zinc	2,984,271	123,553 272,208
1913	377		Silver	271,654	
1912	162		Silver Lead Zinc	644,890	19,105 30,551
1911	4,832		Silver Lead Zinc	2,132,111	86,047 117,026
1910	115		Silver Lead	470,495	4,182
1908	370		Silver Lead	1,384,426	30,271
1907	596		Silver	2,738,184	
1906	308		Silver Lead	1,503,675	19,663
1905	497		Silver Lead	1,947,888	34,566
1904	392		Silver Lead	1,921,668	17,176
1903	18		Silver Lead	124,163	3,059
1902	711		Silver Lead	1,617,480	7,773
1901	1,711		Silver	3,261,865	
1900	79		Silver	547,693	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **082FNW065** NAME: **HEWITT (L.4440)** STATUS: Past Producer
 Production Year: 1900 Tonnes Mined: 79 Tonnes Milled: Commodity: Lead Grams Recovered: Kilograms Recovered: 6,583

SUMMARY TOTALS: 082FNW065

NAME: **HEWITT (L.4440)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	112,573 tonnes	124,090 tons
Milled:	22,582 tonnes	24,892 tons
Recovery:		
Silver:	59,624,427 grams	1,916,967 ounces
Gold:	3,673 grams	118 ounces
Cadmium:	2,401 kilograms	5,293 pounds
Lead:	1,770,177 kilograms	3,902,571 pounds
Zinc:	2,708,636 kilograms	5,971,519 pounds

Comments:

1983: Figures different in Summary of Operations (IR 1984-5, page 115).
 1976: Mining in B.C. 1975-1980.
 1906: Hewitt and Lorna Doone production combined.
 1905: Hewitt and Lorna Doone production combined.
 1903: Production from Lorna Doone claim.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW066		NAME: METALLIC		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1950	13		Silver	22,363		
			Gold	31		
			Lead			1,358
			Zinc			1,720
1949	52		Silver	133,774		
			Gold	31		
			Lead			6,946
			Zinc			9,249
1948	6		Silver	17,355		
			Lead			1,009
			Zinc			911
1940	7		Silver	19,968		
			Lead			1,200
			Zinc			1,336
1938	14		Silver	29,734		
			Lead			1,482
			Zinc			2,473
1935	21		Silver	57,478		
			Lead			2,781
			Zinc			4,002
1927	11		Silver	8,211		
			Lead			557
			Zinc			1,325
1926	22		Silver	4,541		
			Lead			909
			Zinc			2,233
1923	27		Silver	80,650		
			Lead			4,012
1922	35		Silver	109,483		
			Gold	31		
			Lead			5,525
1909	1		Silver	8,180		
			Lead			46

SUMMARY TOTALS: 082FNW066

NAME: **METALLIC**

	<u>Metric</u>	<u>Imperial</u>
Mined:	209 tonnes	230 tons
Milled:	tonnes	tons
Recovery:		
Silver:	491,737 grams	15,810 ounces
Gold:	93 grams	3 ounces
Lead:	25,825 kilograms	56,934 pounds
Zinc:	23,249 kilograms	51,255 pounds
Comments:		
1909:	Metallic.	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW067		NAME: GALENA FARM		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	33		Silver	117,445	
			Gold	47	
			Cadmium		94
			Lead		6,216
			Zinc		13,025
1975	25		Silver	3,235	
			Lead		272
			Zinc		7,645
1966	1,542	1,542	Silver	91,474	
			Gold	62	
			Cadmium		452
			Lead		13,871
			Zinc		53,436
1965	2,485	2,485	Silver	195,793	
			Cadmium		1,177
			Lead		13,185
			Zinc		149,306
1964	114	114	Silver	18,475	
			Cadmium		90
			Lead		870
			Zinc		11,965
1961	40		Silver	59,438	
			Gold	31	
			Cadmium		311
			Lead		7,342
			Zinc		42,792
1959	317		Silver		
			Lead		
1956	243	216	Silver	199,059	
			Cadmium		126
			Lead		32,603
			Zinc		20,956
1953	3		Silver	4,479	
			Lead		1,251
			Zinc		416
1952	579		Silver	231,749	
			Lead		30,367
			Zinc		52,711
1951	379		Silver	19,439	
			Lead		6,822
			Zinc		16,444
1950	912		Silver	92,065	
			Lead		6,954
			Zinc		86,363
1949	1,706		Silver	718,137	
			Lead		40,875
			Zinc		112,886
1948	2,614		Silver	529,715	
			Lead		68,528
			Zinc		210,933
1947	3		Silver	4,572	
			Lead		453
			Zinc		371
1930	2,567	2,567	Silver	853,311	
			Gold	280	
			Lead		69,104
			Zinc		73,234
1929	8,898	8,898	Silver	1,325,299	
			Gold	342	
			Lead		115,815
			Zinc		319,756
1928	7,201	7,202	Silver	1,979,115	
			Gold	933	
			Lead		268,733
			Zinc		492,904
1927	952		Silver	420,668	
			Gold	280	
			Lead		50,175
			Zinc		299,140
1926	1,348		Silver	323,720	
			Gold	62	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>082FNW067</u>	NAME:	<u>GALENA FARM</u>	STATUS:	Past Producer
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1926	1,348		Lead Zinc		56,251 309,193
1925	557		Silver Lead Zinc	150,632	15,118 56,404
1924	207		Silver Gold Lead Zinc	102,578 31	6,940 62,584
1923	269		Silver Lead Zinc	134,147	4,681 97,427
1922	11		Silver Lead Zinc	10,668	1,945 491
1919	9,321		Silver Lead Zinc	842,176	203,258 193,411
1918	4,763		Silver Lead Zinc	133,292	275,651 254,010
1917	16,494		Silver Lead Zinc	4,024,542	694,677 565,977
1916	20,263		Silver Lead Zinc	4,847,247	846,103 1,121,625
1915	231		Silver Lead Zinc	95,144	16,639 12,943
1900	21		Silver Lead	15,023	1,878

SUMMARY TOTALS: 082FNW067

NAME: **GALENA FARM**

	<u>Metric</u>	<u>Imperial</u>
Mined:	84,098 tonnes	92,702 tons
Milled:	23,024 tonnes	25,380 tons
Recovery:		
Silver:	17,542,637 grams	564,008 ounces
Gold:	2,068 grams	66 ounces
Cadmium:	2,250 kilograms	4,960 pounds
Lead:	2,856,577 kilograms	6,297,672 pounds
Zinc:	4,638,348 kilograms	10,225,804 pounds

Comments:

1977: Clean-up.
 1975: Crude ore.
 1959: Stockpiled at Western Exploration.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW068		NAME: NOONDAY (L.1334)		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	5		Silver	5,474	
			Lead		359
			Zinc		441
1958	80		Silver	20,839	
			Cadmium		240
			Lead		4,127
			Zinc		6,801
1956	5		Silver	778	
			Lead		300
			Zinc		194
1955	9		Silver	9,455	
			Lead		422
			Zinc		404
1954	18		Silver	27,713	
			Lead		1,746
			Zinc		877
1951	44		Silver	31,974	
			Gold	31	
			Lead		1,587
			Zinc		3,453
1938	10		Silver	24,136	
			Lead		1,958
			Zinc		1,691
1899	406		Silver	1,411,516	
			Gold	62	
			Lead		94,660

SUMMARY TOTALS: 082FNW068

NAME: **NOONDAY (L.1334)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	577 tonnes	636 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,531,885 grams	49,251 ounces
Gold:	93 grams	3 ounces
Cadmium:	240 kilograms	529 pounds
Lead:	105,159 kilograms	231,836 pounds
Zinc:	13,861 kilograms	30,558 pounds

Comments: 1980: Included in error with MM01334.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW069		NAME: COLONIAL (L.5313)		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>
1981	1		Silver	995	
			Lead		282
			Zinc		70
1979	3		Silver	5,163	
			Lead		1,482
			Zinc		128
1978	2		Silver	8,802	
			Lead		1,895
			Zinc		82
1929	34		Silver	72,252	
			Gold	62	
			Lead		20,025
			Zinc		1,498
1927	58		Silver	60,744	
			Lead		16,340
			Zinc		6,117
1926	101		Silver	238,467	
			Lead		64,523
			Zinc		7,197
1914	18		Silver	32,067	
			Lead		3,729
1913	38		Silver	81,801	
			Lead		12,519
1907	34		Silver	43,451	
			Lead		10,636
1906	17		Silver	14,836	
			Lead		2,815

SUMMARY TOTALS: 082FNW069

NAME: **COLONIAL (L.5313)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	306 tonnes	337 tons
Milled:		
Recovery:		
Silver:	558,578 grams	17,959 ounces
Gold:	62 grams	2 ounces
Lead:	134,246 kilograms	295,962 pounds
Zinc:	15,092 kilograms	33,272 pounds

RUN DATE: 25-Jun-2003
 RUN TIME: 16:37:09

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 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **082FNW070** NAME: **LITTLE DAISY (L.7302)** 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>
1936	21		Silver	1,524	
			Gold	1,275	
1935	10		Silver	996	
			Gold	591	
1933	7		Silver	62	
			Gold	93	
1932	2		Silver	62	
			Gold	62	
1931	3		Silver	93	
			Gold	373	
1905	1		Gold	187	
1904	1		Silver	31	
			Gold	187	

SUMMARY TOTALS: 082FNW070

NAME: **LITTLE DAISY (L.7302)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	45 tonnes	50 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,768 grams	89 ounces
Gold:	2,768 grams	89 ounces

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MINFILE NUMBER: **082FNW071** NAME: **WILLA (L.1529)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1988	495	495	Silver	7,883	
			Gold	2,873	
			Copper		4,418
			Lead		63
			Zinc		4,154
1899	300		Silver		
			Lead		
			Zinc		

SUMMARY TOTALS: 082FNW071

NAME: **WILLA (L.1529)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	795 tonnes	876 tons
Milled:	495 tonnes	546 tons
Recovery:		
Silver:	7,883 grams	253 ounces
Gold:	2,873 grams	92 ounces
Copper:	4,418 kilograms	9,740 pounds
Lead:	63 kilograms	139 pounds
Zinc:	4,154 kilograms	9,158 pounds

Comments:

1988: Custom ore.
 1899: Rockland; no commodities or recovery reported. Annual Report 1899.

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MINFILE NUMBER: 082FNW075	NAME: HIGHLAND LIGHT	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1918	2		Silver	4,666	
1906	6		Silver	71,288	
1904	2		Silver	12,441	

SUMMARY TOTALS: 082FNW075

NAME: **HIGHLAND LIGHT**

	Mined:	10 tonnes	11 tons
Recovery:	Milled:	tonnes	tons
	Silver:	88,395 grams	2,842 ounces

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MINFILE NUMBER: 082FNW077		NAME: COMSTOCK (L.1814)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1988			Silver	267,860	
			Gold	12,356	
			Lead		48,062
			Zinc		126,653
1970	29		Silver	746	
			Lead		4
			Zinc		4
1920	13		Silver	30,077	
			Lead		5,599
1916	13		Silver	65,316	
			Gold	31	
			Lead		3,629
1908	4		Silver	28,304	
			Lead		231
1905	13		Silver	41,958	
			Lead		6,029
1904	268		Silver	898,503	
			Lead		151,103
1898	115		Silver	355,010	
			Lead		2,977

SUMMARY TOTALS: 082FNW077

NAME: **COMSTOCK (L.1814)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	455 tonnes	502 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,687,774 grams	54,263 ounces
Gold:	12,387 grams	398 ounces
Lead:	217,634 kilograms	479,801 pounds
Zinc:	126,657 kilograms	279,231 pounds

Comments:

1988: Figures from custom smelter report; tonnes mined not available.
 1970: Clean-up.

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MINFILE NUMBER: 082FNW079		NAME: FISHER MAIDEN		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1979	39		Silver Lead Zinc	27,651	659 4,458
1962	171		Silver Gold Cadmium Lead Zinc	153,369 31	162 5,659 21,735
1958	196		Silver Cadmium Lead Zinc	73,807	92 4,159 13,061
1956	68		Silver Cadmium Lead Zinc	37,199	35 875 5,034
1935	8		Silver Lead Zinc	19,222	1,898 1,415
1927	73		Silver Lead Zinc	119,715	7,112 11,649
1910	10		Silver Lead	23,856	4,589
1909	10		Silver Lead Zinc	36,359	1,191 2,544
1908	20		Silver	64,912	
1905	166		Silver Lead	488,504	9,580
1904	91		Silver Lead	274,982	4,956
1903	235		Silver Lead	641,779	13,809
1894	45		Silver Lead	357,685	4,536

SUMMARY TOTALS: 082FNW079

NAME: **FISHER MAIDEN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,132 tonnes	1,248 tons
Milled:	tonnes	tons
Recovery:	Silver: 2,319,040 grams	74,559 ounces
	Gold: 31 grams	1 ounces
	Cadmium: 289 kilograms	637 pounds
	Lead: 59,023 kilograms	130,123 pounds
	Zinc: 59,896 kilograms	132,048 pounds

Comments: 1979: MM01399 (Silver Maiden).

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MINFILE NUMBER: 082FNW080	NAME: COMSTOCK-VIRGINIA	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1909	5		Silver Lead	15,552	2,722

SUMMARY TOTALS: 082FNW080

	NAME: COMSTOCK-VIRGINIA	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 5 tonnes	6 tons
	Milled: tonnes	tons
Recovery:	Silver: 15,552 grams	500 ounces
	Lead: 2,722 kilograms	6,001 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW081		NAME: MOUNTAIN CON (L.9841)		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>
1927	9		Silver	115,859	
			Gold	31	
			Lead		3,172
			Zinc		485
1922	2		Silver	32,161	
			Lead		1,217
1915	109		Silver	2,821,446	
			Gold	280	
			Lead		30,743
1913	2		Silver	19,191	
			Lead		343
1911	5		Silver	78,069	
			Lead		1,995
1908	11		Silver	156,977	
			Lead		3,357
1907	14		Silver	259,555	
			Lead		8,274
1906	29		Silver	173,275	
			Lead		4,006
1905	51		Silver	484,989	
			Gold	62	
			Lead		7,821
1904	181		Silver	2,100,728	
			Lead		50,200
1903	16		Silver	89,763	
			Lead		10,236
1902	3		Silver	15,769	
			Lead		911
1901	11		Silver	54,897	
			Lead		4,741
1899	5		Silver	14,929	
			Lead		3,810

SUMMARY TOTALS: 082FNW081

NAME: **MOUNTAIN CON (L.9841)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	448 tonnes	494 tons
Milled:	tonnes	tons
Recovery:		
Silver:	6,417,608 grams	206,331 ounces
Gold:	373 grams	12 ounces
Lead:	130,826 kilograms	288,422 pounds
Zinc:	485 kilograms	1,069 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW083		NAME: FLINT		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>	
1985	7		Silver	4,400		
			Gold	12		
			Lead		1,375	
			Zinc		1,151	
1953	9		Silver	6,843		
			Gold	31		
			Lead		1,794	
			Zinc		1,810	
1948	4		Silver	3,017		
			Lead		671	
			Zinc		734	
1931	8		Silver	8,056		
			Lead		2,001	
			Zinc		984	
1917	5		Silver	8,545		
			Lead		2,271	
1911	16		Silver	29,797		
			Lead		8,929	
1910	79		Silver	181,828		
			Lead		33,819	
1907	38		Silver	86,093		
			Lead		14,841	
1905	11		Silver	31,912		
			Lead		3,386	
			Zinc		1,766	

SUMMARY TOTALS: 082FNW083

NAME: **FLINT**

	<u>Metric</u>	<u>Imperial</u>
Mined:	177 tonnes	195 tons
Milled:	tonnes	tons
Recovery:	Silver: 360,491 grams	11,590 ounces
	Gold: 43 grams	1 ounces
	Lead: 69,087 kilograms	152,311 pounds
	Zinc: 6,445 kilograms	14,209 pounds

Comments: 1985: 7 tonnes of lead concentrate.
 1910: 137 tonnes mined in 1909 but no record of gross metal content.

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MINFILE NUMBER:	082FNW084	NAME:	MARTIN	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1924	5		Silver	5,972	
			Lead		1,934
1916	27		Silver	37,324	
			Lead		13,608
1915	22		Silver	58,349	
			Lead		12,845
			Zinc		1,981

SUMMARY TOTALS: 082FNW084

NAME: **MARTIN**

		<u>Metric</u>		<u>Imperial</u>	
	Mined:	54 tonnes		60 tons	
	Milled:	tonnes		tons	
Recovery:	Silver:	101,645 grams		3,268 ounces	
	Lead:	28,387 kilograms		62,583 pounds	
	Zinc:	1,981 kilograms		4,367 pounds	

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MINFILE NUMBER: 082FNW085		NAME: MOHAWK (L.14111)		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>
1921	2		Silver	8,305	
			Lead		1,196
1919	15		Silver	80,713	
			Lead		9,846
1918	4		Silver	20,497	
			Lead		2,076

SUMMARY TOTALS: 082FNW085

NAME: **MOHAWK (L.14111)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	21 tonnes	23 tons
Milled:		
Recovery: Silver:	109,515 grams	3,521 ounces
Lead:	13,118 kilograms	28,920 pounds

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MINFILE NUMBER:	<u>082FNW086</u>		NAME:	<u>UTICA (L.4566)</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>		
1983		1,257	Silver	174,584			
			Gold	157			
			Lead			6,021	
			Zinc			15,155	
1982		5,383	Silver	1,757,500			
			Lead			41,872	
			Zinc			126,436	
1981		147	Silver	327,737			
			Lead			6,765	
			Zinc			24,120	
1980	9,525	9,525	Silver	1,056,989			
			Gold	804			
			Cadmium			577	
			Lead			28,755	
			Zinc			141,958	
1964	1,443	1,443	Silver	376,471			
			Gold	187			
			Cadmium			363	
			Lead			13,421	
			Zinc			60,750	
1963			Silver	9,331			
			Cadmium			11	
			Lead			438	
			Zinc			1,780	
1961	816	816	Silver	186,867			
			Gold	62			
			Cadmium			99	
			Lead			4,953	
			Zinc			15,902	
1960	3,629	3,629	Silver	1,084,624			
			Gold	62			
			Cadmium			370	
			Copper			171	
			Lead			31,015	
			Zinc			56,181	
1958	136	136	Silver	324,560			
			Gold	31			
			Cadmium			180	
			Lead			13,707	
			Zinc			41,810	
1957	170	170	Silver	158,750			
			Lead			3,840	
			Zinc			6,259	
1956	175	175	Silver	574,130			
			Lead			17,939	
			Zinc			21,828	
1955	104	104	Silver	505,735			
			Lead			14,927	
			Zinc			17,311	
1954	96	96	Silver	487,291			
			Gold	31			
			Lead			16,292	
			Zinc			20,187	
1953	41	41	Silver	79,997			
			Lead			2,972	
			Zinc			4,017	
1951	86	86	Silver	4,914			
			Lead			716	
			Zinc			2,460	
1950	200	200	Silver	763,641			
			Gold	93			
			Lead			22,199	
			Zinc			28,915	
1949	72	72	Silver	261,452			
			Gold	31			
			Lead			7,389	
			Zinc			10,539	
1948	272	272	Silver	34,400			
			Lead			3,282	
			Zinc			8,433	
1947	6	6	Silver	19,875			

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	082FNW086		NAME:	UTICA (L.4566)		STATUS:	Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>			
1947	6	6	Lead Zinc		947 935			
1935	5	5	Silver Lead Zinc	26,344	1,611 930			
1922	136	136	Silver Gold Lead	463,870 93	14,447			
1921	42	42	Silver Lead	168,018	7,697			
1920	642	642	Silver Lead	2,359,598	76,071			
1919	220	220	Silver Lead	712,445	33,150			
1918	200	200	Silver Lead	424,898	8,849			
1917	277	277	Silver Lead	1,978,773	73,647			
1916	1,023	1,023	Silver Lead Zinc	5,184,559	162,221 28,278			
1915	580	580	Silver Lead Zinc	2,378,167	83,310 46,693			
1914	322	322	Silver Lead Zinc	860,060	46,883 22,679			
1913	599	599	Silver Lead Zinc	2,830,995	99,827 14,462			
1912	602	602	Silver Lead	3,146,037	94,352			
1911	241	241	Silver Lead	1,173,889	27,904			
1910	132	132	Silver Lead	505,393	17,468			
1909	31	31	Silver Lead	88,923	7,430			

SUMMARY TOTALS: 082FNW086

NAME: **UTICA (L.4566)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	21,823 tonnes	24,056 tons
Milled:	28,610 tonnes	31,537 tons
Recovery:		
Silver:	30,490,817 grams	980,301 ounces
Gold:	1,551 grams	50 ounces
Cadmium:	1,600 kilograms	3,527 pounds
Copper:	171 kilograms	377 pounds
Lead:	992,317 kilograms	2,187,684 pounds
Zinc:	718,018 kilograms	1,582,958 pounds

Comments:

- 1983: 66 tonnes of lead concentrate; clean-up.
- 1982: 821 tonnes of silver concentrate; clean-up.
- 1981: Clean-up.
- 1963: 4 tonnes of zinc concentrate and 1 tonne of lead concentrate.
- 1957: Ore mined is estimated.
- 1951: Ore from dump.

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MINFILE NUMBER: 082FNW087		NAME: RAINBOW (L.14615)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1926	5		Silver	13,219	
			Lead		2,372
1924	1		Silver	3,981	
			Gold	31	
			Lead		591

SUMMARY TOTALS: 082FNW087

NAME: **RAINBOW (L.14615)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	6 tonnes	7 tons
Milled:	tonnes	tons
Recovery: Silver:	17,200 grams	553 ounces
Gold:	31 grams	1 ounces
Lead:	2,963 kilograms	6,532 pounds

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MINFILE NUMBER: 082FNW089	NAME: KENO	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1921	3		Silver Lead	4,665	1,361

SUMMARY TOTALS: 082FNW089

	NAME: KENO		
	<u>Metric</u>	<u>Imperial</u>	
	3 tonnes	3 tons	
Recovery:	Mined:		
	Milled:		
	Silver:	4,665 grams	150 ounces
	Lead:	1,361 kilograms	3,000 pounds

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MINFILE NUMBER: 082FNW090	NAME: BIG BEN	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1916	3		Silver Lead	18,662	454

SUMMARY TOTALS: 082FNW090

NAME: **BIG BEN**

	<u>Metric</u>		<u>Imperial</u>
Mined:	3 tonnes		3 tons
Milled:			tons
Recovery:	Silver:	18,662 grams	600 ounces
	Lead:	454 kilograms	1,001 pounds
Comments:	1916:	Silver King on Twelve Mile Creek.	

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW091		NAME: MONTEZUMA (L.2041)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1951	33		Silver	13,032	
			Lead		1,605
			Zinc		6,138
1929	287		Silver	53,684	
			Lead		2,929
			Zinc		48,346
1927	324		Silver	75,363	
			Lead		4,879
			Zinc		62,170
1918	185		Zinc		19,660
1915	3		Lead		1,146
1908	54		Silver	89,266	
			Lead		34,363
1907	263		Silver	513,293	
			Lead		180,502
1898	2,694		Silver	934,521	
			Lead		330,067

SUMMARY TOTALS: 082FNW091

NAME: **MONTEZUMA (L.2041)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3,843 tonnes	4,236 tons
Milled:		
Recovery:		
Silver:	1,679,159 grams	53,986 ounces
Lead:	555,491 kilograms	1,224,648 pounds
Zinc:	136,314 kilograms	300,521 pounds

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MINFILE NUMBER: 082FNW092	NAME: BLACK BEAR (L.10783)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1922	5		Silver Lead	1,866	944

SUMMARY TOTALS: 082FNW092

NAME: **BLACK BEAR (L.10783)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5 tonnes	6 tons
Milled:		tons
Recovery:		
Silver:	1,866 grams	60 ounces
Lead:	944 kilograms	2,081 pounds

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MINFILE NUMBER: 082FNW093		NAME: LIBERTY (L.4900)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1979	1,451	997	Silver	51,862		
			Gold	717		
			Cadmium		976	
			Lead		9,492	
			Zinc		103,331	
1925	2		Silver	3,141		
			Lead		973	
1923	3		Silver	5,319		
			Lead		1,961	
1899	1		Silver	871		

SUMMARY TOTALS: 082FNW093

NAME: **LIBERTY (L.4900)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,457 tonnes	1,606 tons
Milled:	997 tonnes	1,099 tons
Recovery:		
Silver:	61,193 grams	1,967 ounces
Gold:	717 grams	23 ounces
Cadmium:	976 kilograms	2,152 pounds
Lead:	12,426 kilograms	27,395 pounds
Zinc:	103,331 kilograms	227,806 pounds

Comments:

1979: Production from the Last Chance claim (Lot 12853).

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MINFILE NUMBER: <u>082FNW094</u>		NAME: <u>CORK-PROVINCE</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>	
1966	9,117	9,117	Silver	360,701		
			Gold	31		
			Cadmium		3,400	
			Lead		125,745	
			Zinc		376,438	
1965	23,660	23,660	Silver	1,424,424		
			Cadmium		14,200	
			Lead		498,172	
			Zinc		1,602,445	
1964	4,928	4,928	Silver	279,336		
			Gold	124		
			Cadmium		2,223	
			Lead		106,304	
			Zinc		257,423	
1953	26,999	26,999	Silver	2,367,529		
			Cadmium		14,931	
			Lead		803,605	
			Zinc		1,769,022	
1952	30,930	30,930	Silver	2,477,478		
			Gold	653		
			Cadmium		19,443	
			Lead		756,472	
			Zinc		2,248,451	
1951	17,959	17,959	Silver	974,892		
			Gold	436		
			Cadmium		9,245	
			Lead		313,275	
			Zinc		1,069,187	
1950	11,489		Silver	354,015		
			Gold	124		
			Cadmium		2,146	
			Lead		135,391	
			Zinc		327,385	
1949	6,396		Silver	768,026		
			Gold	187		
			Cadmium		4,312	
			Lead		273,669	
			Zinc		530,770	
1948	349		Silver	73,185		
			Gold	31		
			Lead		24,574	
			Zinc		34,304	
1940	163		Silver	4,510		
			Lead		839	
			Zinc		6,317	
1937	11		Silver	7,558		
			Lead		3,200	
			Zinc		991	
1929	5,420	5,420	Silver	644,485		
			Gold	280		
			Lead		197,042	
			Zinc		276,533	
1928	37	37	Silver	12,628		
			Lead		4,398	
			Zinc		3,023	
1926	1,834	1,834	Silver	376,937		
			Gold	31		
			Lead		162,133	
			Zinc		314,971	
1925	2,685	2,685	Silver	267,952		
			Lead		94,267	
			Zinc		41,014	
1924	8,919	8,918	Silver	1,044,314		
			Lead		356,990	
			Zinc		108,938	
1923	3,692	3,629	Silver	844,944		
			Lead		260,083	
			Zinc		14,455	
1919	2,591	2,591	Silver	235,045		
			Lead		100,050	
			Zinc		11,750	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: <u>082FNW094</u>		NAME: <u>CORK-PROVINCE</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>	
1918	5,779	5,779	Silver Lead Zinc	701,559	277,722	40,425
1917	3,749	3,749	Silver Lead	415,007	138,983	
1916	42		Silver Lead	35,146	15,114	
1915	9,659	9,591	Silver Lead	852,502	361,214	
1914	775	775	Silver Lead	48,210	20,103	
1913	5		Silver Lead	6,407	2,736	
1909	5,325	5,289	Silver Lead	539,388	237,068	
1908	512	479	Silver Lead	85,471	41,300	
1907	35		Silver Lead	48,396	19,947	
1906	7,229	7,226	Silver Lead	668,372	290,989	
1905	998	998	Silver Lead	194,394	99,854	
1904	91		Silver Lead	106,746	32,017	
1903	14		Silver Lead	32,472	8,327	
1900	18		Silver Lead	25,660	84,458	

SUMMARY TOTALS: 082FNW094

NAME: CORK-PROVINCE

	<u>Metric</u>	<u>Imperial</u>
Mined:	191,410 tonnes	210,993 tons
Milled:	172,593 tonnes	190,251 tons
Recovery:		
Silver:	16,277,689 grams	523,339 ounces
Gold:	1,897 grams	61 ounces
Cadmium:	69,900 kilograms	154,103 pounds
Lead:	5,846,041 kilograms	12,888,311 pounds
Zinc:	9,033,842 kilograms	19,916,207 pounds

Comments:

1950: See MM01153 for split production.
 1940: Tonnage is from clean-up operation.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW095		NAME: BLACK FOX (L.2176)		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	71		Silver	8,958	
			Cadmium		41
			Lead		1,190
			Zinc		5,117
1952	641		Silver	32,938	
			Gold	187	
			Lead		4,202
			Zinc		52,586
1951	174		Silver	11,881	
			Lead		408
			Zinc		16,737

SUMMARY TOTALS: 082FNW095

NAME: **BLACK FOX (L.2176)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	886 tonnes	977 tons
Milled:	tonnes	tons
Recovery:		
Silver:	53,777 grams	1,729 ounces
Gold:	187 grams	6 ounces
Cadmium:	41 kilograms	90 pounds
Lead:	5,800 kilograms	12,787 pounds
Zinc:	74,440 kilograms	164,112 pounds

Comments:

1961: Milled at the Yale Lead and Zinc mill in Ainsworth.
 1952: Crude ore.
 1951: 33 tonnes zinc concentrate.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW096		NAME: BISMARK (L.11273)		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>
1910	51		Silver	99,623	
			Lead		1,606
1909	228		Silver	467,385	
			Lead		4,499
1908	15		Silver	35,488	
			Lead		780
1907	99		Silver	212,931	
			Lead		4,133
1906	10		Silver	50,698	
			Lead		1,865
1904	98		Silver	416,096	
			Lead		10,119
1903	28		Silver	62,113	
			Lead		1,144
1902	129		Silver	344,279	
			Lead		2,686
1901	125		Silver	429,781	
			Lead		8,957
1900	29		Silver	123,106	
			Lead		2,652
1898	56		Silver	242,821	
			Lead		4,809

SUMMARY TOTALS: 082FNW096

NAME: **BISMARK (L.11273)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	868 tonnes	957 tons
Milled:		
Recovery:		
	Silver: 2,484,321 grams	79,873 ounces
	Lead: 43,250 kilograms	95,350 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW097		NAME: WINTROP (L.12409)		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	30		Silver	25,380	
			Lead		8,434
			Zinc		4,600
1928	207		Silver	113,184	
			Gold	62	
			Lead		25,319
			Zinc		19,531
1927	313		Silver	117,289	
			Lead		41,330
			Zinc		29,187
1926	17		Silver	18,848	
			Lead		7,831
1918	19		Silver	23,234	
			Lead		8,143
1899	7		Silver	16,765	
			Lead		2,467
1898	7		Silver	20,901	
			Lead		341
1895	13		Silver	31,787	
			Lead		9,906

SUMMARY TOTALS: 082FNW097

NAME: **WINTROP (L.12409)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	613 tonnes	676 tons
Milled:	tonnes	tons
Recovery:		
Silver:	367,388 grams	11,812 ounces
Gold:	62 grams	2 ounces
Lead:	103,771 kilograms	228,776 pounds
Zinc:	53,318 kilograms	117,546 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	082FNW099	NAME:	BNA (L.5994)	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>
1981	22		Silver	13,034	
			Gold	11	
			Lead		354
			Zinc		707
1952	62		Silver	301,761	
			Gold	62	
			Lead		6,590
			Zinc		7,758
1951	6		Silver	36,142	
			Lead		718
			Zinc		866
1950	6		Silver	27,464	
			Lead		650
			Zinc		1,143
1939	15		Silver	7,154	
			Lead		530
			Zinc		140
1938	46		Silver	49,920	
			Gold	93	
			Lead		2,169
			Zinc		747
1909	3		Silver	15,396	
			Lead		473
1900	13		Silver	24,571	
			Gold	31	

SUMMARY TOTALS: 082FNW099

NAME: **BNA (L.5994)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	173 tonnes	191 tons
Milled:	tonnes	tons
Recovery:		
Silver:	475,442 grams	15,286 ounces
Gold:	197 grams	6 ounces
Lead:	11,484 kilograms	25,318 pounds
Zinc:	11,361 kilograms	25,047 pounds

Comments: 1981: Crude ore.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNW100		NAME: SILVER BEAR (L.1781)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1955	5		Silver	11,446	
			Lead		386
			Zinc		414
1952	12		Silver	5,070	
			Lead		128
			Zinc		641
1939	5		Silver	26,002	
			Lead		536
			Zinc		1,135
1929	39		Silver	194,425	
			Lead		1,670
			Zinc		5,836
1928	4		Silver	19,004	
			Lead		176
			Zinc		884
1923	9		Silver	56,079	
			Lead		1,101
1920	363		Silver	355,383	
			Gold	93	
			Lead		4,816
1919	22		Silver	123,665	
			Lead		1,400

SUMMARY TOTALS: 082FNW100

NAME: **SILVER BEAR (L.1781)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	459 tonnes	506 tons
Milled:	tonnes	tons
Recovery:		
Silver:	791,074 grams	25,434 ounces
Gold:	93 grams	3 ounces
Lead:	10,213 kilograms	22,516 pounds
Zinc:	8,910 kilograms	19,643 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW101		NAME: INDEX		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1957	5		Silver	5,101		
			Lead			945
			Zinc			457
1949	5		Silver	5,132		
			Lead			924
			Zinc			1,437
1920	5		Silver	17,106		
			Lead			4,220
1909	5		Silver	12,006		
			Lead			2,774

SUMMARY TOTALS: 082FNW101

NAME: **INDEX**

	<u>Metric</u>	<u>Imperial</u>
Mined:	20 tonnes	22 tons
Milled:	tonnes	tons
Recovery:	Silver: 39,345 grams	1,265 ounces
	Lead: 8,863 kilograms	19,540 pounds
	Zinc: 1,894 kilograms	4,176 pounds

Comments: 1957: Crude ore.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>082FNW106</u>	NAME:	<u>REVENUE (L.7139)</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>
1941	4		Silver Lead Zinc	15,240	1,080 525
1939	50		Silver Gold Lead Zinc	148,579 93	11,352 7,088
1938	34		Silver Gold Lead Zinc	56,981 31	4,818 2,111
1929	73		Silver Gold Lead Zinc	184,347 62	15,024 10,472
1928	36		Silver Gold Lead Zinc	112,313 31	13,518 483
1916	32		Silver Lead	76,980	13,098
1914	2		Silver Lead	41,212	9,943
1913	15		Silver Lead	41,180	9,943

SUMMARY TOTALS: 082FNW106

NAME: **REVENUE (L.7139)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	246 tonnes	271 tons
Milled:	tonnes	tons
Recovery:		
Silver:	676,832 grams	21,761 ounces
Gold:	217 grams	7 ounces
Lead:	78,776 kilograms	173,671 pounds
Zinc:	20,679 kilograms	45,589 pounds

Comments:

1941: Operated by O. Kahle and E. Garrett.
 1938: Operated by lessee, H.E. Singel.
 1916: Operated by Sturgis Creek Mines, Limited.
 1913: Operated by L. MacLean.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: <u>082FNW107</u>	NAME: <u>VIOLET</u>	STATUS: Past Producer
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>
1921	4	
		<u>Commodity</u>
		Silver Lead
		<u>Grams Recovered</u>
		32,627
		<u>Kilograms Recovered</u>
		484

SUMMARY TOTALS: 082FNW107

	NAME: <u>VIOLET</u>	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 4 tonnes	4 tons
	Milled: tonnes	tons
Recovery:	Silver: 32,627 grams	1,049 ounces
	Lead: 484 kilograms	1,067 pounds
Comments:	1921: Operated by H & J. Currie.	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW109		NAME: BALTIMORE (L.10060)		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>
1954	10		Silver	5,350	
			Lead		201
			Zinc		131
1907	5		Silver	27,806	
			Lead		388
1906	5		Silver	33,685	
			Gold	31	
			Lead		2,390
1905	32		Silver	169,325	
			Lead		1,699
1904	5		Silver	62,144	
			Lead		289
1902	3		Silver	53,715	
			Lead		642

SUMMARY TOTALS: 082FNW109

NAME: **BALTIMORE (L.10060)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	60 tonnes	66 tons
Milled:	tonnes	tons
Recovery:		
Silver:	352,025 grams	11,318 ounces
Gold:	31 grams	1 ounces
Lead:	5,609 kilograms	12,366 pounds
Zinc:	131 kilograms	289 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNW110		NAME: ONTARIO NO. 2 (L.3182)		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>
1921	19		Silver	155,702	
			Gold	31	
			Lead		2,075
1919	5		Silver	38,101	
			Lead		699
1918	9		Silver	53,093	
			Lead		889
1910	29		Silver	290,409	
			Lead		3,454
1909	18		Silver	120,000	
			Lead		1,000
1908	23		Silver	157,848	
			Lead		1,648
1907	58		Silver	927,554	
			Lead		6,089

SUMMARY TOTALS: 082FNW110

NAME: **ONTARIO NO. 2 (L.3182)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	161 tonnes	177 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,742,707 grams	56,029 ounces
Gold:	31 grams	1 ounces
Lead:	15,854 kilograms	34,952 pounds

Comments: 1909: Estimated recoveries from \$2000 value, Annual Report 1909.
 1907: Operated by E. Johnson.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>082FNW111</u>	NAME:	<u>PONTIAC (L.2265)</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>
1970	15		Silver	6,905	
			Gold	156	
			Lead		1,910
			Zinc		3,193
1969	10		Silver	6,034	
			Gold	156	
			Lead		2,045
			Zinc		1,205
1905	32		Silver	124,163	
			Gold	778	
			Lead		6,970
1903	34		Silver	46,468	
			Gold	809	
			Lead		9,344
1901	898		Silver	170,600	
			Gold	1,959	
			Lead		24,818
1900	23		Silver	38,879	
			Gold	622	
			Lead		6,804
1899	130		Silver	168,796	
			Gold	1,244	
			Lead		17,061
1898	18		Silver	31,103	
			Gold	467	
			Lead		5,443

SUMMARY TOTALS: 082FNW111

NAME: **PONTIAC (L.2265)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,160 tonnes	1,279 tons
Milled:	tonnes	tons
Recovery:	Silver: 592,948 grams	19,064 ounces
	Gold: 6,191 grams	199 ounces
	Lead: 74,395 kilograms	164,013 pounds
	Zinc: 4,398 kilograms	9,696 pounds

Comments:

1970: Operated by H. Lind & W. Matheson.
 1969: Operated by H.A. Lane & V. Matheson.
 1901: Operated by Nelson Slocan Prospecting & Mining Co.
 1899: Operated by F.A. Heap.
 1898: See Scranton (082FNW112).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **082FNW112** NAME: **SCRANTON (L.7452)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1979	3,120	3,120	Silver	117,670	
			Gold	3,348	
			Cadmium		1,563
			Copper		1,012
			Lead		37,256
			Zinc		131,535
1978	1,440	1,440	Silver	109,669	
			Gold	5,381	
			Cadmium		681
			Lead		41,112
			Zinc		32,651
1977	6,869	6,869	Silver	468,660	
			Gold	29,019	
			Cadmium		3,740
			Copper		35
			Lead		182,843
			Zinc		171,209
1976	4,767	4,767	Silver	573,944	
			Gold	25,162	
			Cadmium		4,041
			Copper		77
			Lead		223,705
			Zinc		196,361
1975	1,611	1,611	Silver	214,828	
			Gold	4,821	
			Cadmium		1,338
			Lead		76,844
			Zinc		64,622
1970	2,996	2,996	Silver	304,218	
			Gold	11,508	
			Copper		189
			Lead		118,886
			Zinc		106,911
1969	32	32	Silver	31,538	
			Gold	1,524	
			Lead		21,344
			Zinc		2,651
1954	15	15	Silver	7,465	
			Gold	124	
			Lead		2,438
			Zinc		2,346
1953	1,286	1,286	Silver	373,547	
			Gold	10,140	
			Cadmium		1,758
			Lead		111,328
			Zinc		89,763
1952	2,281	2,281	Silver	678,823	
			Gold	13,716	
			Cadmium		754
			Lead		257,659
			Zinc		226,507
1951	1,030	1,030	Silver	477,649	
			Gold	7,900	
			Lead		157,376
			Zinc		149,654
1950	317	317	Silver	86,280	
			Gold	2,488	
			Lead		29,914
			Zinc		23,010
1949	174	174	Silver	50,169	
			Gold	1,959	
			Lead		17,359
			Zinc		12,495
1948	5	5	Silver	3,390	
			Gold	62	
			Lead		1,065
			Zinc		658

SUMMARY TOTALS: 082FNW112

NAME: **SCRANTON (L.7452)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	25,943 tonnes	28,597 tons
Milled:	25,943 tonnes	28,597 tons

Recovery:

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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MINFILE NUMBER: **082FNW112**

NAME: **SCRANTON (L.7452)**

STATUS: Past Producer

Silver:	3,497,850 grams	112,458 ounces
Gold:	117,152 grams	3,767 ounces
Cadmium:	13,875 kilograms	30,589 pounds
Copper:	1,313 kilograms	2,895 pounds
Lead:	1,279,129 kilograms	2,819,996 pounds
Zinc:	1,210,373 kilograms	2,668,415 pounds

Comments:

1979: Operated by David Minerals Ltd.
1977: Operated by Hern Mines Ltd. from February 1977.
1975: Operated by Silver Star Mines Ltd.
1954: Operated by Scranton Mines Ltd.
1948: Operated by Scranton Consolidated Mining Co. Ltd.

RUN DATE: 25-Jun-2003
 RUN TIME: 16:37:09

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MINFILE NUMBER: **082FNW113** NAME: **SUNSET** 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>
1901	54		Silver Lead	186,618	27,215
1900	55		Silver Gold Lead	96,357 840	22,843
1899	36		Silver Gold Lead	30,294 1,493	7,436

SUMMARY TOTALS: 082FNW113

NAME: **SUNSET**

	<u>Metric</u>	<u>Imperial</u>
Mined:	145 tonnes	160 tons
Milled:	tonnes	tons
Recovery:	Silver: 313,269 grams	10,072 ounces
	Gold: 2,333 grams	75 ounces
	Lead: 57,494 kilograms	126,753 pounds

Comments: 1901: Operated by Canadian Gold Fields Syndicate Ltd.
 1899: Operated by Woodbury Mines Ltd.

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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MINFILE NUMBER:	082FNW114	NAME:	SILVER CUP (L.6507)	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1940	4		Silver	4,417	
			Gold	31	
			Lead		891
			Zinc		118

SUMMARY TOTALS: 082FNW114

NAME: **SILVER CUP (L.6507)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4 tonnes	4 tons
Milled:	tonnes	tons
Recovery:		
Silver:	4,417 grams	142 ounces
Gold:	31 grams	1 ounces
Lead:	891 kilograms	1,964 pounds
Zinc:	118 kilograms	260 pounds

RUN DATE: 25-Jun-2003
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MINFILE NUMBER: 082FNW116	NAME: BOOMERANG	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1956	3		Silver Lead Zinc	4,479	121 123

SUMMARY TOTALS: 082FNW116

NAME: **BOOMERANG**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3 tonnes	3 tons
Milled:	tonnes	tons
Recovery:		
Silver:	4,479 grams	144 ounces
Lead:	121 kilograms	267 pounds
Zinc:	123 kilograms	271 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW121		NAME: MOLLY GIBSON (L.1579)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1950	26		Silver	40,465	
			Gold	31	
			Lead		3,098
			Zinc		2,586
1949	9		Silver	9,238	
			Lead		936
			Zinc		406
1939	5		Silver	6,656	
			Lead		601
			Zinc		242
1927	83		Silver	149,170	
			Gold	31	
			Lead		26,614
			Zinc		6,008
1926	40		Silver	78,006	
			Lead		14,370
1924	63		Silver	202,449	
			Gold	124	
			Lead		32,245
1923	65		Silver	181,144	
			Gold	62	
			Lead		27,193
1922	56		Silver	147,988	
			Gold	62	
			Lead		28,245
1920	248		Silver	135,267	
			Lead		6,809
1919	1,442	740	Silver	1,203,313	
			Lead		69,589
1918	1,721	1,197	Silver	3,009,402	
			Lead		212,527
1917	333		Silver	481,039	
			Lead		46,754
1916	484		Silver	537,429	
			Lead		45,616
1914	454		Silver	761,681	
			Lead		50,308
1913	4,475	4,316	Silver	1,740,773	
			Lead		98,154
1912	10,886	10,886	Silver	4,538,985	
			Lead		293,798
1911	5,352	5,352	Silver	1,871,779	
			Lead		175,692
1907	18,125	18,125	Silver	5,105,464	
			Lead		456,639
1906	8,051	6,940	Silver	3,221,120	
			Gold	62	
			Lead		245,487
1905	867		Silver	1,111,310	
			Lead		97,687
1902	1,818		Silver	3,661,725	
			Lead		190,281
1901	512		Silver	1,195,102	
			Lead		51,081
1900	714		Silver	1,529,241	
			Lead		83,421
1899	31		Silver	141,519	
			Lead		6,980

SUMMARY TOTALS: 082FNW121

NAME: **MOLLY GIBSON (L.1579)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	55,860 tonnes	61,575 tons
Milled:	47,556 tonnes	52,422 tons
Recovery:		
Silver:	31,060,265 grams	998,609 ounces
Gold:	372 grams	12 ounces
Lead:	2,264,125 kilograms	4,991,540 pounds
Zinc:	9,242 kilograms	20,375 pounds

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MINFILE NUMBER: 082FNW122		NAME: ORO FINO		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	4		Silver	964	
			Gold	62	
			Lead		48
			Zinc		112

SUMMARY TOTALS: 082FNW122

		NAME: ORO FINO	
		<u>Metric</u>	<u>Imperial</u>
Recovery:	Mined:	4 tonnes	4 tons
	Milled:	tonnes	tons
	Silver:	964 grams	31 ounces
	Gold:	62 grams	2 ounces
	Lead:	48 kilograms	106 pounds
	Zinc:	112 kilograms	247 pounds

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MINFILE NUMBER: 082FNW126	NAME: BARNETT (L.2888)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1905	8		Silver Gold	27,713 249	

SUMMARY TOTALS: 082FNW126

NAME: **BARNETT (L.2888)**

	<u>Metric</u>		<u>Imperial</u>
Mined:	8 tonnes		9 tons
Milled:	tonnes		tons
Recovery:	Silver: 27,713 grams		891 ounces
	Gold: 249 grams		8 ounces
Comments:	1905: Operated by McLeod Mining Syndicate.		

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MINFILE NUMBER: 082FNW127		NAME: ALPINE GOLD		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1988	200	90	Silver	591		
			Gold	198		
			Lead			82
			Zinc			82
1948	667	667	Silver	11,384		
			Gold	16,889		
			Lead			3,027
			Zinc			1,082
1947	180	180	Silver	1,866		
			Gold	2,768		
			Lead			459
			Zinc			158
1946	144	594	Silver	5,785		
			Gold	11,042		
			Lead			720
			Zinc			264
1942	68	68	Silver	34,182		
			Gold	56,079		
			Lead			8,698
			Zinc			3,407
1941	11,517	11,517	Silver	130,011		
			Gold	210,350		
			Lead			27,156
			Zinc			9,602
1940	3,992	3,992	Silver	35,333		
			Gold	57,852		
			Lead			7,459
			Zinc			2,572
1939	3		Silver	62		
			Gold	62		
1938	35		Silver	902		
			Gold	1,120		
1915	4		Silver	1,928		
			Lead			1,728

SUMMARY TOTALS: 082FNW127

NAME: **ALPINE GOLD**

	<u>Metric</u>	<u>Imperial</u>
Mined:	16,810 tonnes	18,530 tons
Milled:	17,108 tonnes	18,858 tons
Recovery:		
Silver:	222,044 grams	7,139 ounces
Gold:	356,360 grams	11,457 ounces
Lead:	49,329 kilograms	108,752 pounds
Zinc:	17,167 kilograms	37,847 pounds

Comments:

1988: Custom ore. Alpine Gold operated by Cove Resources Corp.
 1948: Tonnage mined assumed.
 1942: Ore milled not reported. Concentrates shipped.
 1940: Alpine operated by Alpine Gold. Ltd.
 1939: Gold Crown operated by Reese & Nelson.
 1938: Gold Crown operated by Reese & Nelson.

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MINFILE NUMBER:	082FNW128	NAME:	CRUSADER (L.5985A)	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1939	5		Silver Gold	12,255 218	

SUMMARY TOTALS: 082FNW128

NAME: **CRUSADER (L.5985A)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5 tonnes	6 tons
Milled:		tons
Recovery:	Silver: 12,255 grams	394 ounces
	Gold: 218 grams	7 ounces
Comments:	1939: Operated by C.A. Ritchie.	

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MINFILE NUMBER: **082FNW129** NAME: **HOPE** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1959	2		Silver Lead Zinc	9,735	1,243 31
1951	11		Silver Lead Zinc	778	280 729
1948	23		Silver Lead Zinc	4,292	1,298 3,155
1928	443		Silver Lead Zinc	56,639	21,199 67,093

SUMMARY TOTALS: 082FNW129

NAME: **HOPE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	479 tonnes	528 tons
Milled:	tonnes	tons
Silver:	71,444 grams	2,297 ounces
Lead:	24,020 kilograms	52,955 pounds
Zinc:	71,008 kilograms	156,546 pounds

Recovery:

Comments:

1959: Operated by lessees E.H. Peterson & A. Maxinuk.
 1951: Hope No. 2 operated by W. Foster.
 1948: Piedmont operated by R.J. Kennedy.
 1928: Operated by Piedmont Mines Ltd.

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MINFILE NUMBER: 082FNW130		NAME: CHAPLEAU (L.4963)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1941	14		Silver	1,493	
			Gold	124	
1940	12		Silver	16,702	
			Gold	342	
1939	24		Silver	11,912	
			Gold	529	
1936	20		Silver	28,210	
			Gold	871	
1935	45		Silver	20,963	
			Gold	529	
1933	8		Silver	18,289	
			Gold	373	
1932	5		Silver	9,051	
			Gold	218	
1901	14		Silver	20,217	
			Gold	1,244	
1899	91		Silver	155,515	
			Gold	15,552	
1898	15		Silver	20,155	
			Gold	1,462	
1897	45		Silver	93,309	
			Gold	7,776	
1896	4		Silver	11,788	
			Gold	435	

SUMMARY TOTALS: 082FNW130

NAME: **CHAPLEAU (L.4963)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	297 tonnes	327 tons
Milled:	tonnes	tons
Recovery: Silver:	407,604 grams	13,105 ounces
Gold:	29,455 grams	947 ounces

Comments: 1941: Operated by B.C. Department of Mines.
 1901: Milled is estimate

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MINFILE NUMBER: 082FNW131		NAME: KILO (L.9328)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1939	44		Silver	1,182	
			Gold	964	
1938	454		Silver	8,958	
			Gold	6,127	
			Lead		48
			Zinc		21
1934	279		Silver	9,020	
			Gold	6,438	
1932	5		Silver	156	
			Gold	93	
1913	953		Silver	1,617	
			Gold	6,345	
1912	349		Gold	4,697	
1904	18		Silver	3,017	
			Gold	2,488	
1900	18		Silver	3,110	
			Gold	2,488	

SUMMARY TOTALS: 082FNW131

NAME: **KILO (L.9328)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,120 tonnes	2,337 tons
Milled:		
Recovery:		
Silver:	27,060 grams	870 ounces
Gold:	29,640 grams	953 ounces
Lead:	48 kilograms	106 pounds
Zinc:	21 kilograms	46 pounds

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MINFILE NUMBER:	082FNW134	NAME:	GOLDSTREAM	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1938	36		Silver Gold	715 684	

SUMMARY TOTALS: 082FNW134

NAME: **GOLDSTREAM**

		<u>Metric</u>		<u>Imperial</u>	
	Mined:	36 tonnes		40 tons	
	Milled:			tons	
Recovery:	Silver:	715 grams		23 ounces	
	Gold:	684 grams		22 ounces	
Comments:	1938:	Operated by C. Ritchie.			

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MINFILE NUMBER: **082FNW136** NAME: **HOWARD FRACTION (L.3578)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1950	32		Silver	6,998	
			Gold	62	
1941	24		Silver	10,233	
			Gold	62	
1939	73		Silver	31,725	
			Gold	218	
1938	15		Silver	4,728	
			Gold	31	
1934	1		Silver	124	
1896	11		Silver	76,887	
			Gold	373	
1895	6		Silver	35,489	
			Gold	156	

SUMMARY TOTALS: 082FNW136

NAME: **HOWARD FRACTION (L.3578)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	162 tonnes	179 tons
Milled:		tons
Recovery:		
	Silver: 166,184 grams	5,343 ounces
	Gold: 902 grams	29 ounces

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MINFILE NUMBER: <u>082FNW137</u>		NAME: <u>METEOR (L.2893)</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>	
1985		7	Silver	18,368		
			Gold	35		
			Lead			29
			Zinc			22
1984	9	9	Silver	1,393		
1980	33	33	Silver	15,552		
			Gold	142		
			Lead			33
			Zinc			33
1967	105		Silver	62,175		
			Gold	342		
			Lead			169
			Zinc			169
1964	1,715	1,715	Silver	390,312		
			Gold	1,897		
			Lead			430
			Zinc			455
1963	240		Silver	79,904		
			Gold	124		
1940	6		Silver	42,798		
			Gold	249		
1939	30		Silver	112,157		
			Gold	342		
1938	5		Silver	28,459		
			Gold	62		
1936	2		Silver	12,317		
			Gold	62		
1935	15		Silver	39,843		
			Gold	124		
1934	2		Silver	14,401		
			Gold	62		
1932	15		Silver	33,747		
			Gold	124		
1928	63		Silver	322,787		
			Gold	1,213		
1923	7		Silver	33,405		
			Gold	156		
1922	10		Silver	10,077		
			Gold	31		
1919	82		Silver	284,624		
			Gold	995		
1918	20		Silver	267,797		
			Gold	995		
1917	13		Silver	150,850		
			Gold	560		
1916	26		Silver	149,792		
			Gold	249		
1915	36		Silver	435,442		
1913	22		Silver	364,278		
			Gold	1,058		
1912	44		Silver	485,767		
			Gold	1,089		
1911	16		Silver	187,520		
			Gold	498		
1909	13		Silver	117,569		
			Gold	498		
1906	11		Silver	50,138		
			Gold	93		
1903	44		Silver	546,977		
			Gold	995		
1897	68		Silver	466,545		
			Gold	1,182		

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MINFILE NUMBER: **082FNW137**

NAME: **METEOR (L.2893)**

STATUS: Past Producer

SUMMARY TOTALS: 082FNW137

NAME: **METEOR (L.2893)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,652 tonnes	2,923 tons
Milled:	1,764 tonnes	1,944 tons
Recovery:		
Silver:	4,724,994 grams	151,912 ounces
Gold:	13,177 grams	424 ounces
Lead:	661 kilograms	1,457 pounds
Zinc:	679 kilograms	1,497 pounds

Comments: 1985: Crude ore.

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MINFILE NUMBER: **082FNW140** NAME: **SLOCAN PRINCE (L.582)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1970	10		Silver Lead Zinc	1,897	594 267
1962	230		Silver Lead Zinc	122,795	2,182 2,956
1961	2		Silver Lead Zinc	684	9 32
1951	4		Silver Lead Zinc	498	217 4
1929	24		Silver Lead Zinc	35,737	2,428 5,599
1928	15		Silver Zinc	373	2,994
1922	7		Silver Lead	31,601	463
1921	46		Silver Lead	107,088	415
1919	27		Silver	80,308	
1918	27		Silver	125,034	
1917	15		Silver Lead	74,025	657
1916	98		Silver Lead	2,288,030	6,067
1915	19		Silver Lead	120,338	619
1914	8		Silver Lead	22,083	560
1913	24		Silver Lead	112,126	2,117
1912	47		Silver Lead	178,967	5,189
1906	601		Silver Lead	1,091,933	7,635
1905	316		Silver Lead	622,869	571
1904	50		Silver Lead	308,448	4,302
1903	14		Silver	48,396	
1901	132		Silver Lead	511,396	5,955
1900	86		Silver Lead	460,860	36,638
1899	45		Silver Lead	171,067	22,680
1897	23		Silver Lead	155,515	11,340
1896	36		Silver Lead	373,236	18,144

SUMMARY TOTALS: 082FNW140

NAME: **SLOCAN PRINCE (L.582)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,906 tonnes	2,101 tons
Milled:		
Recovery:		
Silver:	7,045,304 grams	226,511 ounces
Lead:	128,782 kilograms	283,916 pounds
Zinc:	11,852 kilograms	26,129 pounds

Comments:

1970: Operated by D. Hannem.
 1961: Operated by J.K. Pearson.
 1951: Black Prince, operated by D.G. White.
 1929: Two friends, operated by Empee Mining Company Ltd.
 1928: Two friends, operated by Empee Mining Company Ltd.
 1905: Black Prince, operated by Pioneer Mining Company Ltd.

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NAME: **SLOCAN PRINCE (L.582)**

STATUS: Past Producer

Comments:

1904: Black Prince and Black Prince Fraction.
1900: Black Prince and Two Friends.
1897: Slocan Prince.
1896: Two Friends.

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MINFILE NUMBER: 082FNW141		NAME: MARMION (L.4975)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1973	6		Silver	435	
			Gold	124	
			Lead		25
			Zinc		13
1940	12		Silver	1,586	
			Gold	187	
1939	15		Silver	902	
			Gold	311	
1938	17		Silver	4,292	
			Gold	778	

SUMMARY TOTALS: 082FNW141

NAME: **MARMION (L.4975)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	50 tonnes	55 tons
Milled:	tonnes	tons
Recovery:		
Silver:	7,215 grams	232 ounces
Gold:	1,400 grams	45 ounces
Lead:	25 kilograms	55 pounds
Zinc:	13 kilograms	29 pounds

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MINFILE NUMBER: **082FNW143** NAME: **HAMPTON (L.4027)** 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	5		Silver	21,897	
			Lead		581
			Zinc		115
1922	20		Silver	98,565	
			Lead		1,208
1906	16		Silver	564,830	
1905	11		Silver	216,104	
1903	5		Silver	78,784	
1902	11		Silver	232,650	
1901	16		Silver	195,887	
1900	6		Silver	104,817	

SUMMARY TOTALS: 082FNW143

NAME: **HAMPTON (L.4027)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	90 tonnes	99 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,513,534 grams	48,661 ounces
Lead:	1,789 kilograms	3,944 pounds
Zinc:	115 kilograms	254 pounds

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MINFILE NUMBER: 082FNW144		NAME: RIVERSIDE (L.8394)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1937	15		Silver	22,674	
			Lead		362
			Zinc		362
1935	3		Silver	4,945	
			Lead		91
			Zinc		57

SUMMARY TOTALS: 082FNW144

NAME: **RIVERSIDE (L.8394)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	18 tonnes	20 tons
Milled:	tonnes	tons
Recovery:		
	27,619 grams	888 ounces
	453 kilograms	999 pounds
	419 kilograms	924 pounds

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MINFILE NUMBER: 082FNW145		NAME: WESTMONT (L.8929)		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	481		Silver	89,827	
			Gold	36	
			Cadmium		17
			Copper		54
			Lead		2,389
			Zinc		4,956
1975	62		Silver	39,470	
			Lead		2,654
			Zinc		4,012
1971	65		Silver	27,651	
			Lead		2,426
			Zinc		4,525
1969	9	9	Silver	24,447	
			Lead		389
			Zinc		528
1968	22		Silver	52,968	
			Lead		932
			Zinc		733
1959	191		Silver	212,433	
			Gold	93	
			Lead		8,875
			Zinc		11,698
1958	404		Silver	411,026	
			Gold	124	
			Cadmium		51
			Lead		18,726
			Zinc		27,797
1956	154		Silver	76,296	
			Lead		1,808
			Zinc		2,540
1929	26		Silver	67,462	
			Lead		1,086
			Zinc		3,244
1928	40		Silver	45,566	
			Lead		1,906
			Zinc		5,887
1919	66		Silver	288,885	
			Lead		2,895
1918	44		Silver	109,389	
			Lead		3,944
1914	135		Silver	372,272	
			Gold	156	
			Lead		3,837
1913	305		Silver	1,079,430	
			Gold	249	
			Lead		18,319
1912	54		Silver	179,153	
			Lead		3,993
1911	195		Silver	1,278,022	
			Gold	467	
			Lead		19,972
1910	614		Silver	3,971,946	
			Gold	933	
			Lead		75,307
1909	180		Silver	1,014,082	
			Lead		17,462
1908	143		Silver	1,605,568	
			Lead		12,041
1907	21		Silver	138,937	
			Lead		820

SUMMARY TOTALS: 082FNW145

NAME: **WESTMONT (L.8929)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3,211 tonnes	3,540 tons
Milled:	9 tonnes	10 tons
Recovery:		
Silver:	11,084,830 grams	356,385 ounces
Gold:	2,058 grams	66 ounces
Cadmium:	68 kilograms	150 pounds
Copper:	54 kilograms	119 pounds

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MINFILE NUMBER: **082FNW145** NAME: **WESTMONT (L.8929)** STATUS: Past Producer

Lead: 199,781 kilograms 440,442 pounds
Zinc: 65,920 kilograms 145,329 pounds

Comments:

1956: Dump ore. Contents included in VAN ROI returns.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW147		NAME: NEEPAWA (L.1260)		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>	
1925	9		Silver	40,123		
			Lead		222	
			Zinc		753	
1924	2		Silver	5,132		
			Lead		54	
1923	4		Silver	19,408		
			Lead		181	
1919	5		Silver	9,144		
			Lead		209	
1913	64		Silver	130,322		
1911	6		Silver	18,662		
			Lead		3,175	
1907	5		Silver	13,281		
			Lead		218	
1906	33		Silver	159,714		
			Lead		1,499	
1905	258		Silver	1,131,029		
1904	75		Silver	318,277		
			Lead		3,682	

SUMMARY TOTALS: 082FNW147

NAME: **NEEPAWA (L.1260)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	461 tonnes	508 tons
Milled:	tonnes	tons
Recovery:	Silver: 1,845,092 grams	59,321 ounces
	Lead: 9,240 kilograms	20,371 pounds
	Zinc: 753 kilograms	1,660 pounds

Comments: 1904: Minor shipments occurred before 1904.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	<u>082FNW148</u>	NAME:	<u>ENTERPRISE (L.1014)</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>
1977	89		Silver	64,228	
			Gold	21	
			Copper		54
			Lead		2,225
			Zinc		3,025
1976	28		Silver	15,676	
			Lead		541
			Zinc		826
1975	263		Silver	139,715	
			Gold	93	
			Lead		7,495
			Zinc		29,616
1974	90		Silver	100,058	
			Copper		95
			Lead		7,583
			Zinc		9,770
1973	61		Silver	59,624	
			Lead		8,090
			Zinc		10,961
1972	757		Silver	660,006	
			Gold	124	
			Cadmium		137
			Lead		43,189
			Zinc		111,321
1971	88		Silver	171,346	
			Gold	31	
			Lead		11,651
			Zinc		19,768
1969	55		Silver	11,601	
			Lead		1,150
			Zinc		3,126
1968	54		Silver	63,232	
			Lead		4,175
			Zinc		7,117
1965	17		Silver	52,813	
			Gold	1,586	
			Lead		5,732
			Zinc		4,757
1962	313		Silver	98,721	
			Gold	31	
			Cadmium		308
			Lead		15,576
			Zinc		43,389
1942	463		Silver	96,979	
			Gold	31	
			Lead		1,075
			Zinc		9,624
1941	45		Silver	14,712	
			Gold	62	
			Lead		89
			Zinc		976
1927	741		Silver	989,293	
			Lead		126,968
			Zinc		156,755
1926	549		Silver	399,705	
			Gold	62	
			Lead		76,942
			Zinc		234,178
1925	294		Silver	192,123	
			Lead		24,141
			Zinc		55,185
1919	8		Silver	14,059	
			Lead		4,536
1917	102		Silver	199,090	
			Lead		2,785
1916	89		Silver	404,992	
			Lead		17,488
1915	122		Silver	558,268	
			Lead		25,830
1914	44		Silver	146,246	

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	082FNW148		NAME:	ENTERPRISE (L.1014)		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>			
1914	44		Lead		3,470			
1912	19		Silver Lead	48,303	8,710			
1911	75		Silver Lead	310,968	17,103			
1910	59		Silver Lead	303,161	13,108			
1909	16		Silver Lead	80,308	1,842			
1905	179		Silver Lead Zinc	467,260	15,847 26,224			
1904	699		Silver Lead Zinc	3,631,306	144,448 149,748			
1903	779		Silver Lead Zinc	3,649,968	131,386 191,491			
1902	2,172		Silver Lead	8,704,330	358,064			
1901	718		Silver Lead	3,140,657	185,532			
1900	914		Silver Lead	2,533,775	175,036			
1899	667		Silver Lead	2,985,235	140,002			
1898	353		Silver Lead	1,557,172	58,914			
1896	145		Silver Lead	811,788	33,747			

SUMMARY TOTALS: 082FNW148

NAME: **ENTERPRISE (L.1014)**

	<u>Mined:</u>	<u>Metric</u>	<u>Imperial</u>
	Mined:	11,067 tonnes	12,199 tons
Recovery:	Silver:	32,676,718 grams	1,050,579 ounces
	Gold:	2,041 grams	66 ounces
	Cadmium:	445 kilograms	981 pounds
	Copper:	149 kilograms	328 pounds
	Lead:	1,674,470 kilograms	3,691,573 pounds
	Zinc:	1,067,857 kilograms	2,354,221 pounds

Comments:
 1977: Operated by T. Mazur.
 1976: Operated by T. Mazur.
 1969: Operated by Enterprise Silver Mines Ltd.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNW149		NAME: MABOU (L.8399)		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>
1948	4		Silver	328	
			Zinc		34
1947	4		Silver	4,790	
			Lead		136
			Zinc		198

SUMMARY TOTALS: 082FNW149

NAME: **MABOU (L.8399)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	8 tonnes	9 tons
Milled:	tonnes	tons
Recovery:		
Silver:	5,118 grams	165 ounces
Lead:	136 kilograms	300 pounds
Zinc:	232 kilograms	511 pounds

Comments:

1948: Svanhild operated by Terley Mining (Annual Report 1948, p. 147).
 1947: Operated by Terley Mining, Milling & Smelting Co.

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MINFILE NUMBER: 082FNW150		NAME: BONDHOLDER (L.1257)		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>
1904	4		Silver	30,512	
			Lead		767
1903	1		Silver	6,158	
			Lead		79
1901	24		Silver	158,905	
			Lead		1,356
1900	34		Silver	253,272	
			Lead		2,198

SUMMARY TOTALS: 082FNW150

NAME: **BONDHOLDER (L.1257)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	63 tonnes	69 tons
Milled:	tonnes	tons
Recovery:		
Silver:	448,847 grams	14,431 ounces
Lead:	4,400 kilograms	9,700 pounds

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MINFILE NUMBER: 082FNW151		NAME: SPECULATOR (L.2360)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1951	15		Silver	6,501	
			Lead		401
			Zinc		401
1941	1		Silver	2,955	
			Lead		58
			Zinc		12
1901	10		Silver	16,205	
			Lead		5,488

SUMMARY TOTALS: 082FNW151

NAME: **SPECULATOR (L.2360)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	26 tonnes	29 tons
Milled:	tonnes	tons
Recovery:		
Silver:	25,661 grams	825 ounces
Lead:	5,947 kilograms	13,111 pounds
Zinc:	413 kilograms	911 pounds

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MINFILE NUMBER: <u>082FNW152</u>		NAME: <u>ARLINGTON</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>	
1979	1,037		Silver	117,300		
			Gold	588		
			Cadmium			46
			Copper			53
			Lead			15,724
			Zinc			12,967
1978	152		Silver	84,569		
			Lead			5,946
			Zinc			3,647
1976	21		Silver	170,258		
			Gold	62		
			Lead			6,680
			Zinc			4,185
1975	120		Silver	44,384		
			Lead			6,679
			Zinc			8,317
1971	835		Silver	337,592		
			Lead			22,530
			Zinc			20,027
1970	2,533		Silver	1,062,012		
			Lead			63,534
			Zinc			42,216
1969	1,739		Silver	833,716		
			Lead			36,554
1968	758		Silver	419,922		
			Gold	31		
			Lead			15,897
			Zinc			11,430
1964	112		Silver	17,044		
			Copper			781
			Lead			669
1963	296		Silver	49,423		
			Lead			2,332
			Zinc			1,863
1962	576		Silver	103,697		
			Lead			3,901
			Silica			575,881
			Zinc			3,124
1948	63		Silver	35,582		
			Lead			5,620
			Zinc			4,447
1939	183		Silver	159,776		
			Gold	31		
			Lead			3,518
			Zinc			2,368
1938	75		Silver	62,050		
			Gold	31		
			Lead			1,806
			Zinc			1,099
1937	479		Silver	108,487		
			Lead			4,690
			Zinc			3,173
1922	12		Silver	63,108		
			Lead			923
1919	249		Silver	78,597		
			Lead			3,174
1918	340		Silver	171,502		
			Lead			9,965
1911	26		Silver	86,902		
			Lead			4,256
1909	18		Silver	13,343		
1908	181		Silver	426,267		
			Lead			19,782
1907	813		Silver	1,939,552		
			Lead			63,306
1906	620		Silver	1,214,323		
			Lead			49,566
1905	518		Silver	784,449		
			Lead			23,723

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **082FNW152** NAME: **ARLINGTON** 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>
1903	34		Silver Lead	77,571	3,027
1902	2,706		Silver Lead	7,211,168	115,562
1901	4,793		Silver Lead	11,268,244	263,280
1900	1,227		Silver Lead	4,316,008	104,403
1898	31		Silver Lead	173,026	4,440
1897	45		Silver		

SUMMARY TOTALS: 082FNW152

NAME: **ARLINGTON**

	<u>Metric</u>	<u>Imperial</u>
Mined:	20,592 tonnes	22,699 tons
Milled:	tonnes	tons
Recovery: Silver:	31,429,872 grams	1,010,492 ounces
Gold:	743 grams	24 ounces
Cadmium:	46 kilograms	101 pounds
Copper:	834 kilograms	1,839 pounds
Lead:	861,487 kilograms	1,899,253 pounds
Silica:	575,881 kilograms	1,269,600 pounds
Zinc:	118,863 kilograms	262,048 pounds

Comments:
 1976: Concentrates from dump.
 1975: Crude ore.
 1897: No recoveries reported.

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MINFILE NUMBER: **082FNW153** NAME: **LILY B** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1922	7		Silver	30,668	
			Gold	31	
			Lead		263
1918	14		Silver	37,790	
			Lead		264
1916	6		Silver	15,956	
			Lead		483
1913	14		Silver	28,273	
			Lead		1,298

SUMMARY TOTALS: 082FNW153

NAME: **LILY B**

	<u>Metric</u>	<u>Imperial</u>
Mined:	41 tonnes	45 tons
Milled:	tonnes	tons
Recovery:		
Silver:	112,687 grams	3,623 ounces
Gold:	31 grams	1 ounces
Lead:	2,308 kilograms	5,088 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW154		NAME: ANNA (L.14468)		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>
1964	3		Silver	7,558	
			Lead		31
			Zinc		57
1963	45		Silver	3,888	
			Lead		57
			Silica		45,359
			Zinc		51
1962	2		Silver	1,897	
			Lead		25
			Zinc		7
1960	4		Silver	23,545	
			Lead		15
			Zinc		6
1928	3		Silver	7,651	
1927	4		Silver	36,577	
			Lead		72
			Zinc		27
1925	2		Silver	13,561	
1924	5		Silver	24,945	
1923	5		Silver	51,009	
1922	14		Silver	59,345	
1921	18		Silver	139,964	
1920	53		Silver	400,762	
1918	15		Silver	131,472	
			Copper		110
1912	4		Silver	9,953	
			Lead		1,089

SUMMARY TOTALS: 082FNW154

NAME: **ANNA (L.14468)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	177 tonnes	195 tons
Milled:		
Recovery:		
Silver:	912,127 grams	29,326 ounces
Copper:	110 kilograms	243 pounds
Lead:	1,289 kilograms	2,842 pounds
Silica:	45,359 kilograms	99,999 pounds
Zinc:	148 kilograms	326 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FNW155		NAME: OTTAWA (L.4968)		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	1	1	Silver	15,959		
1983	5	5	Silver	9,393		
			Lead			162
			Zinc			61
1982	28	28	Silver	358,125		
			Copper			137
1981	180	180	Silver	278,221		
			Lead			489
			Zinc			340
1980	596	596	Silver	994,689		
1979	69		Silver	673,764		
1978	496		Silver	1,372,047		
			Copper			234
			Lead			647
			Zinc			335
1977	1,304		Silver	1,325,579		
			Gold	33		
			Copper			196
			Lead			557
			Zinc			344
1976	1,348		Silver	999,402		
			Gold	18		
			Copper			226
			Lead			1,623
			Zinc			1,169
1975	12		Silver	105,532		
			Lead			82
			Zinc			35
1973	25		Silver	268,108		
			Lead			139
			Zinc			58
1972	73		Silver	914,801		
			Lead			389
			Zinc			239
1971	95		Silver	471,304		
			Lead			431
			Zinc			193
1970	114		Silver	600,443		
			Lead			713
			Zinc			564
1969	104	2,493	Silver	975,048		
			Lead			283
1968	4,005		Silver	2,038,802		
1967	1,462		Silver	754,434		
			Gold	62		
			Lead			1,931
			Zinc			2,537
1966	843		Silver	2,270,954		
			Gold	31		
			Lead			2,133
			Zinc			1,452
1965	907		Silver	2,163,027		
			Lead			3,735
			Zinc			1,427
1964	5,806	5,806	Silver	1,586,346		
			Gold	156		
			Lead			1,420
			Zinc			486
1963	348		Silver	1,355,127		
			Gold	93		
			Lead			1,015
			Zinc			580
1962	671		Silver	1,440,909		
			Gold	62		
			Lead			827
			Zinc			926
1961	82		Silver	339,178		
			Gold	31		
			Lead			317

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MINFILE NUMBER: 082FNW155		NAME: OTTAWA (L.4968)		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	82		Zinc		151
1960	13		Silver	92,251	
			Lead		86
			Zinc		43
1959	14		Silver	162,918	
			Lead		110
			Zinc		21
1958	25		Silver	130,633	
			Gold	31	
			Lead		155
			Zinc		93
1957	14		Silver	105,812	
			Lead		106
			Zinc		43
1956	9		Silver	84,973	
			Lead		53
			Zinc		16
1953	69		Silver	352,739	
			Gold	93	
			Lead		258
			Zinc		118
1952	63		Silver	483,185	
			Gold	31	
1951	288		Silver	2,667,020	
			Gold	31	
1950	123		Silver	623,180	
1949	64		Silver	488,348	
1948	53		Silver	509,934	
1947	28		Silver	193,585	
1946	47		Silver	449,625	
			Gold	31	
1945	10		Silver	103,293	
1944	8		Silver	64,725	
1942	14		Silver	166,681	
1941	39		Silver	480,604	
1940	77		Silver	710,672	
			Gold	31	
1939	257		Silver	507,819	
			Gold	31	
1938	442		Silver	1,902,944	
			Gold	93	
			Lead		344
			Zinc		23
1937	340		Silver	427,542	
			Gold	31	
			Lead		1,642
			Zinc		1,520
1926	24		Silver	37,199	
1925	7		Silver	24,882	
1924	57		Silver	251,001	
1923	18		Silver	76,513	
1922	131		Silver	1,948,852	
			Gold	62	
1921	1,306		Silver	190,537	
1920	424		Silver	655,185	
1919	381		Silver	294,577	
1918	44		Silver	277,221	
1917	161		Silver	684,701	
1916	77		Silver	345,710	
1915	32		Silver	148,672	
1914	253		Silver	1,304,180	
			Gold	31	
1913	57		Silver	278,994	
1912	17		Silver	47,277	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **082FNW155** NAME: **OTTAWA (L.4968)** 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>
1911	18		Silver	155,515	
1910	18		Silver	213,367	
1909	408		Silver	826,313	
1908	27		Silver	158,781	
1907	157		Silver	1,081,545	
1906	430		Silver	2,860,418	
1905	494		Silver	3,455,917	
			Lead		98,883
1904	1,226		Silver	7,669,378	
			Lead		241,555
1903	138		Silver	934,272	

SUMMARY TOTALS: 082FNW155

NAME: **OTTAWA (L.4968)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	26,476 tonnes	29,185 tons
Milled:	9,109 tonnes	10,041 tons
Recovery:		
Silver:	55,940,682 grams	1,798,532 ounces
Gold:	982 grams	32 ounces
Copper:	793 kilograms	1,748 pounds
Lead:	360,085 kilograms	793,851 pounds
Zinc:	12,774 kilograms	28,162 pounds

Comments:

1984: Crude ore
 1983: Clean-up
 1973: Crude ore
 1969: Waste dump material from earlier operations.
 1938: Estimate
 1937: Estimate

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MINFILE NUMBER:	082FNW156	NAME:	TAMARAC	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1907	19		Silver	61,771	
			Lead		2,068
1906	64		Silver	306,458	
			Lead		6,422

SUMMARY TOTALS: 082FNW156

NAME: **TAMARAC**

	Mined:	83 tonnes	Imperial	91 tons
	Milled:	tonnes		tons
Recovery:	Silver:	368,229 grams	11,839 ounces	
	Lead:	8,490 kilograms	18,717 pounds	

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MINFILE NUMBER:	<u>082FNW157</u>	NAME:	<u>LITTLE TIM</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>
1984	4,536	1,089	Silver	93,951	
			Copper		94
			Lead		1,384
			Zinc		472
1982	216	216	Silver	37,759	
			Gold	1	
			Copper		37
			Lead		535
			Zinc		351
1981	8	8	Silver	29,373	
			Gold	10	
			Copper		26
			Lead		383
			Zinc		207
1978	54		Silver	54,710	
			Lead		646
			Zinc		386
1975	21		Silver	60,869	
			Lead		1,699
			Zinc		1,152
1973	2		Silver	11,477	
			Copper		14
			Lead		204
			Zinc		145
1969	102		Silver	198,686	
			Lead		3,251
			Zinc		1,570
1968	42		Silver	92,625	
			Lead		1,152
			Zinc		672
1959	3		Silver	23,110	
			Lead		234
			Zinc		126
1958	4		Silver	5,505	
			Lead		1,775
			Zinc		84
1952	47		Silver	207,146	
			Lead		4,383
			Zinc		2,028
1947	4		Silver	11,446	
			Lead		137
			Zinc		94
1942	3		Silver	22,301	
			Lead		303
			Zinc		172
1938	5		Silver	44,353	
			Lead		798
			Zinc		355
1937	4		Silver	25,193	
			Lead		403
			Zinc		280
1935	5		Silver	32,845	
			Lead		699
			Zinc		442
1925	7		Silver	39,003	
			Lead		988
1924	5		Silver	45,379	
			Lead		877
1923	4		Silver	22,767	
			Lead		303
1922	6		Silver	46,841	
			Lead		1,004
1921	10		Silver	73,061	
			Lead		2,057
1920	5		Silver	32,440	
			Lead		579
1918	18		Silver	107,554	
			Lead		1,909
1906	2		Silver	19,626	

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MINFILE NUMBER: 082FNW157	NAME: LITTLE TIM	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1906	2		Lead		203
1905	3		Silver Lead	27,993	433

SUMMARY TOTALS: 082FNW157

NAME: **LITTLE TIM**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5,116 tonnes	5,639 tons
Milled:	1,313 tonnes	1,447 tons
Recovery:		
Silver:	1,366,013 grams	43,918 ounces
Gold:	11 grams	ounces
Copper:	171 kilograms	377 pounds
Lead:	26,339 kilograms	58,068 pounds
Zinc:	8,536 kilograms	18,819 pounds

Comments:

1984: Pb conc. 20 T, crude ore 78 T.
1906: Graphic and Rosebud (MM01301).
1905: Graphic and Rosebud (MM01301).

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MINFILE NUMBER: 082FNW158	NAME: MOLLY	STATUS: Past Producer
Production Year	Tonnes Mined	Tonnes Milled
1935	8	
		Commodity
		Silver
		Lead
		Zinc
		Grams Recovered
		13,996
		Kilograms Recovered
		160
		142

SUMMARY TOTALS: 082FNW158

	NAME: MOLLY	
	<u>Metric</u>	<u>Imperial</u>
Mined:	8 tonnes	9 tons
Milled:	tonnes	tons
Recovery:		
Silver:	13,996 grams	450 ounces
Lead:	160 kilograms	353 pounds
Zinc:	142 kilograms	313 pounds
Comments:		
1935:	Ore from dump.	

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MINFILE NUMBER: 082FNW159		NAME: MYRTLE		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1966	46		Silver	25,753		
			Lead			512
			Zinc			865
1935	2		Silver	5,972		
			Lead			27
			Zinc			42
1907	12		Silver	43,700		

SUMMARY TOTALS: 082FNW159

NAME: **MYRTLE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	60 tonnes	66 tons
Milled:	tonnes	tons
Recovery:		
	Silver: 75,425 grams	2,425 ounces
	Lead: 539 kilograms	1,188 pounds
	Zinc: 907 kilograms	2,000 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **082FNW161** NAME: **COLORADO (L.5308)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1969	21		Silver	6,594	
			Lead		61
			Zinc		82
1967	21		Silver	8,678	
			Lead		105
			Zinc		293
1915	4		Silver	23,172	
1905	14		Silver	82,516	
1904	7		Silver	25,660	

SUMMARY TOTALS: 082FNW161

NAME: **COLORADO (L.5308)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	67 tonnes	74 tons
Milled:	tonnes	tons
Recovery:	Silver: 146,620 grams	4,714 ounces
	Lead: 166 kilograms	366 pounds
	Zinc: 375 kilograms	827 pounds

Comments: 1969: Hyperion Silver Mines Limited.
 1967: Western Standard Silver Mines Limited.

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MINFILE NUMBER: 082FNW163		NAME: HAPPY MEDIUM (L.5558)		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>
1906	7		Silver	31,290	
			Gold	62	
			Lead		481
1905	5		Silver	35,768	
			Gold	62	
			Lead		530

SUMMARY TOTALS: 082FNW163

NAME: **HAPPY MEDIUM (L.5558)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	12 tonnes	13 tons
Milled:	tonnes	tons
Recovery:		
Silver:	67,058 grams	2,156 ounces
Gold:	124 grams	4 ounces
Lead:	1,011 kilograms	2,229 pounds

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MINFILE NUMBER: **082FNW164** NAME: **SENATOR** 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	4		Silver	4,106	
			Gold	31	
1939	9		Silver	13,841	
			Gold	156	
1907	7		Silver	16,858	
			Gold	156	
1906	13		Silver	26,562	
			Gold	280	

SUMMARY TOTALS: 082FNW164

NAME: **SENATOR**

	<u>Metric</u>	<u>Imperial</u>
Mined:	33 tonnes	36 tons
Milled:	tonnes	tons
Recovery:	Silver: 61,367 grams	1,973 ounces
	Gold: 623 grams	20 ounces

Comments:

1940: Senator operated by E. Bergstrom (MM01218).
 1939: Senator operated by R. Jankowski (MM01218).
 1907: Midnight operated by J.T. Tipping (MM01301).
 1906: Midnight (MM01301).

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MINFILE NUMBER: 082FNW165		NAME: WHITE HOPE (L.15284)		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>
1964	16		Silver Lead Zinc	5,070	33 16
1951	21		Silver Gold Lead Zinc	6,345 31	3,072 3,625
1950	24		Silver Gold Lead Zinc	6,438 31	4,501 4,188
1947	5		Silver Lead Zinc	1,555	672 949
1935	15		Silver Gold Lead Zinc	6,283 93	3,146 2,274
1902	6		Silver Gold	9,331 311	
1897	6		Silver Gold	9,797 311	

SUMMARY TOTALS: 082FNW165

NAME: **WHITE HOPE (L.15284)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	93 tonnes	103 tons
Milled:	tonnes	tons
Recovery:	Silver: 44,819 grams	1,441 ounces
	Gold: 777 grams	25 ounces
	Lead: 11,424 kilograms	25,186 pounds
	Zinc: 11,052 kilograms	24,365 pounds
Comments:	1902: Paystreak.	
	1897: Paystreak.	

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MINFILE NUMBER: 082FNW166		NAME: KALISPELL (L.1011)		STATUS: Past Producer	
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1975	36		Silver	3,763	
			Lead		323
			Zinc		143
1897	5		Silver	31,103	
1896	10		Silver	88,581	
SUMMARY TOTALS: 082FNW166		NAME: KALISPELL (L.1011)			
		<u>Metric</u>	<u>Imperial</u>		
	Mined:	51 tonnes	56 tons		
	Milled:	tonnes	tons		
Recovery:	Silver:	123,447 grams	3,969 ounces		
	Lead:	323 kilograms	712 pounds		
	Zinc:	143 kilograms	315 pounds		
Comments:	1975:	Dump clean-up.			

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MINFILE NUMBER: 082FNW168		NAME: REPUBLIC NO. 2 (L.5498)		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	6	6	Silver	3,623		
			Gold	37		
1983	44	44	Silver	6,376		
			Gold	75		
			Lead		86	
			Zinc		46	
1971	30		Silver	4,634		
			Gold	31		
			Lead		60	
			Zinc		60	
1952	4		Silver	933		
			Lead		122	
			Zinc		78	
1940	3		Silver	6,687		
			Gold	93		
1939	5		Silver	8,740		
			Gold	156		
1935	59		Silver	27,713		
			Gold	156		
1920	17		Silver	22,954		
			Gold	1,058		
1919	25		Silver	13,996		
			Gold	62		
1918	12		Silver	8,087		
			Gold	187		
1904	20		Silver	34,213		
			Gold	622		
1903	57		Silver	234,423		
			Gold	902		
1902	18		Silver	55,892		
			Gold	93		

SUMMARY TOTALS: 082FNW168

NAME: **REPUBLIC NO. 2 (L.5498)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	300 tonnes	331 tons
Milled:	50 tonnes	55 tons
Recovery:		
Silver:	428,271 grams	13,769 ounces
Gold:	3,472 grams	112 ounces
Lead:	268 kilograms	591 pounds
Zinc:	184 kilograms	406 pounds

Comments: 1984: Crude ore
 1983: Crude ore.
 1902: Operated by Slocan Republic Mining & Development Co. Ltd.

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MINFILE NUMBER:	082FNW169	NAME:	CLUB	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1904	5	5	Silver Gold	8,367 62	

SUMMARY TOTALS: 082FNW169

NAME: **CLUB**

		<u>Metric</u>		<u>Imperial</u>
	Mined:	5 tonnes		6 tons
	Milled:	5 tonnes		6 tons
Recovery:	Silver:	8,367 grams		269 ounces
	Gold:	62 grams		2 ounces

Comments: 1904: Operated by W.F. McNaught & Associates.

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MINFILE NUMBER:	082FNW170	NAME:	RUBY AND MABLE	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1904	8	8	Silver	3,546	
			Gold	31	
1903	2	2	Silver	3,110	

SUMMARY TOTALS: 082FNW170

NAME: **RUBY AND MABLE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	10 tonnes	11 tons
Milled:	10 tonnes	11 tons
Recovery:		
Silver:	6,656 grams	214 ounces
Gold:	31 grams	1 ounces
Comments:		
1904:	Operated by C. Nichol.	
1903:	Operated by F. Stock.	

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MINFILE NUMBER:	082FNW171	NAME:	PORT HOPE (L.5493)	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1937	3		Silver	6,283	
			Gold	31	
1935	1		Silver	1,866	
1904	10		Silver	46,530	
			Gold	249	

SUMMARY TOTALS: 082FNW171

NAME: **PORT HOPE (L.5493)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	14 tonnes	15 tons
Milled:	tonnes	tons
Recovery:	Silver: 54,679 grams	1,758 ounces
	Gold: 280 grams	9 ounces

Comments:

1937: Operated by H. Fife.
1935: Operated by H. Fife.
1904: Operated by T.J. Baly, H. Fife and M. McCallum.

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MINFILE NUMBER: 082FNW172		NAME: LAKEVIEW (L.1802)		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	3	3	Silver	50,294		
			Lead		2,706	
			Zinc		290	
1979	426	426	Silver	51,570		
			Gold	11		
			Cadmium		24	
			Lead		1,593	
			Zinc		3,612	
1939	3		Silver	498		
			Lead		4	
1938	89		Silver	19,408		
			Gold	1,058		
			Lead		618	
			Zinc		47	
1937	3,629	65	Silver	11,073		
			Gold	435		
			Lead		254	
			Zinc		190	

SUMMARY TOTALS: 082FNW172

NAME: **LAKEVIEW (L.1802)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4,150 tonnes	4,575 tons
Milled:	494 tonnes	545 tons
Recovery:		
Silver:	132,843 grams	4,271 ounces
Gold:	1,504 grams	48 ounces
Cadmium:	24 kilograms	53 pounds
Lead:	5,175 kilograms	11,409 pounds
Zinc:	4,139 kilograms	9,125 pounds

Comments: 1979: Operated by Selmon Resources Ltd.
 1937: Operated by Lakeview Mining Syndicate.

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MINFILE NUMBER:	082FNW173	NAME:	DAYTON (L.2419)	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1935	4		Silver	3,421	
			Gold	31	
1928	2		Silver	8,305	
			Gold	62	
1903	11		Silver	498	
			Lead		1,006

SUMMARY TOTALS: 082FNW173

NAME: **DAYTON (L.2419)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	17 tonnes	19 tons
Milled:	tonnes	tons
Recovery:		
Silver:	12,224 grams	393 ounces
Gold:	93 grams	3 ounces
Lead:	1,006 kilograms	2,218 pounds

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MINFILE NUMBER: **082FNW174** NAME: **EXCHANGE (L.1523)** 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	12		Silver	25,784	
			Gold	156	
1896	5		Silver	23,327	
			Gold	156	

SUMMARY TOTALS: 082FNW174

NAME: **EXCHANGE (L.1523)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	17 tonnes	19 tons
Milled:		
Recovery: Silver:	49,111 grams	1,579 ounces
Gold:	312 grams	10 ounces

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MINFILE NUMBER: 082FNW175	NAME: <u>EVENING STAR NO. 8 (L.5226)</u>	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1941	20		Silver	7,371	
			Gold	31	
1918	17		Silver	209,541	
			Gold	715	
1896	5		Silver	62,206	
			Gold	218	

SUMMARY TOTALS: 082FNW175

NAME: **EVENING STAR NO. 8 (L.5226)**

		<u>Metric</u>		<u>Imperial</u>	
	Mined:	42 tonnes		46 tons	
	Milled:	tonnes		tons	
Recovery:	Silver:	279,118 grams		8,974 ounces	
	Gold:	964 grams		31 ounces	

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MINFILE NUMBER: 082FNW177		NAME: MOUNTAIN CHIEF (L.498)		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	47		Silver	92,780	
			Lead		4,007
			Zinc		17,225
1937	43		Silver	113,153	
			Lead		5,620
			Zinc		12,423
1935	58		Silver	180,242	
			Gold	93	
			Lead		7,350
			Zinc		18,065
1934	44		Silver	148,081	
			Gold	62	
			Lead		7,051
			Zinc		13,610
1929	120		Silver	312,647	
			Lead		26,824
			Zinc		23,980
1928	230		Silver	154,146	
			Lead		3,420
			Zinc		34,384
1927	202		Silver	365,989	
			Lead		23,736
			Zinc		38,120
1926	190		Silver	253,707	
			Lead		19,555
			Zinc		2,853
1925	84		Silver	66,529	
			Lead		5,783
			Zinc		6,593
1924	49		Silver	98,628	
			Gold	156	
			Lead		8,633
			Zinc		8,151
1923	25		Silver	60,402	
			Lead		4,837
			Zinc		7,648
1922	29		Silver	99,499	
			Lead		6,993
1895	272		Silver	740,251	
			Lead		95,254
1894	690		Silver	4,155,361	
			Lead		513,464
1893	907		Silver	4,043,390	
			Lead		635,026

SUMMARY TOTALS: 082FNW177

NAME: **MOUNTAIN CHIEF (L.498)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,990 tonnes	3,296 tons
Milled:	tonnes	tons
Recovery:		
Silver:	10,884,805 grams	349,954 ounces
Gold:	311 grams	10 ounces
Lead:	1,367,553 kilograms	3,014,937 pounds
Zinc:	183,052 kilograms	403,560 pounds

Comments:

1895: Mountain Chief and Mountain Chief No. 2.
 1894: Mountain Chief and Mountain Chief No. 2.

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MINFILE NUMBER: 082FNW178		NAME: MARION (L.2287)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1909	5		Silver	24,105		
			Lead		3,118	
1905	25		Silver	100,587		
			Lead		12,277	
1899	17		Silver	62,206		
			Lead		9,072	

SUMMARY TOTALS: 082FNW178

NAME: **MARION (L.2287)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	47 tonnes	52 tons
Milled:	tonnes	tons
Recovery: Silver:	186,898 grams	6,009 ounces
Lead:	24,467 kilograms	53,940 pounds

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MINFILE NUMBER: 082FNW179		NAME: CLIFF (L.2606)		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>
1936	5		Silver	8,678	
			Lead		627
			Zinc		958
1935	14		Silver	15,831	
			Lead		1,040
			Zinc		2,506
1932	2		Silver	7,589	
			Lead		611
			Zinc		78

SUMMARY TOTALS: 082FNW179

NAME: **CLIFF (L.2606)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	21 tonnes	23 tons
Milled:	tonnes	tons
Recovery:		
Silver:	32,098 grams	1,032 ounces
Lead:	2,278 kilograms	5,022 pounds
Zinc:	3,542 kilograms	7,809 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	<u>082FNW180</u>	NAME:	<u>STANDARD (L.564)</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>
1969	6,046	6,046	Silver	2,106,575	
			Gold	560	
			Cadmium		1,689
			Lead		133,207
			Zinc		200,319
1968	5,897	4,450	Silver	785,537	
			Lead		51,239
			Zinc		99,188
1958	12,089	12,089	Silver	6,366,007	
			Gold	1,275	
			Cadmium		5,089
			Lead		645,642
			Zinc		667,535
1957	12,082	12,082	Silver	5,565,322	
			Gold	1,680	
			Cadmium		5,593
			Lead		598,187
			Zinc		769,590
1956	3,193	3,193	Silver	1,500,035	
			Gold	467	
			Cadmium		2,335
			Lead		192,238
			Zinc		318,607
1955	635	491	Silver	199,246	
			Gold	93	
			Cadmium		1,136
			Lead		17,318
			Zinc		149,871
1954	172	172	Silver	97,446	
			Cadmium		180
			Lead		13,485
			Zinc		31,808
1953	53	53	Silver	203,787	
			Gold	31	
			Lead		21,428
			Zinc		7,396
1952	21,772	21,772	Silver	3,439,214	
			Gold	1,524	
			Cadmium		11,177
			Lead		477,302
			Zinc		1,458,831
1951	22,842	16,202	Silver	2,965,453	
			Gold	809	
			Cadmium		5,509
			Lead		313,189
			Zinc		1,437,702
1950	11,088	11,088	Silver	3,812,232	
			Gold	840	
			Cadmium		3,626
			Lead		348,116
			Zinc		805,234
1949	10,612		Silver	3,975,959	
			Gold	1,306	
			Cadmium		6,849
			Lead		360,192
			Zinc		925,292
1948	18,883		Silver	4,721,529	
			Gold	715	
			Cadmium		5,294
			Lead		428,160
			Zinc		1,222,064
1947	6,463		Silver	2,094,943	
			Gold	342	
			Cadmium		5,183
			Lead		206,590
			Zinc		713,307
1946	2,234		Silver	1,159,022	
			Gold	218	
			Cadmium		1,713
			Lead		132,042
			Zinc		519,202
1945	15,663		Silver	4,798,602	

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MINFILE NUMBER: 082FNW180		NAME: STANDARD (L.564)		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	15,663		Gold	622	
			Lead		408,783
			Zinc		1,109,844
1944	35,152		Silver	12,769,648	
			Gold	2,582	
			Cadmium		6,506
			Lead		1,137,752
			Zinc		2,679,540
1943	43,571		Silver	12,942,238	
			Gold	4,261	
			Lead		1,035,733
			Zinc		3,255,802
1942	65,804		Silver	4,005,600	
			Gold	933	
			Lead		119,315
			Zinc		3,692,576
1941	68,219		Silver	5,401,845	
			Gold	1,089	
			Lead		199,694
			Zinc		4,700,595
1940	15,005		Silver	949,232	
			Gold	156	
			Lead		41,270
			Zinc		858,149
1938	5		Silver	5,350	
			Lead		822
			Zinc		718
1937	15		Silver	14,960	
			Lead		1,463
			Zinc		3,346
1936	44		Silver	52,408	
			Gold	31	
			Lead		7,022
			Zinc		9,335
1935	162		Silver	199,184	
			Gold	31	
			Lead		25,520
			Zinc		26,355
1934	13		Silver	31,849	
			Lead		4,273
			Zinc		2,067
1933	63		Silver	194,580	
			Gold	31	
			Lead		22,087
			Zinc		7,393
1932	9		Silver	12,441	
			Lead		2,037
			Zinc		1,466
1931	16		Silver	31,974	
			Gold	31	
			Lead		3,048
			Zinc		2,285
1930	149		Silver	229,696	
			Lead		17,075
			Zinc		26,565
1929	404		Silver	363,252	
			Gold	187	
			Lead		30,131
			Zinc		59,493
1928	331		Silver	336,534	
			Lead		51,050
			Zinc		28,935
1927	898		Silver	844,478	
			Gold	466	
			Lead		93,432
			Zinc		207,345
1926	146		Silver	128,953	
			Lead		13,761
			Zinc		43,420
1924	3,669		Silver	573,975	
			Lead		62,573

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW180		NAME: STANDARD (L.564)		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	3,669		Zinc		346,634
1923	6,532		Silver Lead Zinc	2,099,639	143,849 672,464
1922	3,578		Silver Lead Zinc	2,816,688	108,891 910,237
1921	249		Silver Lead	1,063,567	107,729
1920	11,282		Silver Lead Zinc	4,769,147	419,008 831,935
1919	16,316		Silver Lead Zinc	3,950,392	307,342 1,965,030
1918	31,433		Silver Lead Zinc	5,382,934	466,871 3,223,190
1917	58,967		Silver Lead Zinc	15,625,059	1,286,077 4,853,386
1916	62,615		Silver Lead Zinc	21,089,451	2,860,338 4,241,067
1915	34,671		Silver Lead Zinc	26,395,343	4,119,026 1,718,588
1914	44,923		Silver Lead Zinc	32,866,011	4,738,053 2,228,611
1913	50,591		Silver Lead Zinc	36,893,757	8,162,380 1,733,158
1912	33,929		Silver Lead Zinc	23,208,965	5,348,873 585,719
1911	1,152		Silver Lead	3,058,482	767,149
1910	1,387		Silver Lead	3,797,987	892,014
1909	450		Silver Lead	1,088,854	266,573
1908	1,089		Silver Lead	3,099,787	690,383
1907	608		Silver Lead	1,636,578	366,769
1906	899		Silver Lead Zinc	773,594	144,084 10,207
1905	48		Silver Lead	160,523	22,380
1902	45		Silver Lead	85,969	22,378
1901	9		Silver Lead	15,520	4,346
1900	12		Silver Lead	25,287	5,973
1899	55		Silver Lead	107,056	27,402
1895	1,270		Silver Lead	2,354,420	762,031
1894	726		Silver Lead	2,985,888	435,446

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MINFILE NUMBER: **082FNW180**

NAME: **STANDARD (L.564)**

STATUS: Past Producer

SUMMARY TOTALS: 082FNW180

NAME: **STANDARD (L.564)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	746,235 tonnes	822,583 tons
Milled:	87,638 tonnes	96,604 tons
Recovery:		
Silver:	278,230,004 grams	8,945,289 ounces
Gold:	20,280 grams	652 ounces
Cadmium:	61,879 kilograms	136,420 pounds
Lead:	39,690,541 kilograms	87,502,640 pounds
Zinc:	49,361,401 kilograms	108,823,231 pounds

Comments:

1943: Ore mined includes tailings from lake and purchased ore.
1941: Ore mined includes 59,965 T. of tailings and 8253 T. of ore.
1938: Production from Alpha.
1926: Includes production from Alpha.
1907: Standard and Emily Edith combined (MM01180, MM01417).
1906: Standard and Emily Edith combined (MM01180, MM01417).
1902: Emily Edith; MM01180.
1901: Emily Edith; MM01180.
1900: Emily Edith; MM01180.
1899: Emily Edith; MM01180.
1894: Production from Alpha.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	<u>082FNW181</u>	NAME:	<u>AMERICAN BOY (L.571)</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>
1927	103		Silver	88,955	
			Gold	62	
			Lead		19,787
			Zinc		15,203
1923	29		Silver	55,954	
			Lead		13,085
			Zinc		4,413
1908	36		Silver	66,374	
			Lead		10,382
1907	15		Silver	46,188	
			Lead		5,900
1906	50		Silver	196,135	
			Lead		21,646
1905	330		Silver	439,547	
			Lead		75,155
			Zinc		65,625
1904	35		Silver	83,014	
			Lead		11,307
1903	565		Silver	1,547,250	
			Lead		275,427
1902	910		Silver	2,119,918	
			Lead		398,588
1901	1,388		Silver	3,218,476	
			Lead		409,017
1900	355		Silver	892,221	
			Lead		172,971
1899	36		Silver	111,971	
			Lead		23,587
1896	91		Silver	311,030	
			Lead		45,359

SUMMARY TOTALS: 082FNW181

NAME: **AMERICAN BOY (L.571)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3,943 tonnes	4,346 tons
Milled:		
Recovery:		
Silver:	9,177,033 grams	295,048 ounces
Gold:	62 grams	2 ounces
Lead:	1,482,211 kilograms	3,267,715 pounds
Zinc:	85,241 kilograms	187,924 pounds

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 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNW182		NAME: BUFFALO (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>
1928	17		Silver	118,938	
			Lead		3,469
			Zinc		7,814
1925	21		Silver	30,481	
			Zinc		5,425
1915	13		Silver	62,548	
			Lead		4,374
1907	24		Silver	114,863	
			Lead		7,601
1906	21		Silver	115,174	
			Lead		8,318
1905	7		Silver	38,568	
			Lead		2,032

SUMMARY TOTALS: 082FNW182

NAME: **BUFFALO (L.674)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	103 tonnes	114 tons
Milled:	tonnes	tons
Recovery:		
Silver:	480,572 grams	15,451 ounces
Lead:	25,794 kilograms	56,866 pounds
Zinc:	13,239 kilograms	29,187 pounds

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MINFILE NUMBER:	082FNW183	NAME:	JENNIE LIND (L.1806)	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1906	34		Silver Lead	114,646	15,168
1895	27		Silver Lead	186,618	16,329

SUMMARY TOTALS: 082FNW183

NAME: **JENNIE LIND (L.1806)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	61 tonnes	67 tons
Milled:	tonnes	tons
Recovery:	Silver: 301,264 grams	9,686 ounces
	Lead: 31,497 kilograms	69,439 pounds

Comments:

1906: Production from Read and Tender Foot property.
1895: Carnation (082FNW048) and Jennie Lind.

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MINFILE NUMBER: 082FNW184		NAME: JOAN		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1947	4		Silver	3,826		
			Gold	31		
			Lead			5
1902	5		Silver	16,174		
			Gold	218		

SUMMARY TOTALS: 082FNW184

NAME: **JOAN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	9 tonnes	10 tons
Milled:	tonnes	tons
Recovery: Silver:	20,000 grams	643 ounces
Gold:	249 grams	8 ounces
Lead:	5 kilograms	11 pounds

Comments:

1947: Joan operated by H. & W. Parker.
 1902: Duplex operated by J. Cross.

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MINFILE NUMBER: 082FNW185	NAME: GOLD CURE (L.5294)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1909	18		Silver Lead	62,206	9,072

SUMMARY TOTALS: 082FNW185

NAME: **GOLD CURE (L.5294)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	18 tonnes	20 tons
Milled:		
Recovery:		
Silver:	62,206 grams	2,000 ounces
Lead:	9,072 kilograms	20,000 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	<u>082FNW186</u>	NAME:	<u>SILVER BELL (L.6815)</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>
1983	12		Silver Lead Zinc	25,723	6,274 943
1969	181		Silver Cadmium Lead Zinc	71,039	66 13,504 11,019
1963	3		Silver Lead Zinc	6,936	1,312 88
1925	24		Silver Lead	36,048	790
1921	41		Silver Lead	190,724	6,181
1920	200		Silver Lead	919,249	32,227
1919	84		Silver Lead	595,996	24,155
1909	4		Silver Lead	12,441	581
1899	54		Silver Lead	340,578	8,165
1898	53		Silver Lead	374,853	18,466

SUMMARY TOTALS: 082FNW186

NAME: **SILVER BELL (L.6815)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	656 tonnes	723 tons
Milled:		
Recovery:		
Silver:	2,573,587 grams	82,743 ounces
Cadmium:	66 kilograms	146 pounds
Lead:	111,655 kilograms	246,157 pounds
Zinc:	12,050 kilograms	26,566 pounds

Comments:

1983: Crude ore.
 1963: Crude ore.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **082FNW187** NAME: **OLSEN (L.10054)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1939	8		Silver	27,868	
			Gold	31	
			Lead		906
			Zinc		1,060

SUMMARY TOTALS: 082FNW187

NAME: **OLSEN (L.10054)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	8 tonnes	9 tons
Milled:	tonnes	tons
Silver:	27,868 grams	896 ounces
Gold:	31 grams	1 ounces
Lead:	906 kilograms	1,997 pounds
Zinc:	1,060 kilograms	2,337 pounds

Recovery:
 Comments: 1939: Operated by E.M. Conger et. al.

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MINFILE NUMBER:	082FNW188	NAME:	BUSTER	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1935	2		Silver	2,364	
			Gold	31	
			Lead		150
			Zinc		173

SUMMARY TOTALS: 082FNW188

NAME: **BUSTER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2 tonnes	2 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,364 grams	76 ounces
Gold:	31 grams	1 ounces
Lead:	150 kilograms	331 pounds
Zinc:	173 kilograms	381 pounds

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MINFILE NUMBER: 082FNW189	NAME: SKYLARK & RANGER	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1934	3		Silver Gold	10,326 124	

SUMMARY TOTALS: 082FNW189

NAME: **SKYLARK & RANGER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3 tonnes	3 tons
Milled:		tons
Recovery:		
Silver:	10,326 grams	332 ounces
Gold:	124 grams	4 ounces
Comments:		
1934:	Operated by W.E. Graham.	

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MINFILE NUMBER: 082FNW190		NAME: SAPPHIRE		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>	
1904	3		Silver	1,804		
			Gold	31		
1903	34		Silver	50,480		
			Gold	995		

SUMMARY TOTALS: 082FNW190

NAME: **SAPPHIRE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	37 tonnes	41 tons
Milled:		tons
Silver:	52,284 grams	1,681 ounces
Gold:	1,026 grams	33 ounces

Recovery:

Comments:

1904: Operated by lessees, W.A. Harvey and F. Newman.
 1903: Operated by Sapphire Gold Mines. Ltd.

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MINFILE NUMBER: 082FNW191		NAME: V. & M. (L.4260)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1955	3		Silver	12,379	
			Gold	93	
			Lead		23
			Zinc		8
1938	9		Silver	15,925	
			Gold	124	
1901	11		Silver	21,554	
			Gold	124	

SUMMARY TOTALS: 082FNW191

NAME: **V. & M. (L.4260)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	23 tonnes	25 tons
Milled:	tonnes	tons
Recovery:		
Silver:	49,858 grams	1,603 ounces
Gold:	341 grams	11 ounces
Lead:	23 kilograms	51 pounds
Zinc:	8 kilograms	18 pounds

Comments:

1955: V. & M. (MM01218). Annual Report 1955, p. 65.
 1938: Get There Eli operated by G. Larson et. al. (MM01203).
 1901: V. & M. operated by V. & M. Mining Company (MM01218).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNW193		NAME: GOLD VIKING (L.4850)		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>
1936	3		Silver	1,306	
			Gold	156	
1935	6		Silver	1,120	
			Gold	62	
1933	5		Silver	1,897	
			Gold	124	
1932	1		Silver	467	
			Gold	31	
			Lead		14

SUMMARY TOTALS: 082FNW193

NAME: **GOLD VIKING (L.4850)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	15 tonnes	17 tons
Milled:	tonnes	tons
Recovery:	Silver: 4,790 grams	154 ounces
	Gold: 373 grams	12 ounces
	Lead: 14 kilograms	31 pounds

Comments: 1932: Operated by R.G. Henderson.

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MINFILE NUMBER: 082FNW194	NAME: CHICAGO NO. 2 (L.2142)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1938	3		Silver Lead Zinc	6,967	1,947 94

SUMMARY TOTALS: 082FNW194

NAME: **CHICAGO NO. 2 (L.2142)**
Metric Imperial

Mined:	3 tonnes	3 tons
Milled:	tonnes	tons
Recovery:		
Silver:	6,967 grams	224 ounces
Lead:	1,947 kilograms	4,292 pounds
Zinc:	94 kilograms	207 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **082FNW195** NAME: **CUBA (L.4168)** 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	5		Silver Lead Zinc	12,721	3,919 100
1938	19		Silver Lead Zinc	36,950	10,205 1,359

SUMMARY TOTALS: 082FNW195

NAME: **CUBA (L.4168)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	24 tonnes	26 tons
Milled:	tonnes	tons
Recovery:	Silver: 49,671 grams	1,597 ounces
	Lead: 14,124 kilograms	31,138 pounds
	Zinc: 1,459 kilograms	3,217 pounds

Comments: 1938: MM01425, confirmed by Minister of Mines Annual Report 1938.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW196		NAME: SLOCAN KING (L.547)		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>
1930	10		Silver	60,993	
			Lead		5,903
			Zinc		418
1927	8		Silver	26,375	
			Lead		4,602
			Zinc		884

SUMMARY TOTALS: 082FNW196

NAME: **SLOCAN KING (L.547)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	18 tonnes	20 tons
Milled:	tonnes	tons
Recovery:	Silver: 87,368 grams	2,809 ounces
	Lead: 10,505 kilograms	23,160 pounds
	Zinc: 1,302 kilograms	2,870 pounds

Comments: 1927: Production from Hidden Treasure claim (Lot 1715).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW197		NAME: CANADIAN		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	5		Silver	17,698	
			Lead		2,738
			Zinc		246
1938	7		Silver	27,122	
			Lead		4,210
			Zinc		305
1937	3		Silver	6,967	
			Lead		645
			Zinc		357
1935	20		Silver	70,666	
			Lead		9,076
			Zinc		3,188
1934	9		Silver	27,277	
			Lead		5,076
			Zinc		549
1930	36		Silver	120,462	
			Lead		21,690
			Zinc		1,627
1929	38		Silver	133,556	
			Lead		23,582
			Zinc		1,212
1928	108		Silver	342,102	
			Gold	31	
			Lead		48,765
			Zinc		3,413
1927	110		Silver	403,935	
			Lead		73,122
			Zinc		2,901
1926	106		Silver	232,619	
			Lead		33,594
1925	27		Silver	108,860	
			Lead		18,144
1924	26		Silver	111,287	
			Lead		18,092
1923	50		Silver	199,059	
			Lead		31,552
1921	9		Silver	18,848	
			Lead		677
			Zinc		3,419
1920	95		Silver	31,041	
			Lead		4,230
1918	10		Silver	20,528	
			Lead		3,992
1908	39		Silver	112,842	
			Lead		13,207
1907	83		Silver	251,592	
			Lead		29,544
1906	64		Silver	175,732	
			Lead		26,726
1905	10		Silver	27,775	
			Lead		5,639

SUMMARY TOTALS: 082FNW197

NAME: **CANADIAN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	855 tonnes	942 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,439,968 grams	78,447 ounces
Gold:	31 grams	1 ounces
Lead:	374,301 kilograms	825,192 pounds
Zinc:	17,217 kilograms	37,957 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW199		NAME: NEW SPRINGFIELD (L.5363)		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	15		Silver	4,075	
			Lead		362
			Zinc		4,878
1957			Silver	1,773	
			Lead		314
			Zinc		76
1952	6		Silver	6,967	
			Lead		1,488
			Zinc		1,106
1944	88		Silver	24,136	
			Lead		2,585
			Zinc		21,250
1937	1		Silver	467	
			Lead		142
			Zinc		175
1903	12		Silver	17,200	
			Lead		4,250
			Zinc		2,048
1901	5		Silver	13,405	
			Lead		3,616
1899	14		Silver	33,156	
			Lead		7,913
1898	36		Silver	161,736	
			Lead		21,772
1897	9		Silver	40,434	
			Lead		6,350

SUMMARY TOTALS: 082FNW199

NAME: **NEW SPRINGFIELD (L.5363)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	186 tonnes	205 tons
Milled:	tonnes	tons
Recovery:	Silver: 303,349 grams	9,753 ounces
	Lead: 48,792 kilograms	107,568 pounds
	Zinc: 29,533 kilograms	65,109 pounds

Comments:

1984: Crude ore (clean-up).
 1957: Only 690 kilograms were recovered and milled in 1957.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>082FNW200</u>	NAME:	<u>SHADY FR.</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>
1963	15		Silver Lead Zinc	39,905	10,296 465
1955	1		Silver Lead Zinc	3,763	944 40
1950	1		Silver Lead Zinc	3,546	881 41
1939	2		Silver Lead Zinc	4,323	1,189 74
1923	13		Silver Lead	42,767	10,138
1922	11		Silver Lead	30,357	7,370
1921	9		Silver Lead	25,940	6,369
1919	5		Silver Lead	11,290	2,872
1918	6		Silver Lead	12,814	5,180
1917	10		Silver Lead	25,007	6,548

SUMMARY TOTALS: 082FNW200

NAME: **SHADY FR.**

	<u>Metric</u>	<u>Imperial</u>
Mined:	73 tonnes	80 tons
Milled:	tonnes	tons
Recovery:	Silver: 199,712 grams	6,421 ounces
	Lead: 51,787 kilograms	114,171 pounds
	Zinc: 620 kilograms	1,367 pounds

Comments: 1963: Shady Fr. (MM00742).
 1955: Shady Fr. (MM00742).
 1950: Shady Fr. (MM00742).
 1939: Maple Leaf Fraction (MM01291).
 1917: Gem 1917-1923 (MM01202).

RUN DATE: 25-Jun-2003
 RUN TIME: 16:37:09

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 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FNW201		NAME: VULTURE (L.4482)		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>
1953	2		Silver Lead Zinc	3,472	823 209
1905	21		Silver Lead	53,901	12,187
1899	508		Silver Lead	1,567,591	355,615

SUMMARY TOTALS: 082FNW201

NAME: **VULTURE (L.4482)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	531 tonnes	585 tons
Milled:	531 tonnes	585 tons
Recovery:		
Silver:	1,624,964 grams	52,244 ounces
Lead:	368,625 kilograms	812,679 pounds
Zinc:	209 kilograms	461 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>082FNW202</u>	NAME:	<u>R.E. LEE</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>
1981	22		Silver	5,412	
			Lead		605
1956	8		Silver	32,192	
			Lead		5,325
			Zinc		204
1953	5		Silver	18,164	
			Lead		3,133
			Zinc		321
1951	2		Silver	11,415	
			Lead		1,513
			Zinc		204
1906	15		Silver	58,132	
			Lead		7,185
1905	30		Silver	119,093	
			Lead		19,525
1902	93		Silver	377,746	
			Lead		63,020
1900	19		Silver	74,616	
			Lead		12,875
1896	54		Silver	242,603	
			Lead		40,823
1895	32		Silver	141,519	
			Lead		22,226

SUMMARY TOTALS: 082FNW202

NAME: **R.E. LEE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	280 tonnes	309 tons
Milled:	tonnes	tons
Recovery:	Silver: 1,080,892 grams	34,751 ounces
	Lead: 176,230 kilograms	388,521 pounds
	Zinc: 729 kilograms	1,607 pounds

Comments:

1981: Clean-up.
 1956: Discovery Fraction (MM01165); operated by E.A. and H.A. Peterson.
 1953: Discovery Fraction (MM01165).
 1951: Discovery Fraction (MM01165); operated by E.A. Peterson.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW203		NAME: NUMBER ONE (L.4560)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1946	20		Silver	14,401	
			Lead		357
			Zinc		614
1938	5		Silver	12,814	
			Lead		2,855
			Zinc		228
1937	82		Silver	177,474	
			Gold	31	
			Lead		38,609
			Zinc		9,931
1936	79		Silver	207,955	
			Gold	62	
			Lead		46,698
			Zinc		5,302
1925	17		Silver	40,434	
			Lead		9,085
1922	24		Silver	53,062	
			Lead		12,279
1919	131		Silver	304,841	
			Lead		71,420
1918	101		Silver	232,930	
			Lead		53,769
1917	45		Silver	98,410	
			Lead		23,853
1916	49		Silver	103,511	
			Lead		25,387

SUMMARY TOTALS: 082FNW203

NAME: **NUMBER ONE (L.4560)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	553 tonnes	610 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,245,832 grams	40,054 ounces
Gold:	93 grams	3 ounces
Lead:	284,312 kilograms	626,800 pounds
Zinc:	16,075 kilograms	35,439 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW204		NAME: VICTOR (L.4565)		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>
1985	17		Silver	94,523	
			Gold	138	
			Lead		4,309
			Zinc		4,173
1984	13		Silver	72,689	
			Gold	121	
			Lead		2,906
			Zinc		3,658
1982	38		Silver	169,238	
			Gold	90	
			Lead		20,137
			Zinc		4,273
1981	31		Silver	115,057	
			Gold	127	
			Lead		11,539
			Zinc		5,862
1979	10		Silver	43,370	
			Gold	175	
			Lead		6,016
			Zinc		137
1977	15		Silver	57,136	
			Gold	311	
			Copper		34
			Lead		92
			Zinc		298
1976	16		Silver	63,699	
			Gold	171	
			Lead		10,691
			Zinc		358
1975	29		Silver	34,555	
			Lead		2,540
			Zinc		2,680
1974	14		Silver	55,301	
			Gold	124	
			Copper		35
			Lead		8,845
			Zinc		238
1973	27		Silver	108,207	
			Gold	187	
			Lead		18,655
			Zinc		484
1972	41		Silver	40,434	
			Gold	31	
			Lead		8,474
			Zinc		352
1970	10		Silver	36,515	
			Gold	31	
			Lead		3,994
			Zinc		338
1969	119		Silver	519,451	
			Gold	746	
			Cadmium		182
			Lead		44,653
			Zinc		33,618
1968	34		Silver	171,129	
			Gold	156	
			Lead		19,464
			Zinc		3,939
1967	47		Silver	162,917	
			Gold	342	
			Lead		30,754
			Zinc		1,009
1966	57		Silver	257,440	
			Gold	311	
			Lead		40,270
			Zinc		1,165
1965	260	260	Silver	261,607	
			Gold	311	
			Cadmium		182
			Lead		21,303
			Zinc		28,962
1964	491	491	Silver	558,548	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>082FNW204</u>	NAME:	<u>VICTOR (L.4565)</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>
1964	491	491	Gold	404	
			Cadmium		352
			Lead		54,896
			Zinc		55,530
1963	990	990	Silver	733,378	
			Gold	871	
			Cadmium		708
			Lead		81,051
			Zinc		105,968
1962	1,060		Silver	840,932	
			Gold	529	
			Cadmium		768
			Lead		118,811
			Zinc		113,664
1961	2,879		Silver	1,872,992	
			Gold	3,141	
			Cadmium		1,525
			Lead		278,271
			Zinc		228,724
1960	5,649	5,649	Silver	3,084,671	
			Gold	3,235	
			Cadmium		3,743
			Lead		306,194
			Zinc		550,741
1959	5,468	5,468	Silver	5,061,889	
			Gold	2,613	
			Cadmium		3,170
			Lead		489,009
			Zinc		491,299
1958	8,198	8,039	Silver	6,764,560	
			Gold	5,132	
			Cadmium		4,033
			Lead		1,027,368
			Zinc		650,330
1957	15,996		Silver	10,568,830	
			Gold	10,606	
			Cadmium		14,749
			Lead		2,119,882
			Zinc		2,366,423
1956	20,172		Silver	17,441,878	
			Gold	8,553	
			Cadmium		10,482
			Lead		2,392,255
			Zinc		1,539,310
1955	20,187	19,926	Silver	14,007,267	
			Gold	7,029	
			Cadmium		10,699
			Lead		2,948,428
			Zinc		1,722,394
1954	20,532	20,172	Silver	16,843,270	
			Gold	7,403	
			Cadmium		13,578
			Lead		3,171,011
			Zinc		2,119,700
1953	24,718	24,718	Silver	17,002,393	
			Gold	6,780	
			Cadmium		11,614
			Lead		3,538,141
			Zinc		1,974,099
1952	11,051	10,202	Silver	8,797,515	
			Gold	4,354	
			Cadmium		5,625
			Lead		1,802,095
			Zinc		1,036,796
1951	5,524	4,715	Silver	3,914,966	
			Gold	3,048	
			Cadmium		1,068
			Lead		773,896
			Zinc		365,327
1950	2,761	609	Silver	5,315,596	
			Gold	2,395	
			Lead		971,431

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: <u>082FNW204</u>		NAME: <u>VICTOR (L.4565)</u>		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1950	2,761	609	Zinc		398,434	
1949	1,558		Silver	5,159,894		
			Gold	2,955		
			Lead		687,941	
			Zinc		250,587	
1948	200		Silver	827,091		
			Gold	311		
			Lead		107,674	
			Zinc		25,540	
1947	36		Silver	129,513		
			Gold	373		
			Lead		5,066	
			Zinc		7,520	
1946	30		Silver	153,773		
			Gold	218		
			Lead		19,263	
			Zinc		414	
1945	26		Silver	344,995		
			Gold	31		
			Lead		13,628	
			Zinc		927	
1944	31		Silver	176,136		
			Gold	124		
			Lead		13,962	
			Zinc		2,782	
1943	34		Silver	186,618		
			Gold	124		
			Lead		13,391	
			Zinc		4,694	
1942	76		Silver	356,472		
			Gold	280		
			Lead		27,141	
			Zinc		14,660	
1941	70		Silver	263,318		
			Gold	155		
			Lead		22,384	
			Zinc		17,318	
1940	30		Silver	155,888		
			Gold	93		
			Lead		19,019	
			Zinc		2,393	
1939	59		Silver	648,342		
			Gold	62		
			Lead		37,598	
			Zinc		194	
1938	71		Silver	554,535		
			Gold	249		
			Lead		27,340	
			Zinc		12,990	
1937	205		Silver	871,164		
			Gold	684		
			Lead		57,623	
			Zinc		54,900	
1936	26		Silver	152,622		
			Gold	62		
			Lead		16,706	
			Zinc		2,194	
1935	58		Silver	436,095		
			Gold	187		
			Lead		42,183	
			Zinc		1,427	
1934	87		Silver	492,983		
			Gold	187		
			Lead		59,609	
			Zinc		6,613	
1933	29		Silver	192,683		
			Gold	62		
			Lead		21,283	
			Zinc		988	
1932	58		Silver	406,765		
			Gold	124		

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW204		NAME: VICTOR (L.4565)		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>
1932	58		Lead Zinc		42,919 838
1929	58		Silver Gold Lead Zinc	388,539 93	28,355 5,522
1928	65		Silver Gold Lead	299,211 249	34,337
1927	72		Silver Gold Lead Zinc	421,383 435	37,076 2,683
1926	38		Silver Gold Lead Zinc	231,593 62	14,074 524
1925	41		Silver Gold Lead	352,304 93	21,820
1924	36		Silver Gold Lead	326,115 93	17,126
1923	54		Silver Gold Lead	527,289 62	31,200

SUMMARY TOTALS: 082FNW204

NAME: **VICTOR (L.4565)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	149,502 tonnes	164,798 tons
Milled:	101,239 tonnes	111,597 tons
Recovery:		
Silver:	129,127,274 grams	4,151,532 ounces
Gold:	76,833 grams	2,470 ounces
Cadmium:	82,478 kilograms	181,833 pounds
Copper:	69 kilograms	152 pounds
Lead:	21,746,099 kilograms	47,941,928 pounds
Zinc:	14,225,991 kilograms	31,362,933 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **082FNW205** NAME: **LONE BATCHELOR (L.4564)** 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	165		Silver	255,453	
			Gold	62	
			Cadmium		118
			Lead		43,713
			Zinc		22,816
1960	633		Silver	683,312	
			Gold	249	
			Cadmium		404
			Lead		113,101
			Zinc		72,287
1959	16		Silver	61,989	
			Lead		11,824
			Zinc		1,015
1957	38		Silver	130,666	
			Lead		26,683
			Zinc		2,961
1923	32		Silver	50,077	
			Gold	31	
			Lead		2,096
			Zinc		9,719
1917	6		Silver	50,481	
			Lead		4,208
1914	34		Silver	177,756	
			Gold	62	
			Lead		16,623
1912	28		Silver	124,912	
			Gold	93	
			Lead		13,647
1910	15		Silver	64,011	
			Gold	62	
			Lead		8,657
1908	20		Silver	67,339	
			Gold	156	
			Lead		9,044
1907	261		Silver	836,684	
			Gold	62	
			Lead		108,272
1906	330		Silver	1,336,921	
			Gold	311	
			Lead		125,085
1905	242		Silver	948,656	
			Lead		132,866

SUMMARY TOTALS: 082FNW205

NAME: **LONE BATCHELOR (L.4564)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,820 tonnes	2,006 tons
Milled:	tonnes	tons
Recovery:		
Silver:	4,788,257 grams	153,946 ounces
Gold:	1,088 grams	35 ounces
Cadmium:	522 kilograms	1,151 pounds
Lead:	615,819 kilograms	1,357,648 pounds
Zinc:	108,798 kilograms	239,858 pounds

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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MINFILE NUMBER: 082FNW207	NAME: SUN (L.6955)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1917	31		Silver Lead	84,600	12,338

SUMMARY TOTALS: 082FNW207

NAME: **SUN (L.6955)**

		<u>Metric</u>		<u>Imperial</u>	
	Mined:	31 tonnes		34 tons	
	Milled:				
Recovery:	Silver:	84,600 grams		2,720 ounces	
	Lead:	12,338 kilograms		27,201 pounds	
Comments:	1917:	Operated by B.H. Nellis.			

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FNW208		NAME: MARY		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1983		12	Silver	12,068		
			Lead		744	
			Zinc		1,534	
1981	28		Silver	6,414		
			Gold	375		
			Lead		1,090	
			Zinc		225	
1973	13		Silver	4,448		
			Gold	156		
			Lead		831	
			Zinc		132	

SUMMARY TOTALS: 082FNW208

NAME: **MARY**

	<u>Metric</u>	<u>Imperial</u>
Mined:	41 tonnes	45 tons
Milled:	12 tonnes	13 tons
Recovery:		
Silver:	22,930 grams	737 ounces
Gold:	531 grams	17 ounces
Lead:	2,665 kilograms	5,875 pounds
Zinc:	1,891 kilograms	4,169 pounds

Comments:

1983: Operated by Totem Industries Ltd.
 1981: Operated by S. Berisoff.
 1973: Mary operated by S. Berisoff.

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MINFILE NUMBER:	<u>082FNW209</u>	NAME:	<u>FREDDY (L.4025)</u>	STATUS:	Past Producer
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1973	30		Silver	32,285	
			Gold	62	
			Lead		120
			Zinc		60
1971	23		Silver	45,722	
			Gold	62	
			Lead		90
			Zinc		158
1969	47		Silver	76,824	
			Gold	125	
			Lead		417
			Zinc		213
1968	57		Silver	97,881	
			Gold	187	
			Lead		255
			Zinc		256
1967	27		Silver	31,507	
			Gold	93	
			Lead		137
			Zinc		110
1964	15		Silver	30,916	
			Gold	62	
			Lead		89
			Zinc		60
1963	17		Silver	63,979	
			Gold	93	
			Lead		102
			Zinc		119
1962	12		Silver	17,231	
			Gold	31	
			Lead		35
			Zinc		47

SUMMARY TOTALS: 082FNW209

NAME: **FREDDY (L.4025)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	228 tonnes	251 tons
Milled:	tonnes	tons
Recovery:	Silver: 396,345 grams	12,743 ounces
	Gold: 715 grams	23 ounces
	Lead: 1,245 kilograms	2,745 pounds
	Zinc: 1,023 kilograms	2,255 pounds

Comments: 1973: Production from 1962-1973 was crude ore.

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MINFILE NUMBER: **082FNW212** NAME: **L.H. (L.5738)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1939	196		Silver Gold	1,928 3,452	

SUMMARY TOTALS: 082FNW212

NAME: **L.H. (L.5738)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	196 tonnes	216 tons
Milled:		tons
Recovery:		
Silver:	1,928 grams	62 ounces
Gold:	3,452 grams	111 ounces

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MINFILE NUMBER: 082FNW213		NAME: HOMESTAKE (L.15283)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1971	7		Silver	9,673	
			Gold	62	
			Lead		29
			Zinc		15
1970	235		Silver	496,342	
			Gold	4,354	
1969	47		Silver	137,382	
			Gold	1,306	
			Lead		411
			Zinc		488
1968	41		Silver	218,094	
			Gold	1,648	
1915	16		Silver	60,153	
1913	15		Silver	50,636	
			Gold	62	
			Lead		1,921
1903	2		Silver	4,510	
			Gold	31	

SUMMARY TOTALS: 082FNW213

NAME: **HOMESTAKE (L.15283)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	363 tonnes	400 tons
Milled:	tonnes	tons
Recovery:		
Silver:	976,790 grams	31,404 ounces
Gold:	7,463 grams	240 ounces
Lead:	2,361 kilograms	5,205 pounds
Zinc:	503 kilograms	1,109 pounds

Comments:

1971: Operated by C. Thickett.
 1970: Operated by C. Thickett.
 1969: Operated by Raymond Gold & Silver Ltd. and C. Thickett.
 1968: Operated by Raymond Gold & Silver Ltd.
 1915: Hamilton Group.
 1913: Hamilton Group operated by R. Gillette.
 1903: Hamilton Group operated by R. Gillette.

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MINFILE NUMBER: 082FNW214		NAME: JOYCE		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1971	9		Silver	65,472		
			Gold	560		
			Lead			120
			Zinc			111
1968	69		Silver	185,685		
			Gold	1,151		
1967	9		Silver	9,486		
			Gold	62		
			Lead			18
			Silica			9,072
			Zinc			9

SUMMARY TOTALS: 082FNW214

NAME: **JOYCE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	87 tonnes	96 tons
Milled:	tonnes	tons
Recovery:		
Silver:	260,643 grams	8,380 ounces
Gold:	1,773 grams	57 ounces
Lead:	138 kilograms	304 pounds
Silica:	9,072 kilograms	20,000 pounds
Zinc:	120 kilograms	265 pounds

Comments:

1971: Operated by C. Thickett.
 1968: Operated by C. Thickett.
 1967: Operated by J. Nesbitt.

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MINFILE NUMBER:	<u>082FNW216</u>	NAME:	<u>MORNING STAR</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		4	Silver	871	
			Gold	249	
			Lead		34,952
			Zinc		20,925
1979			Silver	404	
			Lead		39
			Zinc		20
1975			Silver	1,400	
			Gold	435	
1949	2		Silver	31	
			Gold	156	
			Lead		40
			Zinc		48
1946	4		Silver	435	
			Gold	342	
			Lead		124
			Zinc		120
1937	5		Silver	1,711	
			Gold	218	
			Lead		155
			Zinc		156
1936	8		Silver	995	
			Gold	467	
			Lead		117
			Zinc		48
1935	4		Silver	373	
			Gold	124	
			Lead		73
			Zinc		42

SUMMARY TOTALS: 082FNW216

NAME: **MORNING STAR**

	<u>Metric</u>	<u>Imperial</u>
Mined:	23 tonnes	25 tons
Milled:	4 tonnes	4 tons
Recovery:		
Silver:	6,220 grams	200 ounces
Gold:	1,991 grams	64 ounces
Lead:	35,500 kilograms	78,264 pounds
Zinc:	21,359 kilograms	47,089 pounds

Comments:

1982: Operated by D. Roy.
 1975: Operated by L. DeKock.
 1946: Operated by lessee, G.A. McMillan.
 1937: Operated by lessee, P.W. Munro.
 1936: Operated by lessee, E. Scovitt.
 1935: Operated by W. Clements.

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MINFILE NUMBER: 082FNW219		NAME: ALEXANDRIA NO. 2 (L.2886)		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	3		Silver	7,167	
			Gold	9	
			Lead		121
			Zinc		8
1976	3		Silver	16,773	
			Gold	18	
			Bismuth		1
			Copper		9
			Lead		167
			Zinc		7

SUMMARY TOTALS: 082FNW219

NAME: **ALEXANDRIA NO. 2 (L.2886)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	6 tonnes	7 tons
Milled:	tonnes	tons
Recovery:		
Silver:	23,940 grams	770 ounces
Gold:	27 grams	1 ounces
Bismuth:	1 kilograms	2 pounds
Copper:	9 kilograms	20 pounds
Lead:	288 kilograms	635 pounds
Zinc:	15 kilograms	33 pounds

Comments: 1977: Operated by N. Block.

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MINFILE NUMBER: **082FNW221** NAME: **YOSIE** 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>
1985	4	4	Silver	1,385	
			Gold	2	
			Lead		1,205
			Zinc		170

SUMMARY TOTALS: 082FNW221

NAME: **YOSIE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4 tonnes	4 tons
Milled:	4 tonnes	4 tons
Recovery:		
Silver:	1,385 grams	45 ounces
Gold:	2 grams	ounces
Lead:	1,205 kilograms	2,657 pounds
Zinc:	170 kilograms	375 pounds

Comments: 1985: Crude ore. Operated by C.C. Young.

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MINFILE NUMBER: **082FNW222** NAME: **ALBERTA** 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>
1904	13		Silver	24,571	
			Gold	591	
1903	3		Silver	3,421	
			Gold	62	
1900	3		Silver	3,546	
			Gold	62	

SUMMARY TOTALS: 082FNW222

NAME: **ALBERTA**

	<u>Metric</u>	<u>Imperial</u>
Mined:	19 tonnes	21 tons
Milled:	tonnes	tons
Recovery: Silver:	31,538 grams	1,014 ounces
Gold:	715 grams	23 ounces

Comments:

1904: Operated by J. Beauchesne.
 1903: Operated by A. Bolderston.
 1900: Operated by J. Beauchesne.

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MINFILE NUMBER: **082FNW223** NAME: **BLACK COLT (L.1721)** 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>
1948	6		Silver	6,189	
			Lead		924
			Zinc		1,348
1937	6		Silver	19,813	
			Lead		4,303
			Zinc		144
1936	114		Silver	178,469	
			Gold	62	
			Lead		36,184
			Zinc		28,003
1935	163		Silver	355,414	
			Gold	124	
			Lead		75,586
			Zinc		29,381
1934	95		Silver	149,046	
			Gold	93	
			Lead		26,518
			Zinc		23,547
1930	145		Silver	223,599	
			Gold	156	
			Lead		38,661
			Zinc		28,935
1926	154		Silver	262,945	
			Lead		55,294
			Zinc		15,419
1923	3		Silver	60,091	
			Lead		1,572
1922	12		Silver	21,896	
			Lead		6,244
1919	20		Silver	51,191	
			Lead		12,099

SUMMARY TOTALS: 082FNW223

NAME: **BLACK COLT (L.1721)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	718 tonnes	791 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,328,653 grams	42,717 ounces
Gold:	435 grams	14 ounces
Lead:	257,385 kilograms	567,437 pounds
Zinc:	126,777 kilograms	279,495 pounds

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MINFILE NUMBER: 082FNW224	NAME: KIMBERLEY	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1906	5		Silver Gold	8,926 124	

SUMMARY TOTALS: 082FNW224

	NAME: KIMBERLEY	
	<u>Metric</u>	<u>Imperial</u>
	5 tonnes	6 tons
	Milled: tonnes	tons
Recovery:	Silver: 8,926 grams	287 ounces
	Gold: 124 grams	4 ounces

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MINFILE NUMBER: 082FNW226		NAME: SILVER LEAF		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1951	2		Silver	4,572	
			Lead		386
			Zinc		426
1948	5		Silver	3,639	
			Lead		441
			Zinc		318
1947	33		Silver	15,738	
			Lead		1,804
			Zinc		2,099

SUMMARY TOTALS: 082FNW226

NAME: **SILVER LEAF**

	<u>Metric</u>	<u>Imperial</u>
Mined:	40 tonnes	44 tons
Milled:	tonnes	tons
Recovery:		
Silver:	23,949 grams	770 ounces
Lead:	2,631 kilograms	5,800 pounds
Zinc:	2,843 kilograms	6,268 pounds

Comments:

1951: Operated by E. Kline and R. Stedile.
 1948: D. Webster. McDonell sorted dump ore from Arlington.
 1947: Klumen & McDonell sorted dump ore, probably Arlington (082FNW152).

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MINFILE NUMBER: 082FNW227		NAME: SUNSET-TRADE DOLLAR		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>
1927	30		Silver	17,604	
			Lead		148
			Zinc		14,367
1926	50		Silver	47,837	
			Lead		1,410
			Zinc		43,747
1911	10		Silver	32,751	
			Lead		5,542
1908	222		Silver	1,018,406	
			Lead		151,540
1907	176		Silver	771,479	
			Lead		120,972
1906	198		Silver	867,680	
			Lead		138,958
1904	284		Silver	933,090	
			Lead		136,077
1903	54		Silver	253,085	
			Lead		40,592
1902	752		Silver	3,415,545	
			Lead		562,650
1901	619		Silver	2,774,699	
			Lead		436,128
1900	124		Silver	605,575	
			Lead		90,780

SUMMARY TOTALS: 082FNW227

NAME: **SUNSET-TRADE DOLLAR**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,519 tonnes	2,777 tons
Milled:		
Recovery:		
Silver:	10,737,751 grams	345,226 ounces
Lead:	1,684,797 kilograms	3,714,341 pounds
Zinc:	58,114 kilograms	128,119 pounds

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MINFILE NUMBER: 082FNW228		NAME: OMEGA (L.618)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1983	52		Silver	62,960		
			Lead			965
			Zinc			14,496
1919	5		Silver	11,757		
			Lead			2,749
1912	15		Silver	20,652		
			Lead			4,466
1911	45		Silver	113,713		
			Lead			25,270
1905	5		Silver	9,704		
			Lead			2,325
1904	7		Silver	20,963		
			Lead			4,320
1900	3		Silver	7,060		
			Lead			1,465

SUMMARY TOTALS: 082FNW228

NAME: **OMEGA (L.618)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	132 tonnes	146 tons
Milled:	tonnes	tons
Recovery:		
Silver:	246,809 grams	7,935 ounces
Lead:	41,560 kilograms	91,624 pounds
Zinc:	14,496 kilograms	31,958 pounds

Comments: 1912: Twilight (MM01443).
 1911: Twilight (MM01443).

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MINFILE NUMBER: **082FNW229** NAME: **EARLY BIRD (L.1648)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1934	3		Silver	13,250	
			Lead		2,457
			Zinc		120
1908	2		Silver	7,714	
			Lead		1,463

SUMMARY TOTALS: 082FNW229

NAME: **EARLY BIRD (L.1648)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5 tonnes	6 tons
Milled:	tonnes	tons
Recovery: Silver:	20,964 grams	674 ounces
Lead:	3,920 kilograms	8,642 pounds
Zinc:	120 kilograms	265 pounds

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<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1934	3		Silver Lead Zinc	18,880	141 308

SUMMARY TOTALS: 082FNW231

NAME: **SMERALDA (L.2424)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3 tonnes	3 tons
Milled:	tonnes	tons
Recovery:		
Silver:	18,880 grams	607 ounces
Lead:	141 kilograms	311 pounds
Zinc:	308 kilograms	679 pounds

Comments: 1934: Operated by R. Ainslie.

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MINFILE NUMBER: 082FNW232		NAME: DUMAC		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	31		Silver	5,723		
			Lead		858	
			Zinc		1,335	
1948	5		Silver	6,469		
			Lead		296	
			Zinc		660	

SUMMARY TOTALS: 082FNW232

NAME: **DUMAC**

	<u>Metric</u>	<u>Imperial</u>
Mined:	36 tonnes	40 tons
Milled:	tonnes	tons
Recovery:	Silver: 12,192 grams	392 ounces
	Lead: 1,154 kilograms	2,544 pounds
	Zinc: 1,995 kilograms	4,398 pounds

Comments: 1956: Austin operated by L. Gormley. (MM01117)
 1948: Operated by Dumac Mines Ltd. (MM01171).

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MINFILE NUMBER: **082FNW234** NAME: **TILlicUM** 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>
1993	5,503	5,503	Silver	164,071	
			Gold	102,455	
1991			Gold	9,207	
1985	227	168	Silver	51,570	
			Gold	48,351	
			Lead		1,984
			Zinc		3,325
1981	58	58	Silver	3,267	
			Gold	4,539	
			Cadmium		10
			Lead		330
			Zinc		863

SUMMARY TOTALS: 082FNW234

NAME: **TILlicUM**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5,788 tonnes	6,380 tons
Milled:	5,729 tonnes	6,315 tons
Recovery:		
Silver:	218,908 grams	7,038 ounces
Gold:	164,552 grams	5,290 ounces
Cadmium:	10 kilograms	22 pounds
Lead:	2,314 kilograms	5,101 pounds
Zinc:	4,188 kilograms	9,233 pounds

Comments:

1993: Custom ore.
 1991: Custom ore from stockpile; tonnage unknown.
 1985: Bulk sample by Esperanza Explorations Ltd.
 1981: Bulk sample by Welcome North Mines Ltd.

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MINFILE NUMBER: 082FNW237	NAME: ROSE MARIE (L.4003)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1949	10		Silver Lead Zinc	8,709	1,144 818

SUMMARY TOTALS: 082FNW237

NAME: **ROSE MARIE (L.4003)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	10 tonnes	11 tons
Milled:	tonnes	tons
Recovery:		
Silver:	8,709 grams	280 ounces
Lead:	1,144 kilograms	2,522 pounds
Zinc:	818 kilograms	1,803 pounds

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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MINFILE NUMBER: **082FNW257** NAME: **KING SOLOMON (L.14628)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1939	17		Silver	560	
			Gold	404	
1938	4		Silver	155	
			Gold	218	
			Lead		49

SUMMARY TOTALS: 082FNW257

NAME: **KING SOLOMON (L.14628)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	21 tonnes	23 tons
Milled:	tonnes	tons
Recovery:		
Silver:	715 grams	23 ounces
Gold:	622 grams	20 ounces
Lead:	49 kilograms	108 pounds

Comments:

1939: Twilight operated by A.D. Papazian and T.L. Paris.
1938: King Solomon operated by T. Paris.

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MINFILE NUMBER: 082FNW271		NAME: CARIBOO		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1950	26		Silver	40,465	
			Gold	31	
			Lead		3,098
			Zinc		2,586
1949	9		Silver	9,238	
			Lead		936
			Zinc		406
1939	5		Silver	6,656	
			Lead		601
			Zinc		242
1927	83		Silver	149,170	
			Gold	31	
			Lead		26,614
			Zinc		6,008
1926	40		Silver	78,006	
			Lead		14,370
1924	63		Silver	202,449	
			Gold	124	
			Lead		32,245
1923	65		Silver	181,144	
			Gold	62	
			Lead		27,193
1922	56		Silver	147,988	
			Gold	62	
			Lead		28,245
1920	248		Silver	135,267	
			Lead		6,809
1919	1,442	740	Silver	1,203,313	
			Lead		69,589
1918	1,721	1,197	Silver	3,009,402	
			Lead		212,527
1917	333		Silver	481,039	
			Lead		46,754
1916	484		Silver	537,429	
			Lead		45,616
1914	454		Silver	761,681	
			Lead		50,308
1913	4,475	4,316	Silver	1,740,773	
			Lead		98,154
1912	10,886	10,886	Silver	4,538,985	
			Lead		293,798
1911	5,352	5,352	Silver	1,871,779	
			Lead		175,692
1907	18,125	18,125	Silver	5,105,464	
			Lead		456,639
1906	8,051	6,940	Silver	3,221,120	
			Gold	62	
			Lead		245,487
1905	867		Silver	1,111,310	
			Lead		97,687
1902	1,818		Silver	3,661,725	
			Lead		190,281
1901	512		Silver	1,195,102	
			Lead		51,081
1900	714		Silver	1,529,241	
			Lead		83,421
1899	31		Silver	141,519	
			Lead		6,980

SUMMARY TOTALS: 082FNW271

NAME: **CARIBOO**

	<u>Metric</u>	<u>Imperial</u>
Mined:	55,860 tonnes	61,575 tons
Milled:	47,556 tonnes	52,422 tons
Recovery:		
Silver:	31,060,265 grams	998,609 ounces
Gold:	372 grams	12 ounces
Lead:	2,264,125 kilograms	4,991,540 pounds
Zinc:	9,242 kilograms	20,375 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSE006		NAME: LEADVILLE		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1969	3		Silver	498		
			Lead		401	
			Zinc		112	
1965	1		Silver	404		
			Lead		357	
			Zinc		8	
1956	1		Silver	871		
			Lead		718	
			Zinc		6	
1915	127		Silver	9,113		
			Lead		32,389	

SUMMARY TOTALS: 082FSE006

NAME: **LEADVILLE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	132 tonnes	146 tons
Milled:	tonnes	tons
Recovery:	Silver: 10,886 grams	350 ounces
	Lead: 33,865 kilograms	74,660 pounds
	Zinc: 126 kilograms	278 pounds

Comments:

1969: Leadville.
 1965: Star No. 1.
 1956: Star No. 1. Crude ore; 0.9 tonne.
 1915: Leadville.

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MINFILE NUMBER: 082FSE007		NAME: ALICE (L.4104)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1952	23		Silver	8,087		
			Lead		6,776	
			Zinc		73	
1951	18		Silver	9,424		
			Lead		8,000	
			Zinc		61	
1950	17		Silver	8,087		
			Lead		6,725	
			Zinc		89	
1927	20		Silver	11,228		
			Lead		8,539	
			Zinc		250	
1926	121		Silver	68,396		
			Gold	62		
			Lead		48,500	
1909	544	544	Silver	44,384		
			Lead		39,022	
1906	319	319	Silver	19,004		
			Lead		18,282	
1905	4,760	4,760	Silver	297,562		
			Lead		307,557	
1904	1,089	1,089	Silver	72,190		
			Lead		65,735	
1900	1		Silver	156		
			Copper			4

SUMMARY TOTALS: 082FSE007

NAME: **ALICE (L.4104)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	6,912 tonnes	7,619 tons
Milled:	6,712 tonnes	7,399 tons
Recovery:		
Silver:	538,518 grams	17,314 ounces
Gold:	62 grams	2 ounces
Copper:	4 kilograms	9 pounds
Lead:	509,136 kilograms	1,122,452 pounds
Zinc:	473 kilograms	1,043 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSE010		NAME: LAKEVIEW (L.14227)		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>
1953	284		Silver	35,053	
			Lead		16,175
			Zinc		27,833
1952	35		Silver	10,388	
			Gold	31	
			Lead		6,646
			Zinc		11,103
1951	78		Silver	17,231	
			Gold	31	
			Lead		12,095
			Zinc		21,614
1950	51		Silver	10,264	
			Gold	31	
			Lead		6,225
			Zinc		10,158
1949	75		Silver	15,458	
			Cadmium		109
			Lead		9,448
			Zinc		26,747
1948	60		Silver	15,552	
			Gold	31	
			Cadmium		122
			Lead		9,340
			Zinc		23,262
1947	77		Silver	19,813	
			Gold	31	
			Lead		13,735
			Zinc		29,775
1937	66		Silver	10,171	
			Lead		7,276
			Zinc		19,815
1935	12		Silver	2,768	
			Lead		1,927
			Zinc		4,878

SUMMARY TOTALS: 082FSE010

NAME: **LAKEVIEW (L.14227)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	738 tonnes	814 tons
Milled:	tonnes	tons
Recovery:		
Silver:	136,698 grams	4,395 ounces
Gold:	155 grams	5 ounces
Cadmium:	231 kilograms	509 pounds
Lead:	82,867 kilograms	182,690 pounds
Zinc:	175,185 kilograms	386,217 pounds

Comments:

1949: Cadmium recovery from Annual Report 1949, p. 176.
 1948: Cadmium recovery from Annual Report 1948, p. 137.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	<u>082FSE030</u>	NAME:	<u>BAYONNE (L.5083)</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>
1984	1,000	1,000	Silver	57,163	
			Gold	18,579	
			Cadmium		68
			Lead		6,453
			Zinc		5,345
1983	65	65	Silver	9,020	
			Gold	302	
			Lead		718
			Silica		50,700
1981	39		Silver	1,611	
			Gold	200	
			Lead		156
			Zinc		78
1951	87		Silver	9,704	
			Gold	2,022	
			Lead		2,287
			Zinc		782
1950	1,261		Silver	30,979	
			Gold	5,536	
			Lead		5,508
			Zinc		4,043
1949	67		Silver	22,021	
			Gold	5,256	
			Lead		6,789
			Zinc		3,207
1948	280		Silver	55,426	
			Gold	5,505	
			Lead		18,752
			Zinc		9,245
1947	18		Silver	3,390	
			Gold	1,089	
			Lead		390
			Zinc		325
1946	1,992	1,992	Silver	22,425	
			Gold	8,180	
1942	10,864	10,454	Silver	344,092	
			Gold	143,043	
1941	18,347	18,347	Silver	546,635	
			Gold	257,346	
1940	13,245	11,869	Silver	434,571	
			Gold	209,790	
			Lead		266
			Zinc		129
1939	103	103	Silver	47,090	
			Gold	16,049	
1938	17,507	17,507	Silver	1,108,449	
			Gold	320,019	
1937	14,455	14,455	Silver	975,048	
			Gold	289,320	
1936	2,419	2,419	Silver	65,721	
			Gold	25,629	
1935	33		Silver	19,346	
			Gold	3,732	
			Lead		2,153
			Zinc		195

SUMMARY TOTALS: 082FSE030

NAME: **BAYONNE (L.5083)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	81,782 tonnes	90,149 tons
Milled:	78,211 tonnes	86,213 tons
Recovery:		
Silver:	3,752,691 grams	120,652 ounces
Gold:	1,311,597 grams	42,169 ounces
Cadmium:	68 kilograms	150 pounds
Lead:	43,472 kilograms	95,839 pounds
Silica:	50,700 kilograms	111,774 pounds
Zinc:	23,349 kilograms	51,476 pounds

Comments:
 1984: Lead concentrate 121 tonnes. Ore milled is estimated.
 1983: Silica recovery is estimated.
 1981: Crude ore.

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MINFILE NUMBER: **082FSE030**

NAME: **BAYONNE (L.5083)**

STATUS: Past Producer

Comments:

1946: Closed July 1946.
1935: Operated by Bayonne Consolidated Mines Ltd.

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MINFILE NUMBER: **082FSE032** NAME: **SPOKANE** 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	88		Silver	9,735	
			Gold	746	
			Lead		4,139
			Zinc		639
1954	27		Silver	9,331	
			Gold	435	
			Lead		4,540
			Zinc		191
1953	41		Silver	19,595	
			Gold	715	
			Lead		9,204
			Zinc		247
1952	32		Silver	10,917	
			Gold	560	
			Lead		4,601
			Zinc		441
1951	42		Silver	14,650	
			Gold	746	
			Lead		7,460
			Zinc		419
1950	73		Silver	19,159	
			Gold	1,058	
			Lead		9,688
			Zinc		875
1949	262		Silver	51,973	
			Gold	2,084	
			Lead		25,954
			Zinc		2,218
1948	69		Silver	17,044	
			Gold	1,026	
			Lead		9,133
			Zinc		555
1941	437		Silver	102,391	
			Gold	8,584	
			Lead		39,606
			Zinc		3,343
1940	209		Silver	57,914	
			Gold	4,137	
			Lead		21,971
			Zinc		1,512
1939	152		Silver	78,255	
			Gold	2,986	
			Lead		32,938
			Zinc		1,195
1938	72		Silver	33,342	
			Gold	1,897	
			Lead		13,512
			Zinc		557
1937	115		Silver	50,636	
			Gold	2,582	
			Lead		24,809
			Zinc		751
1918	18		Silver	20,932	
			Gold	93	
			Lead		10,863
1916	86		Silver	58,940	
			Gold	1,959	
			Lead		78,701
1915	10		Silver	16,174	
			Gold	31	
			Lead		6,927

SUMMARY TOTALS: 082FSE032

NAME: **SPOKANE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,733 tonnes	1,910 tons
Milled:	tonnes	tons
Recovery:		
Silver:	570,988 grams	18,358 ounces
Gold:	29,639 grams	953 ounces
Lead:	304,046 kilograms	670,307 pounds
Zinc:	12,943 kilograms	28,534 pounds

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MINFILE NUMBER: 082FSE035	NAME: VIRGINIA (L.6887)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1938	18		Silver	529	
			Gold	311	
1936	1		Silver	62	
			Gold	62	

SUMMARY TOTALS: 082FSE035

NAME: **VIRGINIA (L.6887)**

		<u>Metric</u>		<u>Imperial</u>	
	Mined:	19 tonnes		21 tons	
	Milled:	tonnes		tons	
Recovery:	Silver:	591 grams		19 ounces	
	Gold:	373 grams		12 ounces	

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MINFILE NUMBER: **082FSE038** NAME: **VALPARAISO** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1955	503	503	Tungsten		5,080
1934	31		Silver	2,737	
			Gold	249	
1933	293		Silver	33,000	
			Gold	3,328	
1901	7		Silver	1,275	
			Gold	93	
1900	3		Silver	840	
			Gold	62	

SUMMARY TOTALS: 082FSE038

NAME: **VALPARAISO**

	<u>Metric</u>	<u>Imperial</u>
Mined:	837 tonnes	923 tons
Milled:	503 tonnes	554 tons
Recovery:		
Silver:	37,852 grams	1,217 ounces
Gold:	3,732 grams	120 ounces
Tungsten:	5,080 kilograms	11,199 pounds

Comments:

1955: Tungsten-pyrite concentrate produced (Annual Report 1955).

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MINFILE NUMBER: 082FSE041		NAME: VIRGINIA (L.7055)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1951	10		Silver	2,644	
			Lead		2,269
			Zinc		25
1950	59		Silver	8,242	
			Lead		6,418
			Zinc		118
1949	171		Silver	21,834	
			Gold	31	
			Lead		14,813
			Zinc		380
1947	4		Silver	1,929	
			Lead		1,596
			Zinc		11
1929	15		Silver	3,981	
			Lead		2,939

SUMMARY TOTALS: 082FSE041

NAME: **VIRGINIA (L.7055)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	259 tonnes	285 tons
Milled:	tonnes	tons
Recovery:		
Silver:	38,630 grams	1,242 ounces
Gold:	31 grams	1 ounces
Lead:	28,035 kilograms	61,807 pounds
Zinc:	534 kilograms	1,177 pounds

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MINFILE NUMBER: 082FSE044	NAME: HOPE	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1957	11		Silver	3,328	1,782
			Lead		985
			Zinc		

SUMMARY TOTALS: 082FSE044

	NAME: HOPE	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 11 tonnes	12 tons
	Milled: tonnes	tons
Recovery:	Silver: 3,328 grams	107 ounces
	Lead: 1,782 kilograms	3,929 pounds
	Zinc: 985 kilograms	2,172 pounds

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MINFILE NUMBER: 082FSE050	NAME: KING	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1957	196		Silver Lead	1,680	980

SUMMARY TOTALS: 082FSE050

	NAME: KING		
	<u>Metric</u>	<u>Imperial</u>	
	196 tonnes	216 tons	
	Milled:	tons	
Recovery:	Silver:	1,680 grams	54 ounces
	Lead:	980 kilograms	2,161 pounds

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MINFILE NUMBER: 082FSE055	NAME: SARAH 2ND	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1906	5		Silver Gold	4,728 62	

SUMMARY TOTALS: 082FSE055

NAME: **SARAH 2ND**

	Mined:	5 tonnes	6 tons
	Milled:	tonnes	tons
Recovery:	Silver:	4,728 grams	152 ounces
	Gold:	62 grams	2 ounces

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MINFILE NUMBER: 082FSE061	NAME: ALFRED	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1928	8		Silver Copper	1,991	107

SUMMARY TOTALS: 082FSE061

	NAME: ALFRED		
	<u>Metric</u>	<u>Imperial</u>	
	8 tonnes	9 tons	
	Milled:	tons	
Recovery:	Silver:	1,991 grams	64 ounces
	Copper:	107 kilograms	236 pounds

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MINFILE NUMBER:	082FSE062	NAME:	CALIFORNIA	STATUS:	Showing
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1949	8		Silver Lead Zinc	995	441 46

SUMMARY TOTALS: 082FSE062

NAME: **CALIFORNIA**

	<u>Metric</u>	<u>Imperial</u>
Mined:	8 tonnes	9 tons
Milled:	tonnes	tons
Recovery:		
Silver:	995 grams	32 ounces
Lead:	441 kilograms	972 pounds
Zinc:	46 kilograms	101 pounds

Comments: 1949: Trial shipment to Trail in November 1949.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSE072		NAME: SIRDAR GRANITE (L.14521)			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>	
1964	445	445	Granite		444,521	
1963	862	862	Granite		861,825	
1962	298	298	Granite		297,557	
1955	1,361	833	Granite		832,796	

SUMMARY TOTALS: 082FSE072

NAME: **SIRDAR GRANITE (L.14521)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,966 tonnes	3,269 tons
Milled:	2,438 tonnes	2,687 tons
Recovery: Granite:	2,436,699 kilograms	5,372,000 pounds

Comments:

- 1964: Minister of Mines Annual Report 1964.
- 1963: Minister of Mines Annual Report 1963.
- 1962: Minister of Mines Annual Report 1962.
- 1955: Minister of Mines Annual Report 1955.

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MINFILE NUMBER: 082FSE076	NAME: BLACKMORE	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1948	5		Silver Lead	373	9

SUMMARY TOTALS: 082FSE076

	NAME: BLACKMORE	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 5 tonnes	6 tons
	Milled: tonnes	tons
Recovery:	Silver: 373 grams	12 ounces
	Lead: 9 kilograms	20 pounds

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MINFILE NUMBER: **082FSE084** NAME: **WEAVER 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>
1930			Gold	31	
1925			Gold	684	
1895			Gold	995	
1890			Gold	15,332	
1885			Gold	4,541	
1880			Gold	2,022	

SUMMARY TOTALS: 082FSE084

NAME: **WEAVER CREEK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	tonnes	tons
Milled:	tonnes	tons
Recovery:	Gold: 23,605 grams	759 ounces

Comments:

1930: Production for 1926-1930; unknown tonnage (Bulletin 28).
 1925: Production for 1921-1925; unknown tonnage (Bulletin 28).
 1895: Production for 1891-1895; unknown tonnage (Bulletin 28).
 1890: Production for 1886-1890; unknown tonnage (Bulletin 28).
 1885: Production for 1881-1885; unknown tonnage (Bulletin 28).
 1880: Production for 1876-1880; unknown tonnage (Bulletin 28).

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **082FSE102** NAME: **MOYIE RIVER** 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>
1989	11,468	11,468	Gold	30,509	
1988	42,433	42,433	Gold	106,542	
1945			Gold	4,105	
1940			Gold	45,437	
1935			Gold	6,282	
1930			Gold	187	
1895			Gold	7,930	
1890			Gold	31,349	
1885			Gold	51,377	
1880			Gold	2,177	

SUMMARY TOTALS: 082FSE102

NAME: **MOYIE RIVER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	53,901 tonnes	59,416 tons
Milled:	53,901 tonnes	59,416 tons
Recovery:	Gold: 285,895 grams	9,192 ounces

Comments:

- 1989: Cubic metres mined/milled (George Cross News Letter No.109, 1989).
- 1988: Cubic metres mined/milled (George Cross News Letter No.97, 1989).
- 1945: Production for 1941-1945; unknown tonnage (Bulletin 28).
- 1940: Production for 1936-1940; unknown tonnage (Bulletin 28).
- 1935: Production for 1931-1935; unknown tonnage (Bulletin 28).
- 1930: Production for 1926-1930; unknown tonnage (Bulletin 28).
- 1895: Production for 1891-1895; unknown tonnage (Bulletin 28).
- 1890: Production for 1886-1890; unknown tonnage (Bulletin 28).
- 1885: Production for 1881-1885; unknown tonnage (Bulletin 28).
- 1880: Production for 1876-1880; unknown tonnage (Bulletin 28).

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSE129		NAME: JANSEN		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>	
1976	40		Silver	4,945		12
			Cadmium			1,030
			Lead			30
			Zinc			
1952	1		Silver	933		228
			Lead			4
			Zinc			
1951	3		Silver	1,120		283
			Lead			21
			Zinc			

SUMMARY TOTALS: 082FSE129

NAME: **JANSEN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	44 tonnes	49 tons
Milled:	tonnes	tons
Recovery:		
Silver:	6,998 grams	225 ounces
Cadmium:	12 kilograms	26 pounds
Lead:	1,541 kilograms	3,397 pounds
Zinc:	55 kilograms	121 pounds

RUN DATE: 25-Jun-2003
 RUN TIME: 16:37:09

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 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW001		NAME: ASPEN (L.12471)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1934	16		Silver	18,506	
			Gold	31	
			Lead		431
			Zinc		365
1920	6		Silver	4,354	
1918	6		Silver	13,499	

SUMMARY TOTALS: 082FSW001

NAME: **ASPEN (L.12471)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	28 tonnes	31 tons
Milled:	tonnes	tons
Recovery:		
Silver:	36,359 grams	1,169 ounces
Gold:	31 grams	1 ounces
Lead:	431 kilograms	950 pounds
Zinc:	365 kilograms	805 pounds

RUN DATE: 25-Jun-2003
 RUN TIME: 16:37:09

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MINFILE NUMBER: **082FSW002** NAME: **BUNKER HILL (L.2939)** 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	38		Silver	529	
			Gold	280	
1940	66		Silver	1,120	
			Gold	591	
1939	41		Silver	280	
			Gold	249	
1938	67		Silver	2,426	
			Gold	156	
1934	83		Silver	1,244	
			Gold	1,773	
1933	45		Silver	4,043	
			Gold	249	

SUMMARY TOTALS: 082FSW002

NAME: **BUNKER HILL (L.2939)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	340 tonnes	375 tons
Milled:		
Recovery:		
	Silver: 9,642 grams	310 ounces
	Gold: 3,298 grams	106 ounces

RUN DATE: 25-Jun-2003
 RUN TIME: 16:37:09

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MINFILE NUMBER: 082FSW003		NAME: ED		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1970	255		Silver	1,306		
			Gold	124		
			Lead			577
			Zinc			764
1953	2		Silver	156		
			Lead			1,069
			Zinc			20

SUMMARY TOTALS: 082FSW003

NAME: **ED**

	<u>Metric</u>	<u>Imperial</u>
Mined:	257 tonnes	283 tons
Milled:		
Recovery:		
Silver:	1,462 grams	47 ounces
Gold:	124 grams	4 ounces
Lead:	1,646 kilograms	3,629 pounds
Zinc:	784 kilograms	1,728 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	<u>082FSW004</u>	NAME:	<u>HB (L.12672)</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>
1978	200,888	200,888	Silver	827,713	
			Cadmium		67,298
			Lead		1,451,180
			Zinc		8,381,566
1977	357,256	357,256	Silver	996,696	
			Cadmium		95,893
			Copper		615
			Lead		1,931,566
			Zinc		12,593,518
1976	374,163	374,163	Silver	937,071	
			Gold	684	
			Copper		274
			Lead		2,036,925
			Zinc		12,796,512
1975	411,084	411,084	Silver	1,130,314	
			Gold	622	
			Lead		1,666,762
			Zinc		12,480,257
1974	232,348	232,348	Silver	1,024,004	
			Gold	498	
			Cadmium		58,068
			Lead		2,089,780
			Zinc		7,843,388
1973	319,039	319,039	Silver	1,312,391	
			Gold	871	
			Cadmium		94,802
			Lead		2,805,817
			Zinc		12,031,747
1966	352,804	352,804	Silver	1,344,427	
			Cadmium		113,539
			Lead		3,139,705
			Zinc		14,781,827
1965	376,743	376,743	Silver	1,733,339	
			Cadmium		149,146
			Lead		4,243,461
			Zinc		18,417,332
1964	433,451	433,451	Silver	2,115,533	
			Cadmium		156,051
			Lead		2,855,168
			Zinc		18,996,984
1963	429,921	429,921	Silver	2,132,297	
			Cadmium		158,721
			Lead		2,993,875
			Zinc		18,736,025
1962	425,448	425,448	Silver	1,866,273	
			Cadmium		147,567
			Lead		3,291,149
			Zinc		18,410,012
1961	428,852	428,852	Silver	2,259,664	
			Cadmium		168,769
			Lead		3,314,291
			Zinc		20,038,427
1960	421,302	421,302	Silver	2,244,330	
			Cadmium		149,015
			Lead		3,591,335
			Zinc		17,562,315
1959	420,482	420,482	Silver	2,153,416	
			Cadmium		156,841
			Lead		3,295,966
			Zinc		18,951,716
1958	415,682	415,682	Silver	2,582,295	
			Cadmium		160,211
			Lead		3,768,843
			Zinc		18,490,324
1957	409,484	409,484	Silver	2,485,192	
			Cadmium		141,370
			Lead		3,037,483
			Zinc		16,782,771
1956	394,900	394,900	Silver	2,312,508	
			Cadmium		126,691
			Lead		2,565,979
			Zinc		14,484,983

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	<u>082FSW004</u>	NAME:	<u>HB (L.12672)</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>
1955	224,348	224,348	Silver Cadmium Lead Zinc	814,401	75,604 1,145,482 6,206,890
1950	2,610		Silver Lead Zinc	404,930	350,015 676,804
1949	8,083		Silver Lead Zinc	347,887	280,583 639,627
1927	595		Silver Gold Lead Zinc	49,205 187	137,876 20,275
1924	27		Silver Lead	2,084	6,571
1919	34		Silver Lead	4,230	13,043
1917	1,363		Zinc		445,566
1916	5,914		Lead Zinc		87,742 1,573,974
1915	4,706		Silver Lead Zinc	3,173	9,440 1,418,470
1914	2,193		Silver Lead Zinc	200,988	476,767 150,593
1913	1,708		Silver Lead	179,277	429,688
1912	673		Silver Lead	80,028	161,806

SUMMARY TOTALS: 082FSW004

NAME: **HB (L.12672)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	6,656,101 tonnes	7,337,095 tons
Milled:	6,628,195 tonnes	7,306,334 tons
Recovery:		
Silver:	31,543,666 grams	1,014,151 ounces
Gold:	2,862 grams	92 ounces
Cadmium:	2,019,586 kilograms	4,452,424 pounds
Copper:	889 kilograms	1,960 pounds
Lead:	51,178,298 kilograms	112,828,802 pounds
Zinc:	272,911,903 kilograms	601,667,585 pounds

Comments: 1978: Production ceased Aug. 17.

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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MINFILE NUMBER: 082FSW008	NAME: IRON CAP	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1914	5		Silver Lead	5,785	2,268

SUMMARY TOTALS: 082FSW008

NAME: **IRON CAP**

	Mined:	5 tonnes	6 tons
	Milled:		tons
Recovery:	Silver:	5,785 grams	186 ounces
	Lead:	2,268 kilograms	5,000 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	<u>082FSW009</u>	NAME:	<u>JERSEY (L.9070)</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>
1970	190,640	193,253	Silver	586,478	
			Cadmium		37,852
			Lead		2,219,794
			Zinc		4,841,142
1969	460,522	469,600	Silver	878,380	
			Cadmium		93,932
			Lead		4,093,017
			Zinc		11,651,591
1968	468,245	459,233	Silver	1,431,018	
			Cadmium		143,267
			Lead		6,163,708
			Zinc		16,955,923
1967	444,801	447,266	Silver	1,097,158	
			Cadmium		67,849
			Lead		4,083,426
			Zinc		8,170,889
1966	383,630	378,693	Silver	798,196	
			Cadmium		97,957
			Lead		2,947,769
			Zinc		11,680,345
1965	342,119	342,119	Silver	829,828	
			Cadmium		91,883
			Lead		3,209,738
			Zinc		11,089,483
1964	369,279	369,279	Silver	1,053,614	
			Cadmium		101,367
			Lead		5,183,520
			Zinc		12,042,179
1963	334,453	334,453	Silver	894,273	
			Cadmium		105,935
			Lead		4,591,434
			Zinc		12,858,439
1962	349,168	349,168	Silver	1,285,860	
			Cadmium		108,589
			Lead		7,505,751
			Zinc		14,307,904
1961	339,314	339,314	Silver	1,918,184	
			Cadmium		112,145
			Lead		9,610,282
			Zinc		14,447,987
1960	330,598	330,598	Silver	841,461	
			Cadmium		103,659
			Lead		4,383,829
			Zinc		13,380,668
1959	295,345	295,345	Silver	1,576,487	
			Cadmium		117,218
			Lead		7,890,013
			Zinc		14,540,941
1958	406,030	406,030	Silver	1,485,853	
			Cadmium		78,070
			Lead		7,503,021
			Tungsten		313,420
			Zinc		10,025,623
1957	537,829	537,829	Silver	724,887	
			Cadmium		98,652
			Lead		5,056,150
			Tungsten		871,565
			Zinc		13,026,494
1956	523,375	523,375	Silver	721,403	
			Cadmium		100,574
			Lead		5,105,293
			Tungsten		1,027,279
			Zinc		13,609,048
1955	471,349	471,349	Silver	772,847	
			Cadmium		89,468
			Lead		4,882,251
			Tungsten		868,171
			Zinc		15,936,722
1954	461,433	461,433	Silver	1,229,284	
			Cadmium		38,478
			Lead		7,811,832
			Tungsten		753,295

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	082FSW009		NAME:	JERSEY (L.9070)		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>			
1954	461,433	461,433	Zinc		9,867,091			
1953	552,205	552,205	Silver	1,588,275				
			Cadmium		139,488			
			Lead		8,464,872			
			Tungsten		703,010			
			Zinc		18,843,522			
1952	390,745	390,745	Silver	1,063,598				
			Cadmium		121,698			
			Lead		7,005,711			
			Tungsten		466,046			
			Zinc		15,564,492			
1951	178,773	178,773	Silver	381,261				
			Cadmium		74,082			
			Lead		3,359,486			
			Zinc		9,617,260			
1950	116,559	116,559	Silver	151,316				
			Cadmium		60,259			
			Lead		2,335,436			
			Tungsten		127,531			
			Zinc		7,423,983			
1949	74,195	74,195	Silver	174,208				
			Cadmium		28,814			
			Lead		1,528,998			
			Tungsten		114,477			
			Zinc		3,833,854			
1948	73,913	69,080	Tungsten		639,243			
1947	30,413	30,413	Tungsten		224,991			
1944	9,769	8,502	Tungsten		123,270			

SUMMARY TOTALS: 082FSW009

NAME: **JERSEY (L.9070)**

	<u>Metric</u>		<u>Imperial</u>	
Mined:	8,134,702 tonnes		8,966,974 tons	
Milled:	8,128,809 tonnes		8,960,478 tons	
Recovery:				
Silver:	21,483,869 grams		690,721 ounces	
Cadmium:	2,011,236 kilograms		4,434,015 pounds	
Lead:	114,935,331 kilograms		253,388,959 pounds	
Tungsten:	6,232,298 kilograms		13,739,861 pounds	
Zinc:	263,715,580 kilograms		581,393,169 pounds	

Comments:

- 1970: The Jersey mine ends production in this year.
- 1959: All tungsten values (1944-1958) are actually tungstic oxide (WO3).
- 1958: The Dodger mine (082FSW011) ends production.
- 1956: 1955 prod. - 144,873 t. of 1955 total is from Emerald (Dodger?)
- 1955: The Feeney mine (082FSW247) ends production.
- 1953: 1952 prod. - 390,745 t, Jersey. All else Emerald, Feeney, Dodger.
- 1952: Feeney (082FSW247) and Dodger (082FSW011) commence production.
- 1951: No shipment from Emerald Tungsten mine.
- 1949: Jersey mine commences production in this year.
- 1944: Emerald Tungsten mine (082FSW010) production - 1944 and 1947-1958

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW011		NAME: DODGER (L.12083)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1972	175,783	179,736	Tungsten		577,909
1971	157,203	156,499	Tungsten		605,909

SUMMARY TOTALS: 082FSW011

NAME: **DODGER (L.12083)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	332,986 tonnes	367,054 tons
Milled:	336,235 tonnes	370,636 tons
Recovery: Tungsten:	1,183,818 kilograms	2,609,871 pounds

Comments:

1972: Commodity produced is actually tungstic oxide (WO3).
 1971: Commodity produced is actually tungstic oxide (WO3).

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW014		NAME: HUNTER V (L.2212)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1929	12,153		Silver	720,812		
			Gold	1,835		
1928	10,598		Silver	999,526		
			Gold	3,763		
1927	4,913		Silver	870,231		
			Gold	4,292		
1907	3,593		Silver	726,255		
			Gold	2,115		
1906	3,902		Silver	1,021,858		
			Gold	3,701		
1905	5,952		Silver	979,745		
			Gold	4,417		
1904	15,364		Silver	2,823,561		
			Gold	10,668		
1903	294		Silver	257,533		
			Gold	498		
1902	51		Silver	64,881		
			Gold	124		

SUMMARY TOTALS: 082FSW014

NAME: **HUNTER V (L.2212)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	56,820 tonnes	62,633 tons
Milled:		
Recovery:		
Silver:	8,464,402 grams	272,136 ounces
Gold:	31,413 grams	1,010 ounces

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW018		NAME: LOMOND		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>	
1949	14		Silver	902		
			Lead			2,511
			Zinc			388
1948	4		Silver	280		
			Lead			1,890
			Zinc			48

SUMMARY TOTALS: 082FSW018

NAME: **LOMOND**

	<u>Metric</u>	<u>Imperial</u>
Mined:	18 tonnes	20 tons
Milled:		tons
Recovery:	Silver: 1,182 grams	38 ounces
	Lead: 4,401 kilograms	9,703 pounds
	Zinc: 436 kilograms	961 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW019		NAME: LONE SILVER		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1941	6		Silver	2,582	
			Gold	31	
			Lead		132
			Zinc		132
1940	4		Silver	11,073	
			Gold	31	
			Lead		254
			Zinc		297
1938	20		Silver	9,891	
			Lead		232
			Zinc		272
1937	40		Silver	179,278	
			Gold	280	
			Lead		2,789
			Zinc		1,990
1936	26		Silver	72,439	
			Gold	1,648	
			Lead		1,872
			Zinc		1,002
1915	8		Silver	91,536	
			Gold	62	
			Lead		1,305
1914	2		Silver	17,791	
			Gold	31	
1910	61		Silver	276,506	
			Gold	498	
			Lead		3,562
1909	7		Silver	32,845	
			Gold	93	
			Lead		600

SUMMARY TOTALS: 082FSW019

NAME: **LONE SILVER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	174 tonnes	192 tons
Milled:	tonnes	tons
Recovery:	Silver: 693,941 grams	22,311 ounces
	Gold: 2,674 grams	86 ounces
	Lead: 10,746 kilograms	23,691 pounds
	Zinc: 3,693 kilograms	8,142 pounds

Comments: 1936: LONE SILVER 1936-1941
 1909: HOPE 1909-1915

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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MINFILE NUMBER: **082FSW021** NAME: **MOLLY (L.14232)** 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	135		Molybdenum		5,278
1916			Molybdenum		1,851
1915	22		Molybdenum		2,735
1914	14		Molybdenum		1,502

SUMMARY TOTALS: 082FSW021

NAME: **MOLLY (L.14232)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	171 tonnes	188 tons
Milled:		tons
Recovery: Molybdenum:	11,366 kilograms	25,058 pounds

Comments: 1916: Amount of ore shipped not documented.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW025		NAME: RED ROCK		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1979	44		Silver	4,417		
			Lead			2,219
			Zinc			3,438
1974	20		Silver	1,617		
			Copper			16
			Lead			855
			Zinc			2,446
1949	123		Silver	32,161		
			Gold	31		
			Lead			15,664
			Zinc			21,123
1948	189		Silver	70,013		
			Gold	62		
			Lead			38,968
			Zinc			40,961
1947	63		Silver	12,379		
			Gold	31		
			Lead			7,423
			Zinc			10,202
1936	54		Silver	17,884		
			Gold	31		
			Lead			10,590
			Zinc			11,732
1935	32		Silver	16,267		
			Lead			9,340
			Zinc			5,085

SUMMARY TOTALS: 082FSW025

NAME: **RED ROCK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	525 tonnes	579 tons
Milled:	tonnes	tons
Recovery:		
Silver:	154,738 grams	4,975 ounces
Gold:	155 grams	5 ounces
Copper:	16 kilograms	35 pounds
Lead:	85,059 kilograms	187,523 pounds
Zinc:	94,987 kilograms	209,410 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FSW026		NAME: REEVES MACDONALD		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1971	22,948	22,948	Silver	224,128		
			Cadmium			6,029
			Copper			693
			Lead			249,848
			Zinc			963,490
1970	97,351	97,351	Silver	623,242		
			Cadmium			25,242
			Copper			3,073
			Lead			1,212,919
			Zinc			4,278,593
1969	182,538	182,538	Silver	890,354		
			Cadmium			48,257
			Copper			5,752
			Lead			2,106,533
			Zinc			7,918,309
1968	280,601	280,601	Silver	1,393,881		
			Cadmium			63,034
			Copper			9,145
			Lead			2,558,040
			Zinc			9,553,047
1967	367,210	367,210	Silver	2,029,564		
			Cadmium			72,329
			Copper			8,921
			Lead			2,510,921
			Zinc			10,394,976
1966	359,172	359,172	Silver	1,547,903		
			Cadmium			75,324
			Lead			3,618,969
			Zinc			12,596,890
1965	371,494	371,494	Silver	1,470,363		
			Cadmium			71,955
			Lead			3,737,941
			Zinc			12,418,158
1964	365,260	360,394	Silver	1,208,352		
			Cadmium			72,342
			Lead			3,602,415
			Zinc			11,755,500
1963	132,417	132,417	Silver	467,043		
			Cadmium			25,324
			Lead			1,797,891
			Zinc			4,794,345
1962	378,700	378,700	Silver	1,300,821		
			Cadmium			75,674
			Lead			4,155,753
			Zinc			13,245,492
1961	381,476	381,476	Silver	1,675,674		
			Cadmium			87,244
			Lead			6,161,803
			Zinc			15,191,069
1960	380,117	373,107	Silver	784,760		
			Cadmium			72,507
			Lead			1,675,998
			Zinc			11,245,993
1959	399,145	382,461	Silver	1,004,751		
			Cadmium			72,907
			Lead			3,998,961
			Zinc			12,941,180
1958	378,363	378,363	Silver	731,543		
			Cadmium			70,731
			Lead			3,616,754
			Zinc			12,800,366
1957	367,890	367,890	Silver	813,499		
			Cadmium			68,107
			Lead			3,593,779
			Zinc			12,418,458
1956	363,057	363,057	Silver	779,503		
			Cadmium			76,715
			Lead			3,558,998
			Zinc			13,769,973
1955	60,664	59,031	Silver	233,397		
			Cadmium			25,538
			Lead			738,295

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW026		NAME: REEVES MACDONALD		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1955	60,664	59,031	Zinc		4,636,989	
1953	144,959	144,959	Silver	230,629	12,066	
			Cadmium		1,070,575	
			Lead		1,999,473	
1952	308,254	308,254	Zinc			
			Silver	844,415	62,664	
			Cadmium		2,871,414	
			Lead		10,329,550	
1951	270,487	270,487	Zinc			
			Silver	956,262	72,524	
			Cadmium		2,741,552	
			Lead		10,618,013	
1950	193,570	193,570	Zinc			
			Silver	516,807	48,166	
			Cadmium		1,733,115	
			Lead		7,848,597	
1949	42,348	42,348	Zinc			
			Silver	115,112	10,986	
			Cadmium		380,310	
			Lead		1,897,545	
			Zinc			

SUMMARY TOTALS: 082FSW026

NAME: **REEVES MACDONALD**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5,848,021 tonnes	6,446,340 tons
Milled:	5,817,828 tonnes	6,413,058 tons
Recovery:		
Silver:	19,842,003 grams	637,934 ounces
Cadmium:	1,215,665 kilograms	2,680,082 pounds
Copper:	27,584 kilograms	60,812 pounds
Lead:	57,692,784 kilograms	127,190,781 pounds
Zinc:	203,616,006 kilograms	448,896,326 pounds

Comments:

1971: Ceased milling in July 1971. See Annex (082FSW219).

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MINFILE NUMBER: 082FSW030		NAME: SALMO-CONSOLIDATED		STATUS: Prospect	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1937	2		Silver	2,302	
			Lead		28
			Zinc		83
1917	4		Silver	41	
			Lead		18

SUMMARY TOTALS: 082FSW030

NAME: **SALMO-CONSOLIDATED**

	<u>Metric</u>	<u>Imperial</u>
Mined:	6 tonnes	7 tons
Milled:	tonnes	tons
Recovery: Silver:	2,343 grams	75 ounces
Lead:	46 kilograms	101 pounds
Zinc:	83 kilograms	183 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW036		NAME: RENO (L.12684)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1979	64	64	Gold	554		
1973		126	Silver	435		
			Gold	1,213		
			Lead		125	
			Zinc		125	
1971	1,886		Silver	18,257		
			Gold	12,130		
			Lead		3,163	
			Zinc		2,392	
1970	2,743		Silver	19,906		
			Gold	16,827		
1958	140		Silver	1,773		
			Gold	1,182		
			Lead		164	
			Zinc		210	
1957	97		Silver	1,493		
			Gold	1,804		
			Lead		169	
			Zinc		98	
1956	46		Silver	467		
			Gold	964		
1948			Silver	342		
			Gold	684		
1947	13		Silver	715		
			Gold	1,835		
			Lead		94	
			Zinc		23	
1946	112		Silver	4,510		
			Gold	5,008		
			Lead		2,303	
			Zinc		479	
1945	582		Silver	7,216		
			Gold	6,407		
1943	94		Silver	4,292		
			Gold	6,407		
			Lead		363	
			Zinc		381	
1942	130		Silver	25,847		
			Gold	24,882		
			Mercury		3,000	
			Lead		1,610	
			Zinc		721	
1941	12,333	12,333	Silver	55,363		
			Gold	179,029		
1940	32,414	32,639	Silver	118,036		
			Gold	348,354		
1939	14,592	14,897	Silver	82,423		
			Gold	224,128		
1938	44,323	44,595	Silver	217,317		
			Gold	618,856		
1937	41,710	41,716	Silver	291,528		
			Gold	709,522		
1936	38,783	38,741	Silver	515,128		
			Gold	873,466		
			Lead		20,333	
			Zinc		21,482	
1935	36,212	36,162	Silver	313,021		
			Gold	669,585		
			Lead		10,824	
			Zinc		7,814	
1934	24,399	24,399	Silver	300,735		
			Gold	496,995		
			Lead		17,220	
			Zinc		7,690	
1933	19,928	19,928	Silver	187,427		
			Gold	389,161		
			Lead		7,789	
			Zinc		1,148	
1932	1,894	1,894	Silver	46,561		
			Gold	79,282		

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW036		NAME: RENO (L.12684)		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>	
1932	1,894	1,894	Lead Zinc		2,488 1,364	
1931	10,835	10,835	Silver Gold Lead Zinc	112,002 301,637	1,691 884	
1930	8,772	8,772	Silver Gold Lead	79,375 243,599		121
1929	1,822	1,814	Silver Gold	19,906 56,203		

SUMMARY TOTALS: 082FSW036

NAME: **RENO (L.12684)**

	<u>Metric</u>		<u>Imperial</u>
Mined:	293,924 tonnes		323,996 tons
Milled:	288,915 tonnes		318,474 tons
Recovery:	Silver: 2,424,075 grams		77,936 ounces
	Gold: 5,269,714 grams		169,425 ounces
	Mercury: 3,000 kilograms		6,614 pounds
	Lead: 68,457 kilograms		150,922 pounds
	Zinc: 44,811 kilograms		98,791 pounds

Comments:

- 1979: Crude ore.
- 1973: Ore taken from tailings.
- 1948: Clean-up (unknown tonnage).
- 1947: Clean-up.
- 1946: Clean-up.
- 1945: Clean-up.
- 1943: Clean-up.
- 1942: Clean-up.

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MINFILE NUMBER: **082FSW039** NAME: **FAWN** 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	4		Silver	404	
			Gold	124	
1915	64	64	Gold	3,950	

SUMMARY TOTALS: 082FSW039

NAME: **FAWN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	68 tonnes	75 tons
Milled:	64 tonnes	71 tons
Recovery:	Silver: 404 grams	13 ounces
	Gold: 4,074 grams	131 ounces

Comments: 1915: See RENO

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **082FSW040** NAME: **NUGGET (L.8341)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1988			Silver	13,476	
			Gold	8,474	
			Lead		1,715
			Silica		1,562,000
1981	249		Silver	3,288	
			Gold	3,558	
			Lead		449
			Zinc		249
1980	425	425	Silver	2,877	
			Gold	4,264	
			Lead		469
			Zinc		435
1973		584	Silver	4,479	
			Gold	5,008	
			Lead		661
			Zinc		589
1954	112		Silver	2,550	
			Gold	4,137	
1950	92		Silver	4,914	
			Gold	2,830	
1949	82		Silver	4,199	
			Gold	2,706	
1948	246		Silver	8,553	
			Gold	3,390	
1947	321		Silver	4,168	
			Gold	2,333	
1946	736		Silver	11,135	
			Gold	12,130	
1944	971		Silver	14,183	
			Gold	11,788	
1943	521		Silver	5,101	
			Gold	5,381	
1942	1,023		Silver	17,107	
			Gold	27,464	
1941	1,361		Silver	18,662	
			Gold	29,579	
1940	1,080		Silver	13,530	
			Gold	19,533	
1939	1,129		Silver	25,256	
			Gold	33,436	
1938	318		Silver	4,012	
			Gold	7,216	
1921	9,905	9,905	Silver	34,182	
			Gold	102,298	
1920	4,225	4,225	Silver	12,690	
			Gold	49,267	
1915	91		Gold	1,555	
1912	47		Gold	3,235	
1911	3,174	3,174	Silver	26,220	
			Gold	81,552	
1910	4,761	4,717	Gold	114,241	
1909	4,982	4,672	Silver	29,175	
			Gold	184,347	
1908	1,097	817	Silver	22,550	
			Gold	54,181	
1907	20		Silver	746	
			Gold	3,888	

SUMMARY TOTALS: 082FSW040

NAME: **NUGGET (L.8341)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	36,968 tonnes	40,750 tons
Milled:	28,519 tonnes	31,437 tons
Recovery:		
Silver:	283,053 grams	9,100 ounces
Gold:	777,791 grams	25,007 ounces
Lead:	3,294 kilograms	7,262 pounds
Silica:	1,562,000 kilograms	3,443,620 pounds
Zinc:	1,273 kilograms	2,806 pounds

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MINFILE NUMBER: **082FSW040**

NAME: **NUGGET (L.8341)**

STATUS: Past Producer

Comments:

Comments:

1988: Custom ore (unknown tonnage).
1981: Previous broken muck from old stope and development muck.
1980: Recovered tailings from old stamp mill.
1973: Siliceous or from tailings dump.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	<u>082FSW041</u>	NAME:	<u>MOTHERLODE (L.8818)</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>
1985	969	969	Silver	32,607	
			Gold	7,578	
			Lead		2,494
			Zinc		1,342
1984	724		Silver	9,424	
			Gold	5,763	
			Copper		152
			Lead		1,536
			Zinc		723
1983	99		Silver	2,457	
			Gold	2,644	
			Lead		358
			Zinc		718
1981	30	30	Silver	936	
			Gold	1,447	
			Lead		61
			Zinc		30
1980	435	435	Silver	7,123	
			Gold	4,429	
			Lead		696
			Zinc		1,028
1975		484	Silver	34,462	
			Gold	3,919	
1974	423	423	Silver	4,319	
			Gold	4,319	
			Copper		109
			Lead		1,093
			Zinc		423
1922	5,120	5,120	Silver	26,127	
			Gold	71,319	
1917	52	52	Silver	1,773	
			Copper		1,293
1916	68	68	Silver	1,555	
			Copper		1,456
1915	2,533	2,533	Silver	23,172	
			Gold	65,098	
1914	18,144	18,144	Silver	99,530	
			Gold	252,867	
1913	22,014	22,014	Silver	180,833	
			Gold	496,000	
1912	16,078	12,198	Silver	93,402	
			Gold	244,874	
1910	196	196	Silver	30,325	
			Gold	27,433	
			Lead		4,730
1909	112	112	Silver	22,581	
			Gold	19,626	
1908	339	222	Silver	10,886	
			Gold	31,912	
1907	43	43	Silver	2,333	
			Gold	5,785	
1906	65	65	Silver	4,261	
			Gold	11,975	

SUMMARY TOTALS: 082FSW041

NAME: **MOTHERLODE (L.8818)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	67,444 tonnes	74,344 tons
Milled:	63,108 tonnes	69,565 tons
Recovery:		
Silver:	588,106 grams	18,908 ounces
Gold:	1,256,988 grams	40,413 ounces
Copper:	3,010 kilograms	6,636 pounds
Lead:	10,968 kilograms	24,180 pounds
Zinc:	4,264 kilograms	9,401 pounds

Comments:

1985: Crude ore.
 1984: Crude ore.
 1983: 99 tonnes lead concentrate.
 1980: Crude ore.
 1974: Low-grade ore from mine dumps.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **082FSW044** NAME: **GOLD BELT** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1979	1,010		Silver	21,275	
			Gold	9,860	
			Copper		681
			Lead		7,564
			Zinc		3,927
1967	91		Silver	498	
			Gold	1,337	
			Lead		91
			Zinc		143
1966	35		Silver	124	
			Gold	342	
			Lead		35
			Zinc		70
1965	47		Silver	404	
			Gold	529	
			Lead		70
			Zinc		119
1964	104		Silver	342	
			Gold	2,084	
			Lead		138
			Zinc		138
1963	220		Silver	1,462	
			Gold	1,680	
			Lead		220
			Zinc		339
1961	106		Silver	995	
			Gold	1,337	
			Lead		157
			Zinc		213
1960	130		Silver	1,586	
			Gold	1,773	
			Lead		274
			Zinc		293
1959	1,112		Silver	12,410	
			Gold	5,288	
			Lead		1,594
			Zinc		1,166
1958	197		Silver	3,235	
			Gold	933	
			Lead		314
			Zinc		197
1951	80		Silver	4,199	
			Gold	2,861	
1950	74		Silver	1,306	
			Gold	746	
1949	140		Silver	2,364	
			Gold	1,400	
1944	1		Silver	187	
			Gold	435	
1943	13,468	13,462	Silver	81,739	
			Gold	179,931	
1942	50,166	50,166	Silver	257,813	
			Gold	610,210	
1941	51,257	51,257	Silver	205,840	
			Gold	491,770	
1940	56,577	56,577	Silver	213,833	
			Gold	527,134	
1939	52,469	52,469	Silver	191,532	
			Gold	515,346	
1938	8,930	8,930	Silver	53,622	
			Gold	138,004	
1934	288		Silver	6,532	
			Gold	19,906	

SUMMARY TOTALS: 082FSW044

NAME: **GOLD BELT**

	<u>Metric</u>	<u>Imperial</u>
Mined:	236,502 tonnes	260,699 tons
Milled:	232,861 tonnes	256,685 tons
Recovery:	Silver: 1,061,298 grams	34,121 ounces

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MINFILE NUMBER: **082FSW044**

NAME: **GOLD BELT**

STATUS: Past Producer

Gold:	2,512,906 grams	80,792 ounces
Copper:	681 kilograms	1,501 pounds
Lead:	10,457 kilograms	23,054 pounds
Zinc:	6,605 kilograms	14,562 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW046		NAME: KOOTENAY BELLE		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	3,122		Silver	13,778		
			Gold	8,367		
			Lead			3,564
			Zinc			3,121
1965	5,520		Silver	21,492		
			Gold	6,096		
			Lead			6,000
			Zinc			6,336
1964	5,532		Silver	23,172		
			Gold	9,362		
			Lead			5,744
			Zinc			5,884
1963	5,630		Silver	19,564		
			Gold	23,358		
			Lead			5,518
			Zinc			5,068
1962	7,903		Silver	25,909		
			Gold	24,602		
			Lead			7,975
			Zinc			8,250
1961	6,988		Silver	25,131		
			Gold	9,860		
			Lead			7,107
			Zinc			7,350
1960	3,971		Silver	15,956		
			Gold	4,697		
			Lead			4,798
			Zinc			4,560
1959	1,221		Silver	4,541		
			Gold	1,337		
			Lead			1,221
			Zinc			1,221
1958	14		Silver	1,120		
			Gold	31		
			Lead			132
			Zinc			13
1950	425		Silver	6,345		
			Gold	8,118		
1949	354		Silver	12,130		
			Gold	9,455		
1948	325		Silver	14,929		
			Gold	10,824		
1947	56		Silver	3,048		
			Gold	1,804		
1946	455		Silver	7,993		
			Gold	5,910		
1944	225		Silver	3,608		
			Gold	3,328		
1943	2,489	2,489	Silver	24,105		
			Gold	61,677		
1942	23,601	23,601	Silver	75,083		
			Gold	258,466		
1941	31,428	31,428	Silver	77,758		
			Gold	301,201		
1940	35,232	35,232	Silver	109,078		
			Gold	396,346		
1939	47,778	47,778	Silver	170,476		
			Gold	582,652		
1938	43,761	43,761	Silver	196,167		
			Gold	604,051		
1937	37,739	36,228	Silver	170,320		
			Gold	500,696		
1936	19,835	14,069	Silver	88,612		
			Gold	217,006		
			Lead			10,458
			Zinc			17,532
1935	15,513	13,290	Silver	68,644		
			Gold	181,797		
1934	748	718	Silver	25,007		

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FSW046		NAME: KOOTENAY BELLE		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1934	748	718	Gold	47,556		
1933	611		Silver	14,494		
			Gold	28,646		
1932	220		Silver	8,647		
			Gold	12,037		
1928	256		Silver	8,771		
			Gold	16,733		
1927	135		Silver	9,673		
			Gold	11,819		
1923	25		Silver	2,955		
			Gold	5,288		
1911	28		Silver	3,763		
			Gold	7,340		
1909	1,517	1,517	Silver	404		
			Gold	25,411		
1908	1,339	1,285	Silver	10,171		
			Gold	35,146		
1907	812	747	Silver	5,567		
			Gold	19,035		
1906	425	167	Silver	18,133		
			Gold	28,086		
1905	294		Silver	19,688		
			Gold	33,280		
1904	83		Gold	5,661		

SUMMARY TOTALS: 082FSW046

NAME: **KOOTENAY BELLE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	305,610 tonnes	336,877 tons
Milled:	252,310 tonnes	278,124 tons
Recovery:		
Silver:	1,306,232 grams	41,996 ounces
Gold:	3,507,079 grams	112,755 ounces
Lead:	52,517 kilograms	115,780 pounds
Zinc:	59,335 kilograms	130,811 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW048		NAME: QUEEN (L.1076)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1970	324		Silver	1,337	
			Gold	311	
			Lead		324
			Zinc		449
1964	38		Silver	404	
			Gold	809	
			Lead		192
			Zinc		39
1962	26		Silver	280	
			Gold	560	
			Lead		26
			Zinc		26
1961	45		Silver	498	
			Gold	591	
			Lead		71
			Zinc		117
1959	171		Silver	1,648	
			Gold	1,026	
			Lead		310
			Zinc		266
1956	4		Silver	280	
			Gold	311	
			Lead		35
			Zinc		21
1952	4		Silver	809	
			Gold	3,452	
1951		20	Silver	2,893	
			Gold	6,189	
1950	14,375	13,627	Silver	65,161	
			Gold	155,639	
			Lead		3,847
			Zinc		2,145
1949	25,394	25,394	Silver	132,623	
			Gold	337,561	
1948	23,071	23,071	Silver	81,739	
			Gold	257,315	
1947	27,053	27,053	Silver	73,248	
			Gold	256,475	
1946	16,518	16,518	Silver	45,317	
			Gold	176,603	
1945	22,262	22,230	Silver	84,880	
			Gold	309,972	
1944	11,928	11,877	Silver	42,269	
			Gold	152,094	
1943	27,474	27,474	Silver	122,453	
			Gold	406,796	
1942	50,253	50,253	Silver	222,169	
			Gold	730,703	
1941	49,942	49,942	Silver	247,735	
			Gold	811,260	
1940	49,965	49,965	Silver	259,306	
			Gold	815,801	
1939	50,401	50,401	Silver	314,638	
			Gold	863,108	
1938	48,741	48,741	Silver	306,551	
			Gold	805,474	
1937	49,214	49,208	Silver	261,856	
			Gold	744,077	
1936	49,865	49,865	Silver	155,639	
			Gold	503,371	
1935	25,580	25,580	Silver	78,286	
			Gold	282,446	
1933	1,134	136	Gold	1,711	
1932	544	544	Silver	467	
			Gold	2,955	
1928	1,593	1,593	Silver	2,550	
			Gold	7,123	
			Lead		

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW048		NAME: QUEEN (L.1076)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1926	24	24	Silver	778		
			Gold	2,022		
1918	51	51	Silver	62		
			Gold	249		
1916	1,869	1,869	Silver	7,682		
			Gold	26,749		
1915	8,663	8,663	Silver	56,576		
			Gold	158,345		
1914	8,891	8,891	Silver	48,427		
			Gold	171,595		
1913	6,507	6,507	Silver	19,222		
			Gold	68,178		
1912	10,252	10,252	Silver	35,737		
			Gold	121,395		
1911	13,018	13,018	Silver	90,136		
			Gold	237,067		
1910	11,212	11,212	Silver	47,183		
			Gold	209,945		
1909	10,240	9,620	Silver	69,577		
			Gold	165,095		
1908	7,981	7,981	Silver	71,786		
			Gold	193,927		
1907	8,024	8,024	Silver	51,320		
			Gold	155,857		
1906	6,373	6,268	Silver	32,347		
			Gold	77,789		
1905	5,514	5,421	Silver	36,453		
			Gold	97,943		
			Lead		2,738	
1904	4,396	4,396	Silver	15,272		
			Gold	50,511		
1903	131		Silver	4,945		
			Gold	6,625		
1902	4,100	3,999	Silver	28,739		
			Gold	76,047		

SUMMARY TOTALS: 082FSW048

NAME: **QUEEN (L.1076)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	653,165 tonnes	719,991 tons
Milled:	649,688 tonnes	716,158 tons
Recovery:		
Silver:	3,121,278 grams	100,351 ounces
Gold:	9,453,072 grams	303,923 ounces
Lead:	7,769 kilograms	17,128 pounds
Zinc:	3,063 kilograms	6,753 pounds

Comments:

- 1952: Clean-up
- 1951: Clean-up
- 1948: Gold amount includes recoveries from slags.
- 1945: Lessees from Sheep Cr. G. Mines Ltd.
- 1944: Lessees from Sheep Cr. G. Mines Ltd.
- 1943: Gold amount includes recoveries from slags.
- 1941: Gold amount includes recoveries from slags.
- 1939: Gold amount includes recoveries from slags.
- 1938: Gold amount includes recoveries from slags.
- 1937: Lessees from Sheep Cr. G. Mine Ltd.
- 1936: Gold amount includes recoveries from slags.

RUN DATE: 25-Jun-2003
 RUN TIME: 16:37:09

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MINFILE NUMBER: **082FSW049** NAME: **VANCOUVER (L.10006)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1933	115		Silver	2,550	
			Gold	6,158	
1932	103		Silver	2,613	
			Gold	6,376	
1913	21		Silver	933	
			Gold	2,893	
1912	15		Silver	840	
			Gold	1,617	
1911	74		Silver	5,101	
			Gold	9,642	
1909	19		Silver	778	
			Gold	3,297	

SUMMARY TOTALS: 082FSW049

NAME: **VANCOUVER (L.10006)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	347 tonnes	383 tons
Milled:		
Recovery:		
	Silver: 12,815 grams	412 ounces
	Gold: 29,983 grams	964 ounces

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW052		NAME: YELLOWSTONE (L.3631)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1970	60		Silver	218		
			Gold	93		
			Lead			181
			Zinc			120
1902			Silver	9,829		
			Gold	5,723		
1901	7,729	7,624	Silver	44,166		
			Gold	64,228		
1900	7,682	7,682	Silver	42,051		
			Gold	104,382		
1899	2		Silver	93		
			Gold	31		

SUMMARY TOTALS: 082FSW052

NAME: **YELLOWSTONE (L.3631)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	15,473 tonnes	17,056 tons
Milled:	15,306 tonnes	16,872 tons
Recovery:		
Silver:	96,357 grams	3,098 ounces
Gold:	174,457 grams	5,609 ounces
Lead:	181 kilograms	399 pounds
Zinc:	120 kilograms	265 pounds
Comments:		
1902:	No ore milled, conc. from stock-pile.	

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW053		NAME: ORE HILL (L.2073)		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	13		Silver	622		
			Gold	249		
1938	245		Silver	32,565		
			Gold	31,725		
			Lead			21,845
			Zinc			24,103
1937	1,353	885	Silver	42,145		
			Gold	30,605		
			Lead			26,211
			Zinc			30,158
1936	387		Silver	34,276		
			Gold	21,337		
			Lead			22,778
			Zinc			21,390
1918	34		Silver	57,541		
			Gold	311		
			Lead			8,391
1915	27		Gold	124		
1914	91		Gold	2,799		
1906	91		Silver	1,275		
			Gold	1,462		
			Lead			1,032

SUMMARY TOTALS: 082FSW053

NAME: **ORE HILL (L.2073)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,241 tonnes	2,470 tons
Milled:	885 tonnes	976 tons
Recovery:		
Silver:	168,424 grams	5,415 ounces
Gold:	88,612 grams	2,849 ounces
Lead:	80,257 kilograms	176,936 pounds
Zinc:	75,651 kilograms	166,782 pounds

Comments: 1938: 101 tons of lead conc. shipped to Trail

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW054		NAME: SUMMIT (L.10010)		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	1,010	907	Silver	18,537		
			Gold	13,530		
			Lead			12,870
			Zinc			12,988
1924	4		Silver	156		
			Gold	466		
1914	4		Silver	218		
			Gold	715		
1911	45		Silver	10,886		
			Gold	3,110		
1910	19		Silver	5,505		
			Gold	4,417		
1908	3		Silver	653		
			Gold	404		
			Lead			228
1906	9		Silver	1,928		
			Gold	4,417		
			Lead			630

SUMMARY TOTALS: 082FSW054

NAME: **SUMMIT (L.10010)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,094 tonnes	1,206 tons
Milled:	907 tonnes	1,000 tons
Recovery:		
Silver:	37,883 grams	1,218 ounces
Gold:	27,059 grams	870 ounces
Lead:	13,728 kilograms	30,265 pounds
Zinc:	12,988 kilograms	28,634 pounds

Comments: 1914: Estimate
 1911: Estimate

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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MINFILE NUMBER: 082FSW055	NAME: BONANZA (L.10161)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1963	14		Silver	2,861	
			Gold	124	
			Lead		118

SUMMARY TOTALS: 082FSW055

NAME: **BONANZA (L.10161)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	14 tonnes	15 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,861 grams	92 ounces
Gold:	124 grams	4 ounces
Lead:	118 kilograms	260 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW062		NAME: LUCKY STRIKE		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1963	4		Silver	1,306	
			Gold	187	
			Lead		46
			Zinc		20
1962	3		Silver	1,835	
			Gold	124	
			Lead		69
1961	1		Silver	715	
			Gold	62	
			Lead		22
1940	4		Zinc		4
			Silver	902	
			Gold	93	
1939	9		Lead		46
			Zinc		39
			Silver	5,630	
1938	34		Gold	342	
			Lead		318
			Zinc		262
1938	34		Silver	54,803	
			Gold	1,648	
			Lead		1,817
			Zinc		773

SUMMARY TOTALS: 082FSW062

NAME: **LUCKY STRIKE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	55 tonnes	61 tons
Milled:	55 tonnes	61 tons
Recovery:		
Silver:	65,191 grams	2,096 ounces
Gold:	2,456 grams	79 ounces
Lead:	2,318 kilograms	5,110 pounds
Zinc:	1,115 kilograms	2,458 pounds

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MINFILE NUMBER: 082FSW063		NAME: PORCUPINE (L.4634)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1971	69		Silver	5,910	
			Gold	31	
			Lead		482
			Zinc		895
1948	24		Silver	7,216	
			Gold	72	
			Lead		648
			Zinc		1,738
1926	16		Silver	5,381	
			Gold	31	
			Copper		1,052

SUMMARY TOTALS: 082FSW063

NAME: **PORCUPINE (L.4634)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	109 tonnes	120 tons
Milled:	tonnes	tons
Recovery:		
Silver:	18,507 grams	595 ounces
Gold:	134 grams	4 ounces
Copper:	1,052 kilograms	2,319 pounds
Lead:	1,130 kilograms	2,491 pounds
Zinc:	2,633 kilograms	5,805 pounds

Comments:

1971: Crude ore.
 1948: Maple Leaf, Annual Report 1948 p. 133.
 1926: Porcupine, copper production is suspect.

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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MINFILE NUMBER: 082FSW064	NAME: NEVADA (L.3504)	STATUS: Developed Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1937	9		Silver	1,773	
			Gold	62	
			Lead		546
			Zinc		381

SUMMARY TOTALS: 082FSW064

NAME: **NEVADA (L.3504)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	9 tonnes	10 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,773 grams	57 ounces
Gold:	62 grams	2 ounces
Lead:	546 kilograms	1,204 pounds
Zinc:	381 kilograms	840 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	082FSW066		NAME:	CENTER STAR (L.3766)		STATUS:	Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>		<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>		<u>Kilograms Recovered</u>	
1950	2			Silver	124			
				Gold	31			
				Lead			30	
				Zinc			8	
1949	15			Silver	1,835			
				Gold	124			
				Lead			633	
				Zinc			963	
1948	134			Silver	27,930			
				Gold	3,515			
				Lead			8,128	
				Zinc			10,218	
1947	94			Silver	21,430			
				Gold	1,617			
				Lead			7,540	
				Zinc			8,792	
1946	26			Silver	2,830			
				Gold	342			
				Lead			1,159	
				Zinc			726	
1944	27			Silver	3,328			
				Gold	840			
				Lead			1,103	
				Zinc			1,306	
1942	97			Silver	22,985			
				Gold	4,417			
				Lead			7,441	
				Zinc			7,613	
1941	271			Silver	56,452			
				Gold	11,695			
				Lead			17,871	
				Zinc			16,619	
1940	106			Silver	26,780			
				Gold	4,230			
				Lead			8,096	
				Zinc			6,600	
1939	91			Silver	3,141			
				Gold	467			
				Lead			620	
				Zinc			322	
1938	13,695		13,695	Silver	608,219			
				Gold	91,132			
				Lead			185,955	
				Zinc			99,293	
1937	31,418		31,418	Silver	1,928,946			
				Gold	239,431			
				Lead			639,652	
				Zinc			295,483	
1936	5,482		5,482	Silver	251,219			
				Gold	28,304			
				Lead			88,173	
				Zinc			27,685	

SUMMARY TOTALS: 082FSW066

NAME: **CENTER STAR (L.3766)**

	<u>Metric</u>		<u>Imperial</u>	
Mined:	51,458 tonnes		56,723 tons	
Milled:	50,595 tonnes		55,771 tons	
Recovery:	Silver:	2,955,219 grams	95,012 ounces	
	Gold:	386,145 grams	12,415 ounces	
	Lead:	966,401 kilograms	2,130,549 pounds	
	Zinc:	475,628 kilograms	1,048,580 pounds	

Comments:

1950: Clean-up
 1940: Clean-up included in milled.
 1939: Estimate

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MINFILE NUMBER: 082FSW067		NAME: DUNDEE		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1951	417		Silver	82,361		
			Gold	6,687		
			Lead			35,858
			Zinc			43,971
1950	897		Silver	164,628		
			Gold	9,642		
			Lead			71,831
			Zinc			77,552
1949	499		Silver	123,666		
			Gold	3,515		
			Lead			55,241
			Zinc			51,550
1935	605		Silver	67,929		
			Gold	6,034		
			Lead			29,761
			Zinc			27,086
1934	284		Silver	25,940		
			Gold	3,515		
			Lead			11,611
			Zinc			11,622
1899	15	168	Silver	7,620		
			Gold	1,493		

SUMMARY TOTALS: 082FSW067

		NAME: DUNDEE	
		<u>Metric</u>	<u>Imperial</u>
Mined:		2,717 tonnes	2,995 tons
Milled:		168 tonnes	185 tons
Recovery:	Silver:	472,144 grams	15,180 ounces
	Gold:	30,886 grams	993 ounces
	Lead:	204,302 kilograms	450,409 pounds
	Zinc:	211,781 kilograms	466,897 pounds

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MINFILE NUMBER:	<u>082FSW068</u>	NAME:	<u>YANKEE GIRL (L.7712)</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>
1951	63		Silver	8,989	
			Gold	187	
			Lead		4,593
			Zinc		10,030
1950	1,016		Silver	157,443	
			Gold	7,900	
			Lead		74,259
			Zinc		176,729
1947	25		Silver	4,417	
			Gold	591	
			Lead		1,523
			Zinc		1,951
1946	41		Silver	8,864	
			Gold	2,550	
			Lead		2,507
			Zinc		3,686
1944	183		Silver	34,276	
			Gold	6,252	
			Lead		13,556
			Zinc		15,603
1943	112		Silver	36,608	
			Gold	3,577	
			Lead		16,271
			Zinc		18,813
1942	22,587	22,587	Silver	846,966	
			Gold	98,970	
			Cadmium		16,644
			Lead		356,409
			Zinc		634,724
1941	29,764	29,764	Silver	1,915,292	
			Gold	200,428	
			Cadmium		19,369
			Lead		851,600
			Zinc		728,445
1940	47,651	47,651	Silver	1,774,675	
			Gold	317,406	
			Lead		670,770
			Zinc		372,401
1939	42,835	42,835	Silver	2,400,219	
			Gold	392,302	
			Lead		492,281
			Zinc		359,387
1938	38,753	38,753	Silver	1,494,313	
			Gold	374,014	
			Lead		379,344
			Zinc		296,891
1937	35,703	35,703	Silver	1,394,472	
			Gold	338,681	
			Lead		435,625
			Zinc		292,326
1936	39,352	39,352	Silver	1,462,867	
			Gold	358,307	
			Lead		427,827
			Zinc		292,842
1935	28,558	28,558	Silver	882,672	
			Gold	251,157	
			Lead		242,657
			Zinc		116,714
1934	12,670		Silver	2,269,866	
			Gold	283,162	
			Lead		712,186
			Zinc		1,077,689
1933	12,236		Silver	1,210,124	
			Gold	215,264	
			Lead		312,278
			Zinc		509,871
1932	7,404		Silver	852,782	
			Gold	142,016	
			Lead		271,417
			Zinc		369,393
1928	1,107		Silver	92,220	
			Gold	17,480	

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MINFILE NUMBER: 082FSW068		NAME: YANKEE GIRL (L.7712)		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	1,107		Lead		15,603
1927	16,104		Silver Gold Lead Zinc	1,146,208 173,710	421,211 633,145
1926	16,492		Silver Gold Lead Zinc	1,364,613 186,867	329,116 563,533
1920	276		Silver Gold Lead	37,106 6,594	11,933
1918	8,026		Silver Gold Lead	884,818 189,262	2,304
1917	1,867		Silver Gold	214,362 48,956	
1916	611		Silver Gold	25,007 5,225	
1914	206		Silver Gold	46,934 8,678	
1913	2,948		Silver Gold	770,079 110,105	
1912	638		Silver Gold Lead	121,177 15,458	17,755
1911	1,188		Silver Gold Lead	108,363 19,346	29,210
1909	2,139		Silver Gold Lead	458,303 74,398	102,348
1908	27		Silver Gold Lead	4,790 529	1,778
1907	34		Silver Gold Lead	7,465 746	1,973

SUMMARY TOTALS: 082FSW068

NAME: **YANKEE GIRL (L.7712)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	370,616 tonnes	408,534 tons
Milled:	285,203 tonnes	314,382 tons
Recovery:		
Silver:	22,036,290 grams	708,482 ounces
Gold:	3,850,118 grams	123,784 ounces
Cadmium:	36,013 kilograms	79,395 pounds
Lead:	6,198,334 kilograms	13,664,983 pounds
Zinc:	6,474,173 kilograms	14,273,104 pounds

Comments: 1951: Tailings included in milled.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **082FSW072** NAME: **TAMARAC (L.3802)** 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>
1959	181		Gold	4,525	
1933	47		Silver	342	
			Gold	2,333	
1901	108		Gold	902	
1900	4		Gold	156	
1899	6		Silver	62	
			Gold	124	

SUMMARY TOTALS: 082FSW072

NAME: **TAMARAC (L.3802)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	346 tonnes	381 tons
Milled:	tonnes	tons
Silver:	404 grams	13 ounces
Gold:	8,040 grams	258 ounces

Recovery:

Comments:

1959: Quantity calculated from \$30/ton, Annual Report 1959, p. 61.
 1933: Two shipments, Minister of Mines Annual Report 1933, p. 228.
 1901: Quantity recovered unknown, Annual Report 1901, p. 1027.

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MINFILE NUMBER: 082FSW073		NAME: PROTECTION		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1973	40		Silver	3,421	
			Gold	62	
			Lead		1,036
			Zinc		916
1960	10		Silver	342	
			Gold	124	
			Lead		117
			Zinc		165
1955	42		Silver	8,616	
			Gold	1,026	
			Lead		2,455
			Zinc		2,857
1954	142		Silver	48,925	
			Gold	2,830	
			Lead		6,710
			Zinc		7,943
1953	145		Silver	17,604	
			Gold	3,390	
			Lead		6,395
			Zinc		6,917
1952	958		Silver	111,753	
			Gold	5,723	
			Cadmium		514
			Lead		39,284
			Zinc		46,445
1951	235		Silver	48,645	
			Gold	3,390	
			Lead		14,068
			Zinc		15,202
1950	168		Silver	42,145	
			Gold	5,101	
			Lead		9,736
			Zinc		12,883
1949	308		Silver	63,823	
			Gold	5,910	
			Lead		21,211
			Zinc		21,983
1948	314		Silver	67,618	
			Gold	7,838	
			Lead		24,180
			Zinc		23,868
1947	305		Silver	65,379	
			Gold	5,567	
			Lead		22,293
			Zinc		25,018
1946	59		Silver	12,441	
			Gold	1,897	
			Lead		4,521
			Zinc		4,364
1945	45		Silver	9,797	
			Gold	1,306	
			Lead		3,037
			Zinc		3,323
1944	103		Silver	23,638	
			Gold	2,830	
			Lead		7,488
			Zinc		8,141
1943	34		Silver	7,714	
			Gold	1,182	
			Lead		2,287
			Zinc		2,692
1942	516		Silver	44,913	
			Gold	7,060	
			Lead		15,071
			Zinc		18,648
1941	1,930		Silver	239,866	
			Gold	30,543	
			Lead		67,052
			Zinc		72,385
1940	866		Silver	237,751	
			Gold	43,762	
			Lead		47,006

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER:	082FSW073	NAME:	PROTECTION	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	866		Zinc		56,062
1934	3,664		Silver	480,790	
			Gold	65,067	
			Lead		152,456
			Zinc		183,803
1933	47		Silver	342	
			Gold	2,333	
			Copper		10
1932	370		Silver	68,520	
			Gold	12,317	
			Lead		20,888
			Zinc		21,938
1930	1,035		Silver	240,488	
			Gold	29,703	
			Lead		65,924
			Zinc		86,935
1929	306		Silver	104,164	
			Gold	11,042	
			Lead		27,167
			Zinc		33,281
1928	1,550		Silver	258,559	
			Gold	35,831	
			Lead		58,649
1927	1,185		Silver	213,553	
			Gold	28,708	
			Lead		42,417
			Zinc		47,464
1926	293		Silver	155,235	
			Gold	17,667	
			Lead		27,163
1901	108		Gold	902	
1900	4		Gold	156	
1899	6		Silver	62	
			Gold	124	

SUMMARY TOTALS: 082FSW073

NAME: **PROTECTION**

	<u>Metric</u>	<u>Imperial</u>
Mined:	14,788 tonnes	16,301 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,576,104 grams	82,824 ounces
Gold:	333,391 grams	10,719 ounces
Cadmium:	514 kilograms	1,133 pounds
Copper:	10 kilograms	22 pounds
Lead:	688,611 kilograms	1,518,127 pounds
Zinc:	703,233 kilograms	1,550,363 pounds

Comments:

1973: GOODENOUGH
 1960: GOODENOUGH
 1955: PROTECTION
 1954: PROTECTION
 1953: PROTECTION
 1952: PROTECTION
 1951: PROTECTION
 1949: PROTECTION
 1948: PROTECTION
 1947: PROTECTION
 1946: PROTECTION
 1945: PROTECTION
 1944: PROTECTION
 1943: GOODENOUGH
 1942: GOODENOUGH
 1941: GOODENOUGH
 1940: GOODENOUGH
 1934: GOODENOUGH
 1933: GOODENOUGH
 1932: GOODENOUGH
 1930: GOODENOUGH
 1929: GOODENOUGH
 1928: GOODENOUGH
 1927: GOODENOUGH
 1926: GOODENOUGH

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FSW074		NAME: YMIR (L.1708)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1973			Silver	1,835		
			Gold	31		
			Lead			222
			Zinc			222
1970	548		Silver	8,616		
			Gold	1,213		
			Lead			909
			Zinc			6,736
1950	12		Silver	1,493		
			Gold	435		
			Lead			220
			Zinc			263
1945	31		Silver	2,146		
			Gold	995		
			Lead			686
			Zinc			360
1944	178		Silver	5,256		
			Gold	1,711		
			Lead			1,855
			Zinc			1,889
1943	1,300		Silver	29,983		
			Gold	4,541		
			Lead			8,617
			Zinc			12,724
1942	1,904		Silver	73,372		
			Gold	9,455		
			Lead			21,389
			Zinc			33,709
1941	2,002		Silver	137,040		
			Gold	19,875		
			Lead			52,983
			Zinc			73,316
1940	517		Silver	62,050		
			Gold	10,948		
			Lead			26,477
			Zinc			35,318
1939	8,254	7,570	Silver	902,858		
			Gold	121,426		
			Lead			273,273
			Zinc			185,930
1938	12,825	12,681	Silver	1,114,141		
			Gold	171,315		
			Lead			197,602
			Zinc			120,784
1937	7,914	7,894	Silver	522,188		
			Gold	87,897		
			Lead			142,058
			Zinc			100,697
1936	10,719	10,719	Silver	768,213		
			Gold	93,807		
			Lead			197,749
			Zinc			137,311
1935	10,387	10,387	Silver	431,025		
			Gold	67,649		
			Lead			100,710
			Zinc			104,082
1934	201		Silver	15,209		
			Gold	5,039		
1908	35		Silver	8,305		
			Gold	622		
			Lead			2,251
1907	856	856	Silver	55,830		
			Gold	6,283		
			Lead			9,994
1906	13,608	13,608	Silver	256,600		
			Gold	58,909		
			Lead			70,452
1905	20,136	20,121	Silver	638,545		
			Gold	127,771		
			Lead			168,117
1904	29,670	29,601	Silver	860,091		

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FSW074		NAME: YMIR (L.1708)		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>	
1904	29,670	29,601	Gold Lead	65,534	321,595	
1903	48,961	48,942	Silver Gold Lead	1,467,937 359,022	440,376	
1902	45,390	45,390	Silver Gold Lead	1,585,538 464,430	570,017	
1901	63,086	63,086	Silver Gold Lead	2,513,589 782,303	1,068,538	
1900	38,737	38,700	Silver Gold Lead	1,457,487 484,709	590,568	
1899	10,375	15,546	Silver Gold Lead	1,364,551 464,399	511,520	

SUMMARY TOTALS: 082FSW074

NAME: **YMIR (L.1708)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	327,646 tonnes	361,168 tons
Milled:	325,101 tonnes	358,363 tons
Recovery:		
Silver:	14,283,898 grams	459,237 ounces
Gold:	3,410,319 grams	109,644 ounces
Lead:	4,778,178 kilograms	10,534,076 pounds
Zinc:	813,341 kilograms	1,793,109 pounds

Comments:

1973: Ore from dump, unknown amount.
 1945: Clean-up

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MINFILE NUMBER:	082FSW075	NAME:	YMIR-GOOD HOPE	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1905	17	8	Silver	249	
			Gold	156	
1903	24		Silver	3,701	
			Gold	746	

SUMMARY TOTALS: 082FSW075

NAME: **YMIR-GOOD HOPE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	41 tonnes	45 tons
Milled:	8 tonnes	9 tons
Recovery:		
Silver:	3,950 grams	127 ounces
Gold:	902 grams	29 ounces

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW076		NAME: BLACKCOCK (L.2922)		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	6		Silver	249	
			Gold	62	
			Lead		125
			Zinc		112
1941	1,090		Silver	52,066	
			Gold	14,152	
			Lead		23,836
			Zinc		22,515
1940	169		Silver	9,051	
			Gold	3,328	
			Lead		4,966
			Zinc		4,600
1938	10		Silver	964	
			Gold	249	
			Lead		539
			Zinc		492
1937	123		Silver	3,204	
			Gold	1,151	
			Lead		1,459
			Zinc		1,265
1936	1,095	1,095	Silver	20,497	
			Gold	6,718	
			Lead		9,286
			Zinc		5,425
1932	50		Silver	5,039	
			Gold	2,333	
			Lead		2,952
			Zinc		2,412
1900	39		Silver	3,204	
			Gold	2,613	
1899	32		Silver	2,986	
			Gold	1,244	

SUMMARY TOTALS: 082FSW076

NAME: **BLACKCOCK (L.2922)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,614 tonnes	2,881 tons
Milled:	1,095 tonnes	1,207 tons
Recovery:		
Silver:	97,260 grams	3,127 ounces
Gold:	31,850 grams	1,024 ounces
Lead:	43,163 kilograms	95,158 pounds
Zinc:	36,821 kilograms	81,176 pounds

Comments: 1937: 8 tons crude, 9 tons lead conc.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: <u>082FSW077</u>		NAME: <u>WILCOX</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>	
1943	14		Silver	2,208		
			Gold	529		
			Lead			660
			Zinc			202
1942	80		Silver	10,637		
			Gold	3,763		
			Lead			2,221
			Zinc			136
1941	102		Silver	10,513		
			Gold	5,039		
1940	386		Silver	11,601		
			Gold	4,106		
			Lead			28
			Zinc			12
1939	7		Silver	373		
			Gold	93		
			Lead			125
			Zinc			44
1938	1,266	1,266	Silver	22,021		
			Gold	10,855		
			Lead			3,619
			Zinc			2,660
1937	2,214	2,214	Silver	32,472		
			Gold	19,097		
			Lead			4,102
			Zinc			3,494
1936	2,359	2,359	Silver	40,714		
			Gold	22,798		
			Lead			6,447
			Zinc			5,676
1935	1,447	1,447	Silver	32,845		
			Gold	19,564		
			Lead			5,503
			Zinc			2,602
1934	1,506	1,506	Silver	32,472		
			Gold	20,248		
			Lead			3,998
			Zinc			2,615
1933	1,537	1,537	Silver	49,889		
			Gold	31,072		
			Lead			7,464
			Zinc			6,393
1932	786	786	Silver	21,679		
			Gold	13,748		
			Lead			3,998
			Zinc			4,052
1931	454	454	Silver	10,699		
			Gold	6,221		
			Lead			3,132
			Zinc			2,763
1911			Gold	6,905		
1910	17		Silver	653		
			Gold	778		
1905	70	70	Silver	10,357		
			Gold	11,570		
			Lead			1,558
1904	1,814	1,814	Silver	76,544		
			Gold	37,946		
			Lead			10,934
1903	469		Silver	151,161		
			Gold	25,100		
			Lead			42,211
1902	18		Silver	4,821		
			Gold	1,928		
			Lead			1,317
1901	9		Silver	4,976		
			Gold	622		
			Lead			907

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MINFILE NUMBER: **082FSW077**

NAME: **WILCOX**

STATUS: Past Producer

SUMMARY TOTALS: 082FSW077

NAME: **WILCOX**

	<u>Metric</u>	<u>Imperial</u>
Mined:	14,555 tonnes	16,044 tons
Milled:	13,453 tonnes	14,829 tons
Recovery:		
Silver:	526,635 grams	16,932 ounces
Gold:	241,982 grams	7,780 ounces
Lead:	98,224 kilograms	216,547 pounds
Zinc:	30,649 kilograms	67,569 pounds

Comments:

1931: Estimate.
1911: No record, estimate
1904: Estimate.

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MINFILE NUMBER: 082FSW079	NAME: GOLD CUP	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1925	24		Gold	1,244	

SUMMARY TOTALS: 082FSW079

	NAME: GOLD CUP	
	<u>Metric</u>	<u>Imperial</u>
	24 tonnes	26 tons
Recovery:	Milled:	tonnes
	Mined:	
	Gold:	1,244 grams
		40 ounces

RUN DATE: 25-Jun-2003
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MINFILE NUMBER: 082FSW081	NAME: OLD TIMER (L.4662)	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1980	46		Silver	2,578	
			Gold	184	
			Lead		326
			Zinc		116

SUMMARY TOTALS: 082FSW081

NAME: **OLD TIMER (L.4662)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	46 tonnes	51 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,578 grams	83 ounces
Gold:	184 grams	6 ounces
Lead:	326 kilograms	719 pounds
Zinc:	116 kilograms	256 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	082FSW082		NAME:	QUEEN VICTORIA (L.368)		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	54			Silver	2,488		
				Copper		2,365	
1956	4,397		4,397	Silver	300,082		
				Gold	1,586		
				Copper		22,696	
1927	30			Silver	715		
				Copper		686	
1926	26			Silver	871		
				Gold	31		
				Copper		608	
1918	44			Silver	1,897		
				Gold	62		
				Copper		1,111	
1917	210			Silver	16,702		
				Copper		4,344	
1916	1,772			Silver	37,199		
				Gold	93		
				Copper		38,297	
1915	810			Silver	20,404		
				Gold	778		
				Copper		15,686	
1914	7,194			Silver	88,799		
				Gold	156		
				Copper		91,247	
1913	24,106			Silver	341,853		
				Gold	3,484		
				Copper		358,813	
1912	980			Silver	13,685		
				Gold	31		
				Copper		14,342	
1910	2,506			Silver	32,223		
				Gold	684		
				Copper		38,449	
1908	32			Silver	529		
				Copper		409	
1907	3,191			Silver	92,563		
				Gold	746		
				Copper		83,577	

SUMMARY TOTALS: 082FSW082

NAME: **QUEEN VICTORIA (L.368)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	45,352 tonnes	49,992 tons
Milled:	4,397 tonnes	4,847 tons
Recovery:		
Silver:	950,010 grams	30,543 ounces
Gold:	7,651 grams	246 ounces
Copper:	672,630 kilograms	1,482,895 pounds

Comments:

1961: Queen Victoria operated by Swift Copper Mines Ltd.
 1956: Queen Victoria and Eureka (082FSW084) operated by Finlay Co.
 1926: Queen Victoria operated by lessee O. Schaer.
 1918: Orinoco operated by owner M. Egan.
 1917: Totals cumulative 1915-1917 for Queen Victoria and Orinoco.
 1912: Operated by B.C. Copper Co. Ltd.
 1910: Operated by Consolidated Mining & Smelting Co. of Canada Ltd.
 1908: Operated by F.M. Bell.
 1907: Queen Victoria operated by J. Cronin.

RUN DATE: 25-Jun-2003
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MINFILE NUMBER:	082FSW083	NAME:	STAR (L.3687)	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1934	2		Silver	85	
			Copper		42
1904	1,161		Gold	5,599	

SUMMARY TOTALS: 082FSW083

NAME: **STAR (L.3687)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,163 tonnes	1,282 tons
Milled:		
Recovery:		
Silver:	85 grams	3 ounces
Gold:	5,599 grams	180 ounces
Copper:	42 kilograms	93 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FSW084		NAME: EUREKA (L.5552)		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>
1954	73		Silver	5,941	
			Gold	124	
			Lead		713
1921	18		Silver	311	
			Gold	1,369	
1919	3,905	3,603	Silver	83,698	
			Gold	1,617	
			Copper		9,963
1918	844		Silver	77,695	
			Gold	1,306	
			Copper		7,386
1917	1,033		Silver	292,773	
			Gold	3,701	
			Copper		17,472
1916	1,361		Silver	466,545	
			Copper		47,627
1910	310		Silver	84,911	
			Gold	871	
			Copper		11,615
1907	624		Silver	50,014	
			Gold	4,323	
			Copper		33,226
1906	640		Silver	50,480	
			Gold	4,168	
			Copper		19,857
1905	187		Silver	12,379	
			Gold	1,711	
			Copper		12,024

SUMMARY TOTALS: 082FSW084

NAME: **EUREKA (L.5552)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	8,995 tonnes	9,915 tons
Milled:	3,603 tonnes	3,972 tons
Recovery:		
Silver:	1,124,747 grams	36,161 ounces
Gold:	19,190 grams	617 ounces
Copper:	159,170 kilograms	350,910 pounds
Lead:	713 kilograms	1,572 pounds

Comments: 1921: CHAMPION

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FSW085		NAME: CENTRAL (L.4801)		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	9		Silver	746	
			Copper		554
1907	12		Silver	964	
			Gold	62	
			Copper		777

SUMMARY TOTALS: 082FSW085

NAME: **CENTRAL (L.4801)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	21 tonnes	23 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,710 grams	55 ounces
Gold:	62 grams	2 ounces
Copper:	1,331 kilograms	2,934 pounds

Comments:

1907: Annual Report 1924 states 43 tonnes were produced in 1906/1907.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW086		NAME: KENVILLE		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>	
1954	1,725		Silver	7,558		
			Gold	16,049		
			Lead			1,062
			Zinc			884
1953	1,556		Silver	49,360		
			Gold	5,723		
			Cadmium			37
			Lead			9,340
			Zinc			5,820
1951	14		Silver	1,244		
			Gold	311		
1950	1,948	1,948	Silver	21,897		
			Gold	14,805		
			Lead			3,584
			Zinc			2,926
1949	24,126	23,535	Silver	122,732		
			Gold	199,339		
			Lead			6,546
			Zinc			5,519
1948	32,603	32,603	Silver	129,140		
			Gold	312,150		
1947	2,618	2,618	Silver	2,768		
			Gold	7,620		
1946	222		Silver	3,919		
			Gold	3,235		
			Lead			120
1945	28		Silver	1,182		
			Gold	684		
1944	138		Silver	5,692		
			Gold	3,266		
1943	216		Silver	7,091		
			Gold	4,821		
1942	1,031		Silver	34,244		
			Gold	27,184		
1941	1,523		Silver	49,858		
			Gold	37,572		
1940	708		Silver	17,542		
			Gold	14,992		
1939	1,176		Silver	8,087		
			Gold	22,363		
1938	1,371	1,226	Silver	7,371		
			Gold	13,965		
1937	2,377	2,180	Silver	17,044		
			Gold	27,029		
1936	1,319	1,282	Silver	8,149		
			Gold	17,200		
1935	756	544	Silver	9,580		
			Gold	7,278		
1934	511		Silver	19,719		
			Gold	13,561		
1933	501		Silver	11,664		
			Gold	12,348		
1932	124		Silver	62		
			Gold	93		
1926	9		Silver	16,982		
			Gold	591		
			Lead			2,836
1925	340	340	Silver	1,244		
			Gold	20,341		
1924	59	59	Silver	653		
			Gold	1,991		
			Copper			31
1923	181	181	Silver	1,306		
			Gold	4,603		
1922	5		Silver	498		
			Gold	311		
1919	4		Silver	311		

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **082FSW086** NAME: **KENVILLE** 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>
1919	4		Gold	249	
1917	726	726	Silver	4,541	
			Gold	19,999	
1916	5,443	5,443	Gold	85,533	
1915	1,361	1,361	Gold	23,327	
1913	1,134	1,134	Silver	4,541	
			Gold	9,642	
1912	7,100	7,100	Silver	35,737	
			Gold	63,823	
1911	9,502	9,502	Silver	32,783	
			Gold	77,478	
1910	6,949	6,949	Silver	21,088	
			Gold	68,209	
1909	9,878	9,878	Silver	43,606	
			Gold	109,358	
1908	7,348	7,348	Silver	24,198	
			Gold	70,137	
1907	5,496	5,496	Silver	33,653	
			Gold	73,434	
			Copper		1,340
1906	1,953	1,950	Silver	10,979	
			Gold	20,311	
			Copper		211
1905	2,461	2,189	Silver	10,544	
			Gold	26,873	
1904	1,007	1,007	Silver	6,563	
			Gold	15,676	
1903	8,319	8,319	Silver	37,604	
			Gold	70,822	
1902	5,730	5,185	Silver	21,026	
			Gold	40,932	
1901	6,177	6,177	Silver	13,468	
			Gold	65,161	
1900	10,886	10,744	Gold	125,376	
1899	734	734	Silver	3,888	
			Gold	11,104	
1898	454	454	Gold	9,331	
1896	5,742		Gold	158,003	
1895	907		Gold	31,103	
1894	2,268		Gold	23,327	
1893	181		Gold	9,331	
1892	1,361		Gold	15,552	
1890	1,089		Gold	15,552	

SUMMARY TOTALS: 082FSW086

NAME: **KENVILLE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	181,395 tonnes	199,954 tons
Milled:	158,212 tonnes	174,399 tons
Recovery:		
Silver:	861,116 grams	27,685 ounces
Gold:	2,029,068 grams	65,236 ounces
Cadmium:	37 kilograms	82 pounds
Copper:	1,582 kilograms	3,488 pounds
Lead:	23,488 kilograms	51,782 pounds
Zinc:	15,149 kilograms	33,398 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **082FSW087** NAME: **VENANGO (L.4757)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1963	57		Silver	778	
			Gold	373	
			Lead		57
			Zinc		57
1950	160	160	Gold	2,271	
1945	13		Silver	218	
			Gold	156	
1940	115		Silver	1,897	
			Gold	1,493	
1939	464		Silver	10,762	
			Gold	7,465	

SUMMARY TOTALS: 082FSW087

NAME: **VENANGO (L.4757)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	809 tonnes	892 tons
Milled:	160 tonnes	176 tons
Recovery:		
Silver:	13,655 grams	439 ounces
Gold:	11,758 grams	378 ounces
Lead:	57 kilograms	126 pounds
Zinc:	57 kilograms	126 pounds

Comments: 1950: Milled at KENVILLE GOLD.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FSW088		NAME: ROYAL CANADIAN (L.633)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1941	2		Gold	156	
1940	1		Silver	187	
			Gold	156	
			Lead		15
			Zinc		19
1938	9		Silver	156	
			Gold	62	
1934	11		Silver	840	
			Gold	186	
1933	24		Silver	840	
			Gold	622	
1932	28		Silver	1,431	
			Gold	1,244	
			Zinc		8
1911	24		Gold	622	
1896	14		Gold	311	

SUMMARY TOTALS: 082FSW088

NAME: **ROYAL CANADIAN (L.633)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	113 tonnes	125 tons
Milled:	tonnes	tons
Silver:	3,454 grams	111 ounces
Gold:	3,359 grams	108 ounces
Lead:	15 kilograms	33 pounds
Zinc:	27 kilograms	60 pounds

Recovery:

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MINFILE NUMBER: **082FSW089** NAME: **GOOD HOPE** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1944	1		Gold	93	
1938	3		Silver	31	
			Gold	124	
1935	9		Silver	218	
			Gold	840	
1934	30		Silver	1,680	
			Gold	1,586	
1911	5		Silver	560	
			Gold	156	

SUMMARY TOTALS: 082FSW089

NAME: **GOOD HOPE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	48 tonnes	53 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,489 grams	80 ounces
Gold:	2,799 grams	90 ounces

RUN DATE: 25-Jun-2003
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MINFILE NUMBER: 082FSW090	NAME: MIRACLE	STATUS: Developed Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1944	24		Silver Gold	778 311	

SUMMARY TOTALS: 082FSW090

	NAME: MIRACLE	
	<u>Metric</u>	<u>Imperial</u>
	24 tonnes	26 tons
	Milled: tonnes	tons
Recovery:	Silver: 778 grams	25 ounces
	Gold: 311 grams	10 ounces

RUN DATE: 25-Jun-2003
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MINFILE NUMBER: 082FSW091	NAME: MAY & JENNIE (L.3943)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1906	272		Silver Gold	933 1,213	

SUMMARY TOTALS: 082FSW091

NAME: **MAY & JENNIE (L.3943)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	272 tonnes	300 tons
Milled:		tons
Recovery:		
Silver:	933 grams	30 ounces
Gold:	1,213 grams	39 ounces

RUN DATE: 25-Jun-2003
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MINFILE NUMBER: 082FSW092		NAME: GOLD HILL		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>	
1925	12		Silver	435		
			Gold	529		
1922	8		Silver	435		
			Gold	560		
			Copper			114
1921	87		Silver	6,438		
			Gold	7,651		
			Copper			1,444
1903	8		Silver	529		
			Gold	684		

SUMMARY TOTALS: 082FSW092

NAME: **GOLD HILL**

	<u>Metric</u>	<u>Imperial</u>
Mined:	115 tonnes	127 tons
Milled:	tonnes	tons
Recovery:		
Silver:	7,837 grams	252 ounces
Gold:	9,424 grams	303 ounces
Copper:	1,558 kilograms	3,435 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FSW093		NAME: LE ROI		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	3,628		Silver	89,172		
			Gold	69,826		
1941	7,662		Silver	189,231		
			Gold	156,448		
1940	7,820		Silver	275,510		
			Gold	183,445		
1939	8,558		Silver	212,465		
			Gold	183,974		
1938	8,739		Silver	252,743		
			Gold	211,718		
1937	7,453		Silver	248,700		
			Gold	198,468		
1936	8,469		Silver	305,929		
			Gold	265,246		
1935	29,863		Silver	822,115		
			Gold	639,011		
1934	35,736		Silver	1,255,473		
			Gold	791,012		
1933	9,827		Silver	355,538		
			Gold	224,688		
1928	12,597		Silver	241,546		
			Gold	228,078		
			Copper		135,983	
1927	13,984		Silver	551,083		
			Gold	197,815		
			Copper		246,225	
1926	22,967		Silver	803,608		
			Gold	229,976		
			Copper		388,750	
1925	34,023		Silver	1,040,924		
			Gold	329,692		
			Copper		602,341	
1924	140,884		Silver	3,777,770		
			Gold	1,186,766		
			Copper		19,117,567	
1923	16,727		Silver	265,402		
			Gold	86,311		
			Copper		156,417	
1922	16,843		Silver	482,345		
			Gold	214,020		
			Copper		296,809	
1921	74,473		Silver	1,832,806		
			Gold	1,346,293		
			Copper		1,019,096	
1920	46,121		Silver	814,121		
			Gold	908,612		
			Copper		394,428	
1919	64,119		Silver	582,373		
			Gold	1,194,044		
			Copper		386,026	
1918	83,203		Silver	919,778		
			Gold	1,082,882		
			Copper		618,621	
1917	45,202		Silver	748,338		
			Gold	368,633		
			Copper		520,492	
1916	106,838		Silver	2,041,663		
			Gold	872,346		
			Copper		1,333,130	
1915	119,130		Silver	2,207,193		
			Gold	1,200,171		
			Copper		1,538,626	
1914	87,712		Silver	1,498,107		
			Gold	1,132,305		
			Copper		1,118,205	
1913	56,956		Silver	848,801		
			Gold	822,114		
			Copper		515,073	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW093		NAME: LE ROI		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>	
1912	42,976		Silver	657,891		
			Gold	636,616		
			Copper			424,773
1911	17,219		Silver	309,724		
			Gold	220,831		
			Copper			182,787
1910	12,698		Silver	258,435		
			Gold	298,744		
			Copper			134,750
1909	10,508		Silver	114,490		
			Gold	233,521		
			Copper			93,393
1908	66,339		Silver	1,244,244		
			Gold	1,118,962		
			Copper			768,489
1907	100,162		Silver	1,540,656		
			Gold	859,438		
			Copper			1,088,338
1906	115,358		Silver	2,065,364		
			Gold	1,480,098		
			Copper			1,199,123
1905	102,168		Silver	1,462,867		
			Gold	1,342,281		
			Copper			1,072,196
1904	120,198		Silver	2,309,678		
			Gold	1,824,969		
			Copper			1,596,865
1903	167,063		Silver	2,756,566		
			Gold	1,986,051		
			Copper			1,901,754
1902	193,408		Silver	4,944,848		
			Gold	2,932,111		
			Copper			3,324,763
1901	143,877		Silver	3,417,815		
			Gold	1,871,094		
			Copper			1,821,073
1900	144,907		Silver	4,096,172		
			Gold	2,226,322		
			Copper			220,035
1899	81,894		Silver	2,876,312		
			Gold	1,362,840		
			Copper			1,221,129
1898	57,067		Silver	2,253,941		
			Gold	1,301,723		
			Copper			1,255,624

SUMMARY TOTALS: 082FSW093

NAME: **LE ROI**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,445,376 tonnes	2,695,566 tons
Milled:		
Recovery:		
Silver:	52,971,737 grams	1,703,078 ounces
Gold:	34,019,495 grams	1,093,751 ounces
Copper:	44,692,881 kilograms	98,530,909 pounds

Comments:

1918: 1918-1942: Le Roi, Centre Star, War Eagle, Josie, White Bear prod.
 1900: Metal contents not reported.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: **082FSW094** NAME: **CENTRE STAR (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>
1917	33,466		Silver	219,867	
			Gold	545,702	
			Copper		140,120
1916	139,906		Silver	1,705,844	
			Gold	2,107,975	
			Copper		870,851
1915	163,753		Silver	1,979,768	
			Gold	2,952,794	
			Copper		856,452
1914	157,546		Silver	1,890,565	
			Gold	2,852,923	
			Copper		866,386
1913	138,795		Silver	1,597,606	
			Gold	2,978,641	
			Copper		644,663
1912	145,329		Silver	1,528,121	
			Gold	3,009,900	
			Copper		789,874
1911	172,977		Silver	1,728,083	
			Gold	2,651,126	
			Copper		978,385
1910	173,832		Silver	1,628,989	
			Gold	2,506,249	
			Copper		1,032,036
1909	163,663		Silver	1,495,712	
			Gold	2,409,301	
			Copper		1,015,328
1908	166,734		Silver	1,762,109	
			Gold	2,362,242	
			Copper		1,104,745
1907	123,062		Silver	1,568,586	
			Gold	1,700,681	
			Copper		858,770
1906	104,192		Silver	1,136,628	
			Gold	1,388,904	
			Copper		633,228
1905	101,459		Silver	1,156,099	
			Gold	1,488,963	
			Copper		734,534
1904	69,120		Silver	783,267	
			Gold	869,578	
			Copper		500,513
1903	74,622		Silver	947,646	
			Gold	1,124,560	
			Copper		699,817
1902	32,522		Silver	571,798	
			Gold	660,877	
			Copper		337,838
1901	48,616		Silver	678,978	
			Gold	1,106,303	
			Copper		628,588
1900	37,081		Silver	465,425	
			Gold	866,654	
			Copper		458,789
1899	15,479		Silver	186,774	
			Gold	453,015	
			Copper		197,654
1898	2,359		Silver	85,533	
			Gold	95,268	
			Copper		13,071
1897	818		Silver	29,610	
			Gold	32,969	
			Copper		4,525

SUMMARY TOTALS: 082FSW094

NAME: **CENTRE STAR (L.588)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,065,331 tonnes	2,276,638 tons
Milled:		
Recovery:	Silver: 23,147,008 grams	744,193 ounces

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RUN TIME: 16:37:09

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MINFILE NUMBER: **082FSW094**

NAME: **CENTRE STAR (L.588)**

STATUS: Past Producer

Gold:	34,164,625 grams	1,098,417 ounces
Copper:	13,366,167 kilograms	29,467,346 pounds

Comments:

1917: See Le Roi for post 1917 production information.

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW095		NAME: NICKEL PLATE (L.537)		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>
1913	87		Silver	3,110	
			Gold	3,266	
			Copper		907
1912	91		Silver	1,524	
			Gold	4,634	
			Copper		794
1911	321		Silver	3,328	
			Gold	2,893	
			Copper		2,255
1903	6,935		Silver	12,441	
			Gold	122,577	
			Copper		12,205
1902	2,137		Silver	78,224	
			Gold	45,908	
			Copper		51,319
1901	9,114		Silver	237,160	
			Gold	112,500	
			Copper		141,896

SUMMARY TOTALS: 082FSW095

NAME: **NICKEL PLATE (L.537)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	18,685 tonnes	20,597 tons
Milled:		
Recovery:		
Silver:	335,787 grams	10,796 ounces
Gold:	291,778 grams	9,381 ounces
Copper:	209,376 kilograms	461,595 pounds

RUN DATE: 25-Jun-2003
 RUN TIME: 16:37:09

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MINFILE NUMBER: 082FSW096		NAME: IRON MASK (L.688)		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>
1904	34		Gold	175	
			Copper		177
1901	3,832		Silver	88,053	
			Gold	82,921	
			Copper		50,735
1900	2,486		Silver	44,788	
			Gold	64,259	
			Copper		31,524
1899	4,801		Silver	130,881	
			Gold	152,654	
			Copper		56,510
1898	3,065		Silver	170,289	
			Gold	148,050	
			Copper		50,382

SUMMARY TOTALS: 082FSW096

NAME: **IRON MASK (L.688)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	14,218 tonnes	15,673 tons
Milled:		
Recovery:		
Silver:	434,011 grams	13,954 ounces
Gold:	448,059 grams	14,405 ounces
Copper:	189,328 kilograms	417,397 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW097		NAME: WAR EAGLE (L.680)		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>	
1905	55,211		Silver	1,385,421		
			Gold	739,536		
			Copper		503,239	
1904	51,492		Silver	1,575,118		
			Gold	731,418		
			Copper		626,023	
1903	54,515		Silver	1,902,571		
			Gold	781,245		
			Copper		787,523	
1902	19,464		Silver	801,089		
			Gold	441,569		
			Copper		384,267	
1901	18,020		Silver	667,346		
			Gold	390,934		
			Copper		381,872	
1900	8,968		Silver	340,329		
			Gold	179,029		
			Copper		184,118	
1899	54,219		Silver	2,581,114		
			Gold	1,227,200		
			Copper		1,106,455	
1898	38,280		Silver	2,783,625		
			Gold	1,168,820		
			Copper		1,047,939	

SUMMARY TOTALS: 082FSW097

NAME: **WAR EAGLE (L.680)**

	<u>Metric</u>		<u>Imperial</u>
Mined:	300,169 tonnes		330,880 tons
Milled:			tons
Recovery:	Silver: 12,036,613 grams		386,986 ounces
	Gold: 5,659,751 grams		181,965 ounces
	Copper: 5,021,436 kilograms		11,070,368 pounds

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RUN TIME: 16:37:09

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MINFILE NUMBER: 082FSW098	NAME: VIRGINIA (L.681)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1899	95		Silver	1,866	
			Gold	2,395	
			Copper		943

SUMMARY TOTALS: 082FSW098

NAME: **VIRGINIA (L.681)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	95 tonnes	105 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,866 grams	60 ounces
Gold:	2,395 grams	77 ounces
Copper:	943 kilograms	2,079 pounds

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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MINFILE NUMBER: 082FSW099	NAME: IRON HORSE (L.795)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1903	27		Gold Copper	746	272

SUMMARY TOTALS: 082FSW099

NAME: **IRON HORSE (L.795)**

	<u>Metric</u>		<u>Imperial</u>
	Mined: 27 tonnes		30 tons
	Milled: tonnes		tons
Recovery:	Gold: 746 grams		24 ounces
	Copper: 272 kilograms		600 pounds

RUN DATE: 25-Jun-2003
RUN TIME: 16:37:09

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MINFILE NUMBER: **082FSW100** NAME: **IRON COLT (L.796)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1995	1,414	1,414	Gold	21,400	
1937	8	8	Silver	62	
			Gold	62	
1936	12	12	Silver	404	
			Gold	124	

SUMMARY TOTALS: 082FSW100

NAME: **IRON COLT (L.796)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,434 tonnes	1,581 tons
Milled:	1,434 tonnes	1,581 tons
Recovery:	Silver: 466 grams	15 ounces
	Gold: 21,586 grams	694 ounces

Comments:

1995: Custom milling (Information Circular 1995-9, page 18).

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW102		NAME: EVENING STAR (L.801)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1939	160		Silver	1,306	
			Gold	1,524	
1938	139		Silver	1,648	
			Gold	1,431	
1937	150		Silver	1,306	
			Gold	1,897	
1936	260		Silver	4,976	
			Gold	5,661	
1935	566		Silver	4,012	
			Gold	14,587	
1934	180		Silver	1,711	
			Gold	7,154	
1933	48		Silver	964	
			Gold	1,617	
1932	72		Silver	933	
			Gold	2,582	
1908	797		Silver	2,830	
			Gold	8,429	
			Copper		1,134
1907	88		Silver	404	
			Gold	840	
			Copper		142
1901	66		Silver	311	
			Gold	1,804	
1900	313		Silver	1,120	
			Gold	8,429	
1896	20		Gold	746	

SUMMARY TOTALS: 082FSW102

NAME: **EVENING STAR (L.801)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,859 tonnes	3,152 tons
Milled:	tonnes	tons
Recovery:		
Silver:	21,521 grams	692 ounces
Gold:	56,701 grams	1,823 ounces
Copper:	1,276 kilograms	2,813 pounds

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MINFILE NUMBER: 082FSW105	NAME: BLACK BEAR (L.538)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1919	1,314		Silver	9,891	
			Gold	5,474	
			Copper		4,214

SUMMARY TOTALS: 082FSW105

NAME: **BLACK BEAR (L.538)**

		<u>Metric</u>		<u>Imperial</u>	
	Mined:	1,314 tonnes		1,448 tons	
	Milled:	tonnes		tons	
Recovery:	Silver:	9,891 grams		318 ounces	
	Gold:	5,474 grams		176 ounces	
	Copper:	4,214 kilograms		9,290 pounds	

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MINFILE NUMBER: **082FSW110** NAME: **COXEY** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1972			Molybdenum		137,253
1971	171,096	173,921	Molybdenum		260,801
1970	181,727	192,369	Molybdenum		256,076
1969	163,112	182,836	Molybdenum		381,965
1968	191,093	178,167	Molybdenum		165,485
1967	145,619	144,887	Molybdenum		307,905
1966	67,489	67,217	Molybdenum		239,386

SUMMARY TOTALS: 082FSW110

NAME: **COXEY**

	<u>Metric</u>		<u>Imperial</u>
Mined:	920,136 tonnes		1,014,276 tons
Milled:	939,397 tonnes		1,035,508 tons
Recovery:	Molybdenum:	1,748,871 kilograms	3,855,599 pounds

Comments:

1972: From stockpile amount unknown

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **082FSW111** NAME: **JUMBO (L.965)** 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	299		Silver	2,426	
			Gold	2,177	
1941	663		Silver	3,981	
			Gold	6,625	
1940	505		Silver	3,421	
			Gold	5,443	
1938	44		Silver	311	
			Gold	342	
1936	73		Silver	622	
			Gold	746	
1935	178		Silver	622	
			Gold	2,084	
1934	203		Silver	964	
			Gold	2,302	
1906	3,078		Gold	44,695	
1905	10,150		Gold	126,558	
1904	11,835		Gold	177,287	
1903	3,766		Gold	67,338	

SUMMARY TOTALS: 082FSW111

NAME: **JUMBO (L.965)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	30,794 tonnes	33,945 tons
Milled:		
Recovery: Silver:	12,347 grams	397 ounces
Gold:	435,597 grams	14,005 ounces

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MINFILE NUMBER: 082FSW112	NAME: GOLD HILL (L.640)	STATUS: Past Producer		
Production Year	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1894	9	Silver	31,103	

SUMMARY TOTALS: 082FSW112

	NAME: GOLD HILL (L.640)	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 9 tonnes	10 tons
	Milled: tonnes	tons
Recovery:	Silver: 31,103 grams	1,000 ounces

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW113		NAME: CALIFORNIA (L.956)		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>
1913	103		Silver	5,319	
			Gold	435	
			Copper		1,061
1908	273		Silver	622	
			Gold	3,919	
			Copper		269
1903	583		Silver	218	
			Gold	17,169	
1902	2,580		Silver	13,125	
			Gold	78,162	
1901	45		Silver	311	
			Gold	1,120	
1900	457		Silver	3,017	
			Gold	11,104	
1898	90		Silver	653	
			Gold	1,337	

SUMMARY TOTALS: 082FSW113

NAME: **CALIFORNIA (L.956)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4,131 tonnes	4,554 tons
Milled:		
Recovery:		
	Silver: 23,265 grams	748 ounces
	Gold: 113,246 grams	3,641 ounces
	Copper: 1,330 kilograms	2,932 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW114		NAME: WHITE BEAR (L.1149)		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	109		Silver	3,017	
			Gold	684	
			Copper		1,128
1918	1,130		Silver	28,926	
			Gold	6,469	
			Copper		12,962
1917	1,366		Silver	29,734	
			Gold	6,096	
			Copper		14,971
1907	5,162		Silver	59,780	
			Gold	18,040	
			Copper		34,546
1906	1,181		Silver	17,231	
			Gold	4,354	
			Copper		13,010
1905	4,942		Silver	48,023	
			Gold	19,222	
			Copper		37,554
1904	3,009		Silver	40,434	
			Gold	17,262	
			Copper		26,238
1903	129		Silver	1,959	
			Gold	778	
			Copper		1,655

SUMMARY TOTALS: 082FSW114

NAME: **WHITE BEAR (L.1149)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	17,028 tonnes	18,770 tons
Milled:		
Recovery:		
Silver:	229,104 grams	7,366 ounces
Gold:	72,905 grams	2,344 ounces
Copper:	142,064 kilograms	313,197 pounds

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MINFILE NUMBER: **082FSW115** NAME: **SNOWDROP** 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>
1957	1		Silver	31	
			Gold	342	
1955	2		Silver	778	
			Gold	4,199	
1937	1		Gold	93	
1932	1		Silver	93	
			Gold	778	
1931	1		Silver	15,738	
			Gold	1,431	

SUMMARY TOTALS: 082FSW115

NAME: **SNOWDROP**

	<u>Metric</u>	<u>Imperial</u>
Mined:	6 tonnes	7 tons
Milled:	tonnes	tons
Recovery:	Silver: 16,640 grams	535 ounces
	Gold: 6,843 grams	220 ounces

Comments: 1957: Minus crude, 0.02 tonnes.

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MINFILE NUMBER: 082FSW116		NAME: I.X.L.		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		44	Silver	49		
			Gold	333		
1983		10	Silver	527		
			Gold	63		
1977	47		Silver	1,664		
			Gold	1,584		
			Copper			51
			Lead			127
			Zinc			42
1974	44		Silver	1,493		
			Gold	1,959		
			Copper			90
			Lead			43
			Zinc			43
1973	24		Silver	964		
			Gold	2,706		
			Lead			24
			Zinc			24
1970			Silver	124		
			Gold	1,306		
1967	1		Silver	62		
			Gold	404		
1965	27		Silver	995		
			Gold	2,115		
			Lead			27
			Zinc			27
1964			Silver	218		
			Gold	1,773		
1963	17		Silver	995		
			Gold	5,536		
			Lead			35
			Zinc			18
1960	1		Silver	124		
			Gold	591		
1953			Silver	187		
			Gold	871		
1949	103		Silver	2,861		
			Gold	404		
1948	50		Silver	4,230		
			Gold	3,670		
1947	51		Silver	1,866		
			Gold	5,225		
1946	105		Silver	3,421		
			Gold	3,359		
1945	23		Silver	871		
			Gold	560		
1944	42		Silver	2,395		
			Gold	4,510		
1943	45		Silver	1,773		
			Gold	3,701		
1942	62		Silver	2,893		
			Gold	10,451		
1941	77		Silver	2,550		
			Gold	8,958		
1940	34		Silver	4,292		
			Gold	12,130		
1939	108		Silver	1,586		
			Gold	3,079		
1938	136		Silver	2,924		
			Gold	12,223		
1937	258		Silver	4,199		
			Gold	11,042		
1936	327		Silver	9,424		
			Gold	25,007		
1935	150		Silver	7,589		
			Gold	15,365		
1934	115		Silver	8,491		

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER:	<u>082FSW116</u>	NAME:	<u>I.X.L.</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>
1934	115		Gold	23,265	
1933	247		Silver	19,968	
			Gold	48,832	
1932	74		Silver	12,659	
			Gold	30,450	
1931	20		Silver	1,617	
			Gold	2,550	
1930	32		Silver	995	
			Gold	1,026	
1929	47		Silver	1,680	
			Gold	4,106	
1927			Gold	373	
1926	2		Silver	124	
			Gold	529	
1925	79		Silver	18,071	
			Gold	108,207	
1924	112		Silver	27,682	
			Gold	136,262	
1923	111		Silver	35,644	
			Gold	130,259	
1922	49		Silver	9,393	
			Gold	37,106	
1921	21		Silver	7,340	
			Gold	26,780	
1917	7		Silver	280	
			Gold	280	
1913	2		Silver	311	
			Gold	62	
1912	11		Silver	1,275	
			Gold	498	
1911	87		Silver	8,553	
			Gold	5,630	
1910	98		Silver	8,118	
			Gold	8,740	
1909	15		Silver	1,369	
			Gold	3,857	
1908	5		Silver	560	
			Gold	809	
1904	544		Silver	18,662	
			Gold	7,465	
			Copper		8,165
1903	1,270		Gold	8,709	
1901	171		Silver	7,558	
			Gold	25,660	
1900	392		Silver	17,355	
			Gold	58,971	
1899	53		Silver	2,550	
			Gold	2,395	

SUMMARY TOTALS: 082FSW116

NAME: I.X.L.

	<u>Metric</u>	<u>Imperial</u>
Mined:	5,296 tonnes	5,838 tons
Milled:	54 tonnes	60 tons
Recovery:		
Silver:	270,531 grams	8,698 ounces
Gold:	811,746 grams	26,098 ounces
Copper:	8,306 kilograms	18,312 pounds
Lead:	256 kilograms	564 pounds
Zinc:	154 kilograms	340 pounds

Comments:
 1984: Dump clean-up (lead conc.).
 1927: Ore mined is tailing only.
 1903: Hand sorted from old dump.

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MINFILE NUMBER: 082FSW117		NAME: O.K.		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1939	22		Silver	1,026		
			Gold	1,462		
1938	35		Silver	715		
			Gold	560		
1937	21		Silver	778		
			Gold	93		
1936	58		Silver	1,773		
			Gold	529		
1935	50		Silver	1,648		
			Gold	3,204		
1934	68		Silver	5,599		
			Gold	7,993		
1933	28		Silver	1,493		
			Gold	2,924		
1909	11		Silver	1,959		
			Gold	1,151		
			Copper			154

SUMMARY TOTALS: 082FSW117

NAME: **O.K.**

	<u>Metric</u>	<u>Imperial</u>
Mined:	293 tonnes	323 tons
Milled:		tons
Recovery:		
Silver:	14,991 grams	482 ounces
Gold:	17,916 grams	576 ounces
Copper:	154 kilograms	340 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW118		NAME: GOLDEN DRIP (L.539)		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	1		Gold	1,680	
1981	9		Silver	1,290	
			Gold	736	
			Lead		149
			Zinc		19
1980	23		Silver	1,564	
			Gold	2,657	
			Lead		93
			Zinc		24
1978	16		Silver	1,213	
			Gold	1,711	
			Lead		34
			Zinc		17
1939	5		Silver	467	
			Gold	31	
1938	17		Silver	187	
			Gold	93	
1937	47		Silver	902	
			Gold	684	
1936	37		Silver	1,959	
			Gold	840	
1934	23		Silver	1,182	
			Gold	902	
1933	23		Silver	560	
			Gold	715	
1932	2		Silver	435	
			Gold	31	
1930	18		Silver	249	
			Gold	311	
1925	5		Silver	218	
			Gold	1,026	
			Copper		39
1923	7		Silver	684	
			Gold	622	
			Lead		186

SUMMARY TOTALS: 082FSW118

NAME: **GOLDEN DRIP (L.539)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	233 tonnes	257 tons
Milled:	tonnes	tons
Recovery:		
Silver:	10,910 grams	351 ounces
Gold:	12,039 grams	387 ounces
Copper:	39 kilograms	86 pounds
Lead:	462 kilograms	1,019 pounds
Zinc:	60 kilograms	132 pounds

Comments: 1982: Ore mined is actually .04 tonnes.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW119		NAME: MIDNIGHT (L.1186)		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	17		Silver	901	
			Gold	1,534	
			Lead		52
			Zinc		17
1983	41		Silver	33,744	
			Gold	2,756	
			Lead		327
			Zinc		40
1979	42		Silver	3,764	
			Gold	5,319	
			Copper		183
			Lead		144
			Zinc		42
1976	509		Silver	11,850	
			Gold	12,939	
			Copper		425
			Lead		1,305
			Zinc		583
1975	313		Silver	8,336	
			Gold	4,417	
1974	297		Silver	4,510	
			Gold	3,079	
			Copper		62
			Lead		603
			Zinc		297
1973	199		Silver	2,395	
			Gold	4,075	
			Lead		399
			Zinc		388
1968	716		Silver	7,683	
			Gold	10,575	
			Lead		1,095
			Zinc		775
1952	34		Silver	1,897	
			Gold	1,960	
1951	37		Silver	3,546	
			Gold	7,278	
1950	120		Gold	2,115	
1948	499		Silver	19,315	
			Gold	23,079	
1947	198		Silver	5,847	
			Gold	2,488	
1946	125		Silver	2,955	
			Gold	3,670	
1945	130		Silver	5,350	
			Gold	3,981	
1944	40		Silver	1,493	
			Gold	6,127	
1943	161		Silver	3,390	
			Gold	5,630	
1942	479		Silver	11,259	
			Gold	8,274	
1941	265		Silver	4,759	
			Gold	6,936	
1940	67		Silver	5,847	
			Gold	29,517	
1939	54		Silver	6,003	
			Gold	29,144	
1938	240		Silver	8,056	
			Gold	30,824	
1937	61		Silver	1,089	
			Gold	342	
1936	63		Silver	1,680	
			Gold	684	
1935	86		Silver	1,400	
			Gold	1,648	
1934	241		Silver	6,221	
			Gold	4,790	

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: **082FSW119** NAME: **MIDNIGHT (L.1186)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1933	128		Silver	3,452	
			Gold	2,582	
1932	309		Silver	6,221	
			Gold	12,504	
1931	82		Silver	5,070	
			Gold	2,737	
1930	30		Silver	1,773	
			Gold	2,830	
1929	24		Silver	653	
			Gold	964	
1928	50		Silver	1,773	
			Gold	2,830	
1927	25		Silver	746	
			Gold	7,683	

SUMMARY TOTALS: 082FSW119

NAME: **MIDNIGHT (L.1186)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5,682 tonnes	6,263 tons
Milled:	tonnes	tons
Recovery:		
Silver:	182,978 grams	5,883 ounces
Gold:	245,311 grams	7,887 ounces
Copper:	670 kilograms	1,477 pounds
Lead:	3,925 kilograms	8,653 pounds
Zinc:	2,142 kilograms	4,722 pounds

Comments:

1984: Crude ore

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MINFILE NUMBER: 082FSW120	NAME: NORWAY (L.1628)	STATUS: Developed Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1936	1		Silver	156	

SUMMARY TOTALS: 082FSW120

NAME: **NORWAY (L.1628)**

	Mined:	1 tonnes	1 tons
Recovery:	Milled:	tonnes	tons
	Silver:	156 grams	5 ounces

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MINFILE NUMBER: 082FSW121		NAME: SPITZEE (L.2520)		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>	
1905	4,318		Silver	61,584		
			Gold	33,280		
			Copper			34,592
1904	882		Silver	22,705		
			Gold	10,357		
			Copper			9,604
1903	440		Silver	10,264		
			Gold	4,914		
			Copper			6,411
1902	17		Silver	342		
			Gold	187		
			Copper			206
1901	157		Silver	1,586		
			Gold	5,132		
			Copper			977
1900	96		Silver	809		
			Gold	1,337		
			Copper			474

SUMMARY TOTALS: 082FSW121

NAME: **SPITZEE (L.2520)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5,910 tonnes	6,515 tons
Milled:		
Recovery:		
	Silver: 97,290 grams	3,128 ounces
	Gold: 55,207 grams	1,775 ounces
	Copper: 52,264 kilograms	115,222 pounds

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MINFILE NUMBER: 082FSW123		NAME: HOMESTAKE (L.936)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1908	13		Silver	5,630	
			Gold	62	
1905	193		Silver	62,206	
			Gold	778	
1901	30		Silver	7,091	
			Gold	93	
			Copper		91

SUMMARY TOTALS: 082FSW123

NAME: **HOMESTAKE (L.936)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	236 tonnes	260 tons
Milled:	tonnes	tons
Recovery:		
Silver:	74,927 grams	2,409 ounces
Gold:	933 grams	30 ounces
Copper:	91 kilograms	201 pounds

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MINFILE NUMBER: 082FSW124	NAME: MONDAY (L.995)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1937	64		Silver Lead Zinc	13,468	2,226 3,467

SUMMARY TOTALS: 082FSW124

	NAME: MONDAY (L.995)	
	<u>Metric</u>	<u>Imperial</u>
Mined:	64 tonnes	71 tons
Milled:	tonnes	tons
Recovery:		
Silver:	13,468 grams	433 ounces
Lead:	2,226 kilograms	4,907 pounds
Zinc:	3,467 kilograms	7,643 pounds

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MINFILE NUMBER: 082FSW127		NAME: SUNSET (L.954)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1908	18		Gold	93		
1898	12		Silver	809		
			Gold	280		
			Copper			99

SUMMARY TOTALS: 082FSW127

		NAME: SUNSET (L.954)	
		<u>Metric</u>	<u>Imperial</u>
Mined:	30 tonnes	33 tons	
Milled:	tonnes	tons	
Recovery:	Silver: 809 grams	26 ounces	
	Gold: 373 grams	12 ounces	
	Copper: 99 kilograms	218 pounds	

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MINFILE NUMBER: 082FSW129	NAME: MABEL (L.1202)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1906	23		Silver	1,244	
			Gold	1,058	
			Copper		694

SUMMARY TOTALS: 082FSW129

NAME: **MABEL (L.1202)**

	<u>Mined:</u>	23 tonnes	<u>Imperial</u>	25 tons
	<u>Milled:</u>	tonnes		tons
Recovery:	Silver:	1,244 grams		40 ounces
	Gold:	1,058 grams		34 ounces
	Copper:	694 kilograms		1,530 pounds

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MINFILE NUMBER: 082FSW131	NAME: ROBERT E. LEE (L.1292)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1896	11		Gold	684	

SUMMARY TOTALS: 082FSW131

	NAME: ROBERT E. LEE (L.1292)	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 11 tonnes	12 tons
	Milled: tonnes	tons
Recovery:	Gold: 684 grams	22 ounces

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW132		NAME: PHOENIX (L.953)		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	41		Silver	2,333		
			Gold	373		
1941	97		Silver	6,189		
			Gold	1,306		
1940	10		Silver	964		
			Gold	373		
1939	10		Silver	746		
			Gold	218		
1915	5		Silver	435		
			Gold	187		
1914	4		Silver	62		
			Gold	31		
			Copper			133
1913	21		Silver	1,244		
			Gold	467		
			Copper			522
1912	91		Silver	4,043		
			Gold	1,742		
			Copper			2,557

SUMMARY TOTALS: 082FSW132

NAME: **PHOENIX (L.953)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	279 tonnes	308 tons
Milled:	tonnes	tons
Recovery:		
Silver:	16,016 grams	515 ounces
Gold:	4,697 grams	151 ounces
Copper:	3,212 kilograms	7,081 pounds

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MINFILE NUMBER: 082FSW134	NAME: ST. ELMO (L.923)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1908	70		Silver	6,874	
			Gold	93	
			Copper		1,446

SUMMARY TOTALS: 082FSW134

NAME: **ST. ELMO (L.923)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	70 tonnes	77 tons
Milled:	tonnes	tons
Recovery:		
Silver:	6,874 grams	221 ounces
Gold:	93 grams	3 ounces
Copper:	1,446 kilograms	3,188 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW136		NAME: CLIFF (L.921)		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>
1936	26		Silver	2,053	
			Gold	498	
1935	224		Silver	37,448	
			Gold	6,127	
1934	91		Silver	7,434	
			Gold	2,022	
1933	26		Silver	2,737	
			Gold	746	
1911	230		Silver	2,426	
			Gold	187	
			Copper		1,987
1904	1,236		Silver	29,734	
			Gold	4,137	
			Copper		16,136
1898	82		Silver	17,698	
			Gold	1,151	
			Copper		6,072

SUMMARY TOTALS: 082FSW136

NAME: **CLIFF (L.921)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,915 tonnes	2,111 tons
Milled:	tonnes	tons
Recovery:		
Silver:	99,530 grams	3,200 ounces
Gold:	14,868 grams	478 ounces
Copper:	24,195 kilograms	53,341 pounds

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MINFILE NUMBER: 082FSW139	NAME: JOHN	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1954	7		Silver	404	
			Lead		79
			Zinc		145

SUMMARY TOTALS: 082FSW139

NAME: **JOHN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	7 tonnes	8 tons
Milled:	tonnes	tons
Recovery:		
Silver:	404 grams	13 ounces
Lead:	79 kilograms	174 pounds
Zinc:	145 kilograms	320 pounds

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MINFILE NUMBER: **082FSW142** NAME: **HATTIE (L.1054)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1939	5		Silver	218	
			Gold	93	
1936	5		Silver	156	
			Gold	62	
1935	8		Silver	249	
			Gold	93	
1934	3		Silver	467	
			Gold	62	

SUMMARY TOTALS: 082FSW142

NAME: **HATTIE (L.1054)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	21 tonnes	23 tons
Milled:		
Recovery:		
Silver:	1,090 grams	35 ounces
Gold:	310 grams	10 ounces

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MINFILE NUMBER: 082FSW143	NAME: RICHMOND (L.1508)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1912	11		Silver Gold Lead	14,432 311	912

SUMMARY TOTALS: 082FSW143

NAME: **RICHMOND (L.1508)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	11 tonnes	12 tons
Milled:	tonnes	tons
Recovery:		
Silver:	14,432 grams	464 ounces
Gold:	311 grams	10 ounces
Lead:	912 kilograms	2,011 pounds

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MINFILE NUMBER: **082FSW145** NAME: **BLUE BIRD (L.1053)** 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>
1978	1,236	1,211	Silver	280,860	
			Gold	560	
			Lead		13,755
			Zinc		29,385
1977	2,081		Silver	586,758	
			Gold	1,454	
			Lead		29,709
			Zinc		35,135
1976	474		Silver	307,772	
			Gold	696	
			Lead		13,205
			Zinc		15,378
1975	1,358		Silver	1,173,005	
			Gold	2,809	
			Lead		46,333
			Zinc		51,846
1974	1,056		Silver	599,106	
			Gold	1,773	
			Copper		864
			Lead		31,491
			Zinc		35,031
1973	442		Silver	232,402	
			Gold	2,239	
			Lead		18,480
			Zinc		25,224
1972	42		Silver	23,856	
			Gold	404	
			Lead		2,614
			Zinc		4,343
1951	85		Silver	34,462	
			Gold	93	
			Lead		1,482
			Zinc		1,746
1950	87		Silver	81,272	
			Gold	124	
			Lead		2,746
			Zinc		3,382
1935	44		Silver	15,427	
			Gold	124	
			Lead		1,070
			Zinc		688
1914	16		Silver	15,396	
			Gold	124	
			Lead		762
1912	78		Silver	94,180	
			Gold	467	
			Lead		4,257
			Zinc		5,338
1911	47		Silver	97,726	
			Gold	435	
			Lead		3,765
1910	22		Silver	21,088	
			Gold	124	
			Lead		950
1909	27		Silver	57,509	
			Gold	218	
			Lead		1,417
1908	144		Silver	290,004	
			Gold	1,213	
			Lead		9,052

SUMMARY TOTALS: 082FSW145

NAME: **BLUE BIRD (L.1053)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	7,239 tonnes	7,980 tons
Milled:	1,211 tonnes	1,335 tons
Recovery:		
Silver:	3,910,823 grams	125,736 ounces
Gold:	12,857 grams	413 ounces
Copper:	864 kilograms	1,905 pounds
Lead:	181,088 kilograms	399,231 pounds
Zinc:	207,496 kilograms	457,450 pounds

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MINFILE NUMBER: **082FSW145**

NAME: **BLUE BIRD (L.1053)**

STATUS: Past Producer

Comments:

Comments:

1978: Crude ore

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MINFILE NUMBER: 082FSW146		NAME: MAYFLOWER (L.799)		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>	
1949	123	390	Silver	164,068		
			Gold	2,053		
			Cadmium			65
			Lead			13,357
			Zinc			38,361
1948	494	227	Silver	16,267		
			Gold	342		
			Cadmium			74
			Lead			2,045
1937	5		Silver	5,350		
			Gold	31		
			Lead			356
1935	82		Silver	23,047		
			Gold	435		
			Zinc			1,378
1929	28		Silver	10,108		
			Gold	31		
			Zinc			1,274
1910	52		Silver	17,604		
			Gold	498		
			Lead			1,652
1908	66		Silver	85,284		
			Gold	435		
			Lead			4,035
1907	34		Silver	55,052		
			Gold	311		
			Lead			2,048

SUMMARY TOTALS: 082FSW146

NAME: **MAYFLOWER (L.799)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	884 tonnes	974 tons
Milled:	617 tonnes	680 tons
Recovery:		
Silver:	376,780 grams	12,114 ounces
Gold:	4,136 grams	133 ounces
Cadmium:	139 kilograms	306 pounds
Lead:	25,785 kilograms	56,846 pounds
Zinc:	49,390 kilograms	108,886 pounds

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MINFILE NUMBER: 082FSW147		NAME: JOSIE (L.536)		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>	
1922	107		Silver	7,527		
			Gold	5,567		
			Copper		3,368	
1921	6,269		Silver	27,619		
			Gold	22,892		
			Copper		13,277	
1920	14,898		Silver	297,749		
			Gold	210,567		
			Copper		98,839	
1919	14,379		Silver	264,438		
			Gold	362,568		
			Copper		107,616	
1918	16,899		Silver	477,587		
			Gold	266,211		
			Copper		221,451	
1917	10,707		Silver	473,730		
			Gold	114,708		
			Copper		271,503	
1916	14,899		Silver	629,214		
			Gold	212,465		
			Copper		353,273	
1915	24,075		Silver	767,809		
			Gold	279,927		
			Copper		420,757	
1914	24,390		Silver	831,632		
			Gold	324,498		
			Copper		383,236	
1913	33,253		Silver	928,207		
			Gold	455,006		
			Copper		421,373	
1912	32,609		Silver	396,128		
			Gold	452,455		
			Copper		237,736	
1911	39,599		Silver	589,588		
			Gold	748,089		
			Copper		390,265	
1910	42,567		Silver	762,521		
			Gold	875,612		
			Copper		430,457	
1909	41,327		Silver	796,237		
			Gold	933,557		
			Copper		483,185	
1908	39,851		Silver	623,522		
			Gold	929,980		
			Copper		410,757	
1907	30,572		Silver	714,280		
			Gold	361,883		
			Copper		309,029	
1906	29,357		Silver	701,746		
			Gold	354,823		
			Copper		307,021	
1905	20,901		Silver	469,500		
			Gold	276,381		
			Copper		242,217	
1904	20,842		Silver	714,654		
			Gold	428,786		
			Copper		364,777	
1903	14,420		Silver	795,428		
			Gold	325,991		
			Copper		397,998	
1902	47,210		Silver	2,014,137		
			Gold	833,871		
			Copper		1,110,670	
1901	32,619		Silver	1,590,545		
			Gold	512,640		
			Copper		751,951	
1900	2,732		Silver	236,912		
			Gold	55,705		
			Copper		45,311	

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MINFILE NUMBER: **082FSW147**

NAME: **JOSIE (L.536)**

STATUS: Past Producer

SUMMARY TOTALS: 082FSW147

NAME: **JOSIE (L.536)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	554,482 tonnes	611,212 tons
Milled:		
Recovery:		
Silver:	15,110,710 grams	485,820 ounces
Gold:	9,344,182 grams	300,422 ounces
Copper:	7,776,067 kilograms	17,143,288 pounds

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MINFILE NUMBER: **082FSW149** NAME: **GEORGIA (L.928)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1939	10		Silver	93	
			Gold	62	
1935	4		Silver	124	
			Gold	62	
1934	19		Silver	187	
			Gold	124	
1933	16		Silver	249	
			Gold	218	

SUMMARY TOTALS: 082FSW149

NAME: **GEORGIA (L.928)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	49 tonnes	54 tons
Milled:		
Recovery:		
Silver:	653 grams	21 ounces
Gold:	466 grams	15 ounces

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MINFILE NUMBER: 082FSW151	NAME: COLUMBIA-KOOTENAY	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1904			Gold	63,046	
1899	99		Gold	2,364	
1896	45		Gold	3,110	

SUMMARY TOTALS: 082FSW151

NAME: **COLUMBIA-KOOTENAY**

	Mined:	144 tonnes	159 tons
Recovery:	Milled:	tonnes	tons
	Gold:	68,520 grams	2,203 ounces

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MINFILE NUMBER: **082FSW152** NAME: **CROWN POINT (L.981)** 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>
1906	333		Silver	2,208	
			Gold	2,955	
			Copper		1,513
1905	381		Silver	3,857	
			Gold	6,501	
			Copper		2,087

SUMMARY TOTALS: 082FSW152

NAME: **CROWN POINT (L.981)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	714 tonnes	787 tons
Milled:		
Recovery:		
	Silver: 6,065 grams	195 ounces
	Gold: 9,456 grams	304 ounces
	Copper: 3,600 kilograms	7,937 pounds

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MINFILE NUMBER: **082FSW153** NAME: **LILY MAY (L.1052)** 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	22		Silver	7,620	
			Gold	62	
			Lead		407
			Zinc		578
1910	15		Silver	10,886	
			Gold	62	
			Copper		549

SUMMARY TOTALS: 082FSW153

NAME: **LILY MAY (L.1052)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	37 tonnes	41 tons
Milled:	tonnes	tons
Recovery:		
Silver:	18,506 grams	595 ounces
Gold:	124 grams	4 ounces
Copper:	549 kilograms	1,210 pounds
Lead:	407 kilograms	897 pounds
Zinc:	578 kilograms	1,274 pounds

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MINFILE NUMBER: 082FSW154	NAME: CURLEW (L.1220)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1908	6		Silver Gold	3,608 62	

SUMMARY TOTALS: 082FSW154

NAME: **CURLEW (L.1220)**

	Mined:	6 tonnes	7 tons
	Milled:		tons
Recovery:	Silver:	3,608 grams	116 ounces
	Gold:	62 grams	2 ounces

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MINFILE NUMBER: 082FSW155	NAME: RED EAGLE (L.1615)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1908	6		Silver Lead	4,354	381

SUMMARY TOTALS: 082FSW155

NAME: **RED EAGLE (L.1615)**

	<u>Metric</u>		<u>Imperial</u>
	Mined:	6 tonnes	7 tons
	Milled:		tons
Recovery:	Silver:	4,354 grams	140 ounces
	Lead:	381 kilograms	840 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW156	NAME: NATURE BOY	STATUS: Prospect
Production Year	Tonnes Mined	Tonnes Milled
1949	4	
		Commodity
		Silver
		Lead
		Zinc
		Grams Recovered
		964
		Kilograms Recovered
		54
		41

SUMMARY TOTALS: 082FSW156

NAME: **NATURE BOY**

		<u>Metric</u>		<u>Imperial</u>
Mined:	4	tonnes	4	tons
Milled:		tonnes		tons
Recovery:	Silver:	964	grams	31
	Lead:	54	kilograms	119
	Zinc:	41	kilograms	90
				pounds

Comments:

1949: Actual quantity mined was 3.6 tonnes (MMAR 1949, page 156).

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MINFILE NUMBER: 082FSW157	NAME: URAL (L.2944)	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1936	4		Silver	280	
			Gold	156	
1935	4		Silver	31	
			Gold	62	

SUMMARY TOTALS: 082FSW157

NAME: **URAL (L.2944)**

		<u>Metric</u>	<u>Imperial</u>
	Mined:	8 tonnes	9 tons
	Milled:	tonnes	tons
Recovery:	Silver:	311 grams	10 ounces
	Gold:	218 grams	7 ounces

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW158		NAME: CASINO RED CAP		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1965	188		Silver	1,026	
			Gold	4,790	
			Lead		187
			Zinc		251
1964	100		Silver	684	
			Gold	2,208	
			Lead		100
1963	2,487		Silver	7,465	
			Gold	28,397	
			Lead		2,487
1962	1,354		Silver	4,417	
			Gold	18,693	
			Lead		1,354
1960	27		Silver	93	
			Gold	653	
			Lead		27
1959	240		Silver	1,306	
			Gold	3,919	
			Lead		273
1958	1,034		Silver	7,154	
			Gold	20,186	
			Lead		1,341
1957	79		Silver	1,555	
			Gold	2,426	
			Lead		176
1951	5		Silver	249	
			Gold	62	
			Lead		64
			Zinc		27

SUMMARY TOTALS: 082FSW158

NAME: **CASINO RED CAP**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5,514 tonnes	6,078 tons
Milled:		tons
Recovery:		
Silver:	23,949 grams	770 ounces
Gold:	81,334 grams	2,615 ounces
Lead:	6,009 kilograms	13,248 pounds
Zinc:	5,982 kilograms	13,188 pounds

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MINFILE NUMBER:	082FSW159	NAME:	COLUMBIA	STATUS:	Prospect
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1937	1		Silver Gold	93 31	

SUMMARY TOTALS: 082FSW159

NAME: **COLUMBIA**

	Mined:	1 tonnes	1 tons
	Milled:		tons
Recovery:	Silver:	93 grams	3 ounces
	Gold:	31 grams	1 ounces

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MINFILE NUMBER: 082FSW160		NAME: SUNSET (L.6563)		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>
1964	6		Silver	2,488	
			Lead		450
			Zinc		1,515
1963	5		Silver	529	
			Lead		450
			Zinc		372
1952	2		Silver	622	
			Lead		520
			Zinc		53

SUMMARY TOTALS: 082FSW160

NAME: **SUNSET (L.6563)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	13 tonnes	14 tons
Milled:	tonnes	tons
Recovery:		
Silver:	3,639 grams	117 ounces
Lead:	1,420 kilograms	3,131 pounds
Zinc:	1,940 kilograms	4,277 pounds

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MINFILE NUMBER:	082FSW161	NAME:	DOUGLAS (L.2865)	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1950	7		Silver	467	
			Lead		477
			Zinc		410
1948	2		Silver	124	
			Lead		115
			Zinc		69

SUMMARY TOTALS: 082FSW161

NAME: **DOUGLAS (L.2865)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	9 tonnes	10 tons
Milled:		tons
Recovery:	Silver: 591 grams	19 ounces
	Lead: 592 kilograms	1,305 pounds
	Zinc: 479 kilograms	1,056 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	<u>082FSW162</u>	NAME:	<u>VELVET (L.2521)</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>
1964	1,575	1,575	Silver	8,460	
			Gold	933	
			Copper		7,153
			Lead		27
			Zinc		9
1963	4,627	4,627	Silver	27,806	
			Gold	5,754	
			Copper		36,600
1962	1,816		Silver	12,566	
			Gold	5,567	
			Copper		24,400
1961	7,396		Silver	44,508	
			Gold	16,111	
			Copper		108,550
1960	3,868		Silver	33,156	
			Gold	11,042	
			Copper		66,302
1959	1,588		Silver	14,276	
			Gold	4,074	
			Copper		26,793
1957	12,336	12,336	Silver	43,855	
			Gold	31,103	
			Copper		108,346
1956	1,575	1,575	Silver	9,331	
			Gold	5,599	
			Copper		19,141
1955	449	449	Silver	1,120	
			Gold	1,369	
			Copper		3,015
1954	1,051	1,051	Silver	3,639	
			Gold	5,101	
			Copper		9,153
1953	23		Silver	902	
			Gold	1,182	
			Copper		980
1952	24		Silver	1,431	
			Gold	1,306	
			Copper		1,253
			Lead		10
			Zinc		16
1948	15		Silver	93	
			Gold	187	
			Copper		307
1942	6,890		Silver	16,453	
			Gold	37,510	
			Copper		50,857
1941	7,649		Silver	45,784	
			Gold	47,121	
			Copper		83,174
1940	6,622		Silver	44,477	
			Gold	67,525	
			Copper		106,552
1939	6,350		Silver	33,249	
			Gold	45,473	
			Copper		90,744
1937	7,210		Silver	28,646	
			Gold	33,747	
			Copper		47,546
1936	5,073		Silver	16,578	
			Gold	23,732	
			Copper		25,301
1935	2,753		Silver	13,654	
			Gold	49,298	
			Copper		22,425
1934	2,398		Silver	46,312	
			Gold	31,538	
			Copper		33,467
1933	471		Silver	12,068	
			Gold	6,718	
			Copper		11,843

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW162		NAME: VELVET (L.2521)		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>	
1927	6		Silver	404		
			Gold	187		
			Copper			413
1926	150		Silver	5,101		
			Gold	5,878		
			Copper			9,909
1924	102		Silver	3,857		
			Gold	2,395		
			Copper			3,610
1921	73		Silver	4,137		
			Gold	3,048		
			Copper			629
1920	266		Silver	16,547		
			Gold	13,063		
			Copper			9,825
1918	215		Silver	5,163		
			Gold	5,039		
			Copper			9,431
1916	112		Silver	2,488		
			Gold	3,110		
			Copper			2,268
1915	71		Silver	1,244		
			Gold	1,742		
			Copper			1,328
1910	602		Silver	23,203		
			Gold	19,626		
			Copper			22,048
1904	160		Silver	3,608		
			Gold	5,163		
			Copper			7,507
1903	3,520		Silver	90,136		
			Gold	80,650		
			Copper			116,884
1902	1,293		Silver	41,865		
			Gold	43,140		
			Copper			83,205
1901	513		Silver	8,242		
			Gold	5,754		
			Copper			3,145

SUMMARY TOTALS: 082FSW162

NAME: **VELVET (L.2521)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	88,842 tonnes	97,932 tons
Milled:	21,613 tonnes	23,824 tons
Recovery:		
Silver:	664,359 grams	21,360 ounces
Gold:	620,785 grams	19,959 ounces
Copper:	1,154,104 kilograms	2,544,363 pounds
Lead:	37 kilograms	82 pounds
Zinc:	25 kilograms	55 pounds

Comments: 1955: Ore mined is estimated.

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MINFILE NUMBER: 082FSW163	NAME: LORD ROBERTS	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1924	7		Silver Copper	187	22

SUMMARY TOTALS: 082FSW163

NAME: **LORD ROBERTS**

	Mined:	7 tonnes	8 tons
	Milled:	tonnes	tons
Recovery:	Silver:	187 grams	6 ounces
	Copper:	22 kilograms	49 pounds

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MINFILE NUMBER: 082FSW164		NAME: UNION (L.944)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1952	8		Silver	3,390	
			Lead		714
			Zinc		351
1946	17		Silver	26,935	
			Gold	156	
			Lead		3,392
			Zinc		1,733
1937	6		Silver	7,620	
			Gold	31	
			Lead		913
			Zinc		474

SUMMARY TOTALS: 082FSW164

NAME: **UNION (L.944)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	31 tonnes	34 tons
Milled:	tonnes	tons
Recovery:		
Silver:	37,945 grams	1,220 ounces
Gold:	187 grams	6 ounces
Lead:	5,019 kilograms	11,065 pounds
Zinc:	2,558 kilograms	5,639 pounds

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MINFILE NUMBER:	082FSW165	NAME:	NEST EGG (L.1048)	STATUS:	Prospect
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1934	4		Silver	684	
			Gold	31	
1908	25		Gold	93	
			Copper		272
1907	43		Silver	871	
			Gold	311	
			Copper		446

SUMMARY TOTALS: 082FSW165

NAME: **NEST EGG (L.1048)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	72 tonnes	79 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,555 grams	50 ounces
Gold:	435 grams	14 ounces
Copper:	718 kilograms	1,583 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW166		NAME: VENUS (L.4293)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1941	44		Silver	3,484		
			Gold	1,773		
1940	166		Silver	14,276		
			Gold	5,941		
1939	174		Silver	12,939		
			Gold	6,874		
1938	357		Silver	24,136		
			Gold	12,659		
1937	153		Silver	14,307		
			Gold	7,185		
1936	97		Silver	8,864		
			Gold	4,728		
			Copper			6
			Lead			432
1935	85		Silver	9,922		
			Gold	6,376		
1933	26		Silver	995		
			Gold	342		
1932	112		Silver	2,644		
			Gold	1,866		
1914	827	827	Silver	2,986		
			Gold	14,618		
1905	1,746	1,746	Gold	28,335		
1902	717	717	Silver	933		
			Gold	8,336		
1900	907	907	Gold	8,087		

SUMMARY TOTALS: 082FSW166

NAME: **VENUS (L.4293)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5,411 tonnes	5,965 tons
Milled:	4,197 tonnes	4,626 tons
Recovery:		
Silver:	95,486 grams	3,070 ounces
Gold:	107,120 grams	3,444 ounces
Copper:	6 kilograms	13 pounds
Lead:	432 kilograms	952 pounds

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MINFILE NUMBER: 082FSW168		NAME: ATHABASCA (L.1569)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1943	39		Silver	1,493	
			Gold	1,804	
			Lead		279
1941	48		Silver	3,546	
			Gold	1,524	
			Lead		785
			Zinc		1,035
1940	84		Silver	7,154	
			Gold	2,519	
			Lead		1,081
			Zinc		3,509
1939	26		Silver	2,333	
			Gold	1,400	
			Lead		206
			Zinc		488
1938	97		Silver	10,264	
			Gold	3,017	
			Lead		1,474
			Zinc		3,131
1937	71		Silver	8,491	
			Gold	4,168	
			Lead		1,274
			Zinc		1,719
1936	58		Silver	14,214	
			Gold	3,577	
			Copper		13
			Lead		1,325
			Zinc		2,732
1935	7		Silver	498	
			Gold	187	
			Lead		158
			Zinc		213
1934	149		Silver	8,771	
			Gold	5,443	
			Lead		686
			Zinc		1,120
1917	118	118	Gold	3,110	
1911	611	611	Silver	9,362	
			Gold	23,576	
			Lead		1,494
1910	1,814	1,814	Silver	11,508	
			Gold	34,213	
			Lead		571
1904	6,586	6,586	Gold	99,810	
1901	1,642	1,642	Gold	36,079	
1900	25,561	4,595	Silver	88,955	
			Gold	253,147	
1899	4,853	4,853	Silver	33,218	
			Gold	155,204	
1898	15		Silver	1,991	
			Gold	3,048	

SUMMARY TOTALS: 082FSW168

NAME: **ATHABASCA (L.1569)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	41,779 tonnes	46,053 tons
Milled:	20,219 tonnes	22,288 tons
Recovery:		
Silver:	201,798 grams	6,488 ounces
Gold:	631,826 grams	20,314 ounces
Copper:	13 kilograms	29 pounds
Lead:	9,333 kilograms	20,576 pounds
Zinc:	13,947 kilograms	30,748 pounds

Comments: 1943: Tailings
 1917: Estimated

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	<u>082FSW169</u>	NAME:	<u>CALIFORNIA (L.1677)</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>
1947	10		Silver	778	
			Gold	529	
			Lead		116
			Zinc		197
1943	37		Silver	3,235	
			Gold	1,835	
			Lead		410
			Zinc		1,098
1942	168		Silver	12,068	
			Gold	11,228	
			Lead		2,125
			Zinc		4,381
1941	105		Silver	8,460	
			Gold	7,620	
			Lead		1,593
			Zinc		3,349
1940	58		Silver	5,723	
			Gold	3,919	
			Lead		803
			Zinc		2,109
1939	120		Silver	9,300	
			Gold	5,847	
			Lead		1,090
			Zinc		2,965
1938	116		Silver	8,584	
			Gold	5,630	
			Lead		1,268
			Zinc		2,460
1937	30		Silver	3,670	
			Gold	1,275	
			Lead		217
			Zinc		1,077
1936	41		Silver	4,386	
			Gold	1,151	
1935	26		Silver	2,706	
			Gold	1,244	
1934	36		Silver	2,395	
			Gold	653	
1933	83		Silver	4,914	
			Gold	1,711	
			Lead		288
			Zinc		998
1930	16		Silver	3,546	
			Gold	218	
			Lead		175
			Zinc		844
1922	28		Silver	4,012	
			Gold	1,711	
1919	83		Silver	5,132	
			Gold	1,431	
1917	58		Silver	4,043	
			Gold	1,555	
1916	36		Silver	3,732	
			Gold	1,555	
1915	77		Silver	8,211	
			Gold	3,888	
1914	41		Silver	4,043	
			Gold	2,893	
1913	22		Silver	2,084	
			Gold	1,524	
1911	230		Silver	18,226	
			Gold	10,575	
1910	33		Silver	3,359	
			Gold	2,239	

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MINFILE NUMBER: **082FSW169**

NAME: **CALIFORNIA (L.1677)**

STATUS: Past Producer

SUMMARY TOTALS: 082FSW169

NAME: **CALIFORNIA (L.1677)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	1,454 tonnes	1,603 tons
Milled:		
Recovery:		
Silver:	122,607 grams	3,942 ounces
Gold:	70,231 grams	2,258 ounces
Lead:	8,085 kilograms	17,824 pounds
Zinc:	19,478 kilograms	42,942 pounds

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MINFILE NUMBER: 082FSW170		NAME: SHAMROCK (L.2234)		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>
1948	3		Silver	498	
			Lead		12
			Zinc		287
1937	5		Silver	715	
			Gold	31	
			Lead		268
			Zinc		67

SUMMARY TOTALS: 082FSW170

NAME: **SHAMROCK (L.2234)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	8 tonnes	9 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,213 grams	39 ounces
Gold:	31 grams	1 ounces
Lead:	280 kilograms	617 pounds
Zinc:	354 kilograms	780 pounds

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MINFILE NUMBER: 082FSW171	NAME: IRENE (L.4151)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1939	15		Silver Gold	342 249	

SUMMARY TOTALS: 082FSW171

NAME: **IRENE (L.4151)**

	<u>Metric</u>		<u>Imperial</u>
	Mined: 15 tonnes		17 tons
	Milled: tonnes		tons
Recovery:	Silver: 342 grams		11 ounces
	Gold: 249 grams		8 ounces

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MINFILE NUMBER: **082FSW172** NAME: **GREAT EASTERN (L.4152)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1939	9		Silver	156	
			Gold	373	
1936	13		Silver	1,244	
			Gold	498	
1935	5		Silver	156	
			Gold	187	
1934	7		Silver	218	
			Gold	218	

SUMMARY TOTALS: 082FSW172

NAME: **GREAT EASTERN (L.4152)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	34 tonnes	37 tons
Milled:	tonnes	tons
Recovery:		
Silver:	1,774 grams	57 ounces
Gold:	1,276 grams	41 ounces

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW173		NAME: VICTORIA-JESSIE		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>	
1949	27		Silver	280		
			Gold	715		
1942	15		Silver	498		
			Gold	435		
1941	5		Silver	280		
			Gold	684		
1940	17		Silver	498		
			Gold	1,213		
1907	3,191		Silver	92,563		
			Gold	746		
			Copper		83,577	

SUMMARY TOTALS: 082FSW173

NAME: **VICTORIA-JESSIE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3,255 tonnes	3,588 tons
Milled:		
Recovery:		
	Silver: 94,119 grams	3,026 ounces
	Gold: 3,793 grams	122 ounces
	Copper: 83,577 kilograms	184,256 pounds

Comments:

1949:	VICTORIA
1942:	JESSIE
1941:	JESSIE
1940:	JESSIE
1907:	VICTORIA

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MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	082FSW174	NAME:	STARLIGHT (L.684)	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1981	10		Silver	1,039	
			Gold	210	
			Copper		200
1937	11		Silver	1,897	
			Gold	373	

SUMMARY TOTALS: 082FSW174

NAME: **STARLIGHT (L.684)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	21 tonnes	23 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,936 grams	94 ounces
Gold:	583 grams	19 ounces
Copper:	200 kilograms	441 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW175		NAME: DAYLIGHT-BERLIN		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>
1949	4		Silver	93	
			Gold	93	
1946	34		Silver	778	
			Gold	1,586	
			Lead		70
			Zinc		68
1941	58		Silver	715	
			Gold	1,804	
1939	181		Silver	1,711	
			Gold	2,177	
1938	11		Silver	249	
			Gold	404	
1937	39		Silver	1,431	
			Gold	2,768	

SUMMARY TOTALS: 082FSW175

NAME: **DAYLIGHT-BERLIN**

	<u>Metric</u>	<u>Imperial</u>
Mined:	327 tonnes	360 tons
Milled:	tonnes	tons
Recovery:		
Silver:	4,977 grams	160 ounces
Gold:	8,832 grams	284 ounces
Lead:	70 kilograms	154 pounds
Zinc:	68 kilograms	150 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	<u>082FSW176</u>	NAME:	<u>SILVER KING (L.141)</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>
1958	16		Silver	6,034	
			Gold	31	
			Lead		992
			Zinc		716
1949	499		Silver	137,755	
			Gold	156	
			Copper		6,659
			Lead		272
1948	21		Silver	9,113	
			Lead		3,079
			Zinc		454
1947	4		Silver	1,524	
			Lead		690
			Zinc		148
1937	25		Silver	17,667	
			Lead		1,768
			Zinc		2,753
1936	59		Silver	85,284	
			Gold	62	
			Copper		2,924
1914	12,175		Silver	3,333,837	
			Gold	7,278	
			Copper		221,006
1913	3,302		Silver	711,637	
			Gold	1,369	
			Copper		64,569
1910	1,522		Silver	670,830	
			Copper		55,140
1909	1,617		Silver	1,406,415	
			Copper		84,627
1908	652		Silver	316,038	
			Copper		23,240
1907	2,151		Silver	914,553	
			Copper		74,488
1906	1,803		Silver	1,623,204	
			Copper		77,923
			Lead		8,433
1905	728		Silver	531,053	
			Copper		29,609
1904	2,276		Silver	2,083,528	
			Copper		100,017
1903	4,131		Silver	3,671,523	
			Copper		157,041
1902	6,122		Silver	2,849,595	
			Copper		222,778
1901	18,824		Silver	7,799,388	
			Copper		725,494
1900	643		Silver	294,608	
			Copper		16,751
1899	27,277		Silver	14,165,270	
			Copper		621,651
1898	41,101		Silver	21,521,939	
			Copper		886,806
1897	43,145		Silver	29,690,457	
			Copper		1,566,627
1896	28,322		Silver	24,987,870	
			Copper		1,172,004
1895	1,814		Silver	6,220,600	
			Copper		226,795
1894	581		Silver	2,309,087	
			Copper		72,574
1893	3,139		Silver	12,433,735	
			Copper		381,016
1889	100		Silver	422,068	

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MINFILE NUMBER: **082FSW176**

NAME: **SILVER KING (L.141)**

STATUS: Past Producer

SUMMARY TOTALS: 082FSW176

NAME: **SILVER KING (L.141)**

	<u>Metric</u>		<u>Imperial</u>	
Mined:	202,049	tonnes	222,721	tons
Milled:		tonnes		tons
Recovery:				
Silver:	138,214,612	grams	4,443,697	ounces
Gold:	8,896	grams	286	ounces
Copper:	6,789,739	kilograms	14,968,808	pounds
Lead:	15,234	kilograms	33,585	pounds
Zinc:	4,071	kilograms	8,975	pounds

Comments:

1907: Silver King and American Flag.
1906: Silver King, Dandy and Ollie.
1900: Operator name changed to Hall Mining & Smelting Co. Ltd.
1898: Operated by Hall Mines Ltd.
1889: Silver King 1889-1958.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW177		NAME: REFERENDUM (L.4387)		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>
1985	37		Silver	453	
			Gold	163	
			Lead		37
			Zinc		37
1984	61		Silver	1,038	
			Gold	391	
			Lead		153
			Zinc		192
1983	61		Silver	348	
			Gold	19	
			Copper		9
			Lead		98
			Zinc		99
1907	227		Gold	3,110	

SUMMARY TOTALS: 082FSW177

NAME: **REFERENDUM (L.4387)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	386 tonnes	425 tons
Milled:	tonnes	tons
Recovery:	Silver: 1,839 grams	59 ounces
	Gold: 3,683 grams	118 ounces
	Copper: 9 kilograms	20 pounds
	Lead: 288 kilograms	635 pounds
	Zinc: 328 kilograms	723 pounds

Comments: 1985: Crude ore.
 1984: Crude ore

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MINFILE NUMBER: 082FSW178	NAME: NORTHERN LIGHT	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1907	31		Silver	1,835	
			Gold	62	
			Copper		124

SUMMARY TOTALS: 082FSW178

NAME: **NORTHERN LIGHT**
Metric Imperial

Mined:	31 tonnes	34 tons
Milled:	tonnes	tons
Recovery:	Silver: 1,835 grams	59 ounces
	Gold: 62 grams	2 ounces
	Copper: 124 kilograms	273 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
 ENERGY AND MINERALS DIVISION

MINFILE NUMBER: 082FSW179		NAME: GOLDEN EAGLE (L.4215)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1958	5		Silver	124	
			Gold	404	
			Lead		11
			Zinc		11
1957	8		Silver	249	
			Gold	933	
			Lead		17
			Zinc		17
1952	25		Silver	684	
			Gold	809	
			Lead		175
			Zinc		50
1951	14		Silver	280	
			Gold	778	
			Lead		39
			Zinc		39
1949	3		Silver	156	
			Gold	62	
			Lead		44
			Zinc		6
1948	7		Silver	124	
			Gold	249	
			Zinc		7
1940	5		Silver	591	
			Gold	156	
			Lead		402
			Zinc		104
1934	31		Silver	933	
			Gold	467	
			Lead		723
			Zinc		259
1932	3		Silver	653	
			Gold	31	
			Lead		52
			Zinc		24
1925	3		Silver	591	
			Gold	62	
			Lead		565
			Zinc		565

SUMMARY TOTALS: 082FSW179

NAME: **GOLDEN EAGLE (L.4215)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	104 tonnes	115 tons
Milled:		
Recovery:		
Silver:	4,385 grams	141 ounces
Gold:	3,951 grams	127 ounces
Lead:	2,028 kilograms	4,471 pounds
Zinc:	1,082 kilograms	2,385 pounds
Comments:		
1948:	SUN FRACTION 1948-1958	
1925:	GOLDEN EAGLE 1925-1940	

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MINFILE NUMBER: 082FSW181		NAME: GOLD KING (L.12411)		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	2		Silver	124	
			Gold	124	
1939	2		Silver	124	
			Gold	93	
1934	1		Silver	62	
			Gold	31	
1931	2		Silver	311	
			Gold	93	
			Copper		51

SUMMARY TOTALS: 082FSW181

NAME: **GOLD KING (L.12411)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	7 tonnes	8 tons
Milled:	tonnes	tons
Recovery:		
Silver:	621 grams	20 ounces
Gold:	341 grams	11 ounces
Copper:	51 kilograms	112 pounds

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MINFILE NUMBER: **082FSW182** NAME: **BEAR (L.14714)** 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	8		Silver	249	
			Gold	249	
1941	44		Silver	467	
			Gold	1,244	
1940	30		Silver	373	
			Gold	1,586	
1939	25		Silver	715	
			Gold	435	
1938	2		Silver	31	
			Gold	93	
1937	5		Silver	62	
			Gold	560	

SUMMARY TOTALS: 082FSW182

NAME: **BEAR (L.14714)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	114 tonnes	126 tons
Milled:		
Recovery:		
Silver:	1,897 grams	61 ounces
Gold:	4,167 grams	134 ounces

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW183		NAME: FERN (L.374)		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	48		Silver	1,244		
			Gold	2,675		
1941	73		Silver	995		
			Gold	1,804		
1940	98		Silver	1,648		
			Gold	2,239		
1939	18		Silver	342		
			Gold	871		
1937	5		Silver	871		
			Gold	93		
1936	2		Silver	124		
			Gold	156		
1935	2		Silver	187		
			Gold	373		
1925	20		Gold	311		
1911	7		Gold	156		
1909	91	91	Gold	1,680		
1908	168	168	Gold	2,115		
1907	15		Silver	342		
			Gold	560		
1906	272	272	Gold	3,048		
1902	2,284		Gold	12,877		
1900	573	573	Gold	4,137		
1899	262	249	Gold	3,110		
1898	1,645	1,595	Silver	10,762		
			Gold	96,793		
1897	5,671	5,671	Gold	62,299		
1896	23		Gold	1,151		

SUMMARY TOTALS: 082FSW183

NAME: **FERN (L.374)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	11,277 tonnes	12,431 tons
Milled:	8,619 tonnes	9,501 tons
Recovery:		
Silver:	16,515 grams	531 ounces
Gold:	196,448 grams	6,316 ounces

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MINFILE NUMBER:	082FSW184	NAME:	CANADIAN BELLE (L.4783)	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1940	13		Gold	529	
			Copper		23
1939	11		Silver	280	
			Gold	311	

SUMMARY TOTALS: 082FSW184

NAME: **CANADIAN BELLE (L.4783)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	24 tonnes	26 tons
Milled:		
Recovery:		
Silver:	280 grams	9 ounces
Gold:	840 grams	27 ounces
Copper:	23 kilograms	51 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW185		NAME: GOLDEN AGE		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1973	80		Silver	3,141	
			Gold	218	
			Copper		107
			Lead		109
			Zinc		109
1963	56		Silver	778	
			Gold	124	
			Lead		56
			Zinc		56
1945			Silver	3,204	
			Gold	342	
			Lead		60
			Zinc		62
1942			Silver	2,053	
			Gold	404	
1940	15		Silver	311	
			Gold	62	
1931	1		Silver	93	
			Gold	62	
1928	3		Silver	93	
			Gold	31	

SUMMARY TOTALS: 082FSW185

NAME: **GOLDEN AGE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	155 tonnes	171 tons
Milled:	tonnes	tons
Silver:	9,673 grams	311 ounces
Gold:	1,243 grams	40 ounces
Copper:	107 kilograms	236 pounds
Lead:	225 kilograms	496 pounds
Zinc:	227 kilograms	500 pounds

Comments:

1945: 14 tonnes of concentrate.
 1942: 13 tonnes of concentrate.
 1928: See also EUPHRATES

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MINFILE NUMBER: **082FSW186** NAME: **EUPHRATES** 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	10		Silver	2,115	
			Gold	187	
			Lead		156
			Zinc		93
1941			Silver	15,987	
			Gold	560	
			Lead		2,238
			Zinc		1,833
1940	1		Silver	31	
			Gold	31	
			Lead		2
			Zinc		1
1939	70		Silver	11,166	
			Gold	1,089	
			Lead		1,113
			Zinc		701
1937	94		Silver	40,309	
			Gold	1,773	
			Lead		4,236
			Zinc		2,387
1935	22		Silver	684	
			Gold	187	
1934	54		Silver	6,127	
			Gold	3,110	
1931	43		Silver	62	
			Gold	1,275	
			Lead		501
			Zinc		272
1929			Silver	62	
			Gold	124	
1928	13	10	Gold	6,065	

SUMMARY TOTALS: 082FSW186

NAME: **EUPHRATES**

	<u>Metric</u>	<u>Imperial</u>
Mined:	307 tonnes	338 tons
Milled:	10 tonnes	11 tons
Recovery:	Silver: 76,543 grams	2,461 ounces
	Gold: 14,401 grams	463 ounces
	Lead: 8,246 kilograms	18,179 pounds
	Zinc: 5,287 kilograms	11,656 pounds

Comments:

1941: No record
 1929: No record

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW187		NAME: SECOND RELIEF (L.2463)		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>
1959			Silver	124	
			Gold	124	
			Lead		38
			Zinc		13
1948	16		Silver	498	
			Gold	591	
1946	187		Silver	6,936	
			Gold	4,354	
1945	220		Silver	5,225	
			Gold	11,664	
1944	581		Silver	12,783	
			Gold	25,349	
1943	222		Silver	4,323	
			Gold	6,687	
1941	12,982	12,982	Silver	60,558	
			Gold	165,033	
			Copper		63
			Lead		185
1940	28,425	28,425	Silver	115,610	
			Gold	329,816	
			Copper		156
			Lead		62
1939	28,574	28,574	Silver	116,387	
			Gold	463,341	
			Copper		100
			Lead		86
1938	26,641	26,641	Silver	116,107	
			Gold	383,935	
			Copper		103
			Lead		238
1937	24,332	24,332	Silver	111,007	
			Gold	409,689	
			Copper		26
			Lead		146
			Zinc		52
1936	23,099	23,099	Silver	99,001	
			Gold	314,047	
			Lead		302
			Zinc		82
1935	11,792	11,792	Silver	46,934	
			Gold	130,913	
			Copper		12,420
1934	10,580	10,580	Silver	42,331	
			Gold	179,993	
			Copper		6,456
1933	3,703	3,703	Silver	9,922	
			Gold	48,707	
1932	2		Silver	218	
			Gold	218	
1931	422	422	Silver	1,493	
			Gold	7,993	
1930	1,342	1,342	Silver	5,319	
			Gold	35,986	
1929	458	458	Silver	1,462	
			Gold	7,060	
1928	21		Silver	404	
			Gold	964	
1920			Silver	1,275	
			Gold	3,981	
			Copper		342
1919			Silver	2,861	
			Gold	19,626	
1918	1,126	1,126	Silver	7,123	
			Gold	29,392	
1915	2,939	2,939	Silver	4,634	
			Gold	29,423	
1914	1,127	1,127	Silver	2,022	
			Gold	12,317	

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW187		NAME: SECOND RELIEF (L.2463)		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>	
1913	2,830	2,830	Silver	15,240		
			Gold	77,633		
1912	2,520	2,520	Silver	2,924		
			Gold	29,579		
1911	98		Silver	2,799		
			Gold	4,043		
1909	153		Silver	4,199		
			Gold	6,096		
1908	1,933	1,847	Silver	2,861		
			Gold	26,095		
			Copper			467
1907	2,752	2,722	Silver	6,221		
			Gold	43,295		
1906	6,350	6,350	Silver	24,602		
			Gold	103,666		
1905	5,080	5,035	Silver	17,107		
			Gold	90,323		
			Copper			77
1904	2,722	2,722	Silver	4,914		
			Gold	41,118		
1903	1,204	1,204	Silver	1,275		
			Gold	20,746		
1902	2,544	2,544	Silver	1,648		
			Gold	43,980		
1900	45		Gold	9,860		

SUMMARY TOTALS: 082FSW187

NAME: **SECOND RELIEF (L.2463)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	207,022 tonnes	228,203 tons
Milled:	205,316 tonnes	226,322 tons
Recovery:		
Silver:	858,347 grams	27,596 ounces
Gold:	3,117,637 grams	100,234 ounces
Copper:	20,210 kilograms	44,555 pounds
Lead:	1,057 kilograms	2,330 pounds
Zinc:	147 kilograms	324 pounds

Comments:

1959: Clean-up
 1919: Mined and milled records destroyed by fire.
 1908: IDA D
 1905: IDA D
 1902: SECOND RELIEF 1902-1946
 1900: IDA D

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MINFILE NUMBER: **082FSW188** NAME: **HARRIET** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1941	3		Silver	31	
			Gold	31	
1940	57		Silver	715	
			Gold	2,582	
1939	32		Silver	373	
			Gold	1,773	
1938	36		Silver	560	
			Gold	4,510	
1937	11		Silver	62	
			Gold	1,058	
1936	5		Silver	31	
			Gold	311	

SUMMARY TOTALS: 082FSW188

NAME: **HARRIET**

	<u>Metric</u>	<u>Imperial</u>
Mined:	144 tonnes	159 tons
Milled:		tons
Recovery:		
Silver:	1,772 grams	57 ounces
Gold:	10,265 grams	330 ounces

MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	082FSW189		NAME:	PORTO RICO (L.2385)		STATUS:	Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>			
1969			Silver	2,830				
			Gold	902				
			Lead				138	
			Zinc				51	
1946	5		Silver	62				
			Gold	156				
1941	81		Silver	1,120				
			Gold	1,213				
1935	29		Silver	187				
			Gold	809				
1934	60		Silver	1,275				
			Gold	1,400				
1915	156	156	Gold	1,400				
1914	109	109	Gold	1,928				
1905	544	544	Silver	3,608				
			Gold	17,573				
			Copper				322	
1904	272	272	Silver	1,244				
			Gold	7,869				
1903	562	562	Silver	4,976				
			Gold	22,923				
1899	3,719	3,719	Silver	31,103				
			Gold	108,083				
1898	166	166	Gold	9,735				
1897	37		Gold	4,479				

SUMMARY TOTALS: 082FSW189

NAME: **PORTO RICO (L.2385)**

	<u>Metric</u>		<u>Imperial</u>
Mined:	5,740 tonnes		6,327 tons
Milled:	5,528 tonnes		6,094 tons
Recovery:	Silver: 46,405 grams		1,492 ounces
	Gold: 178,470 grams		5,738 ounces
	Copper: 322 kilograms		710 pounds
	Lead: 138 kilograms		304 pounds
	Zinc: 51 kilograms		112 pounds

Comments: 1969: Clean-up

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MINFILE NUMBER: **082FSW190** NAME: **SPOTTED HORSE (L.5375)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1937	22		Silver	435	
			Gold	715	
1903	8		Gold	156	
1901	17		Silver	1,648	
			Gold	778	

SUMMARY TOTALS: 082FSW190

NAME: **SPOTTED HORSE (L.5375)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	47 tonnes	52 tons
Milled:	tonnes	tons
Recovery: Silver:	2,083 grams	67 ounces
Gold:	1,649 grams	53 ounces

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MINFILE NUMBER: 082FSW191	NAME: COMMODORE (L.14118)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1940	45		Silver Gold	7,371 62	

SUMMARY TOTALS: 082FSW191

NAME: **COMMODORE (L.14118)**

	Mined:	45 tonnes	50 tons
	Milled:		tons
Recovery:	Silver:	7,371 grams	237 ounces
	Gold:	62 grams	2 ounces

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MINFILE NUMBER: 082FSW192	NAME: ELISE (L.1310)	STATUS: Developed Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1896	5		Silver	9,331	

SUMMARY TOTALS: 082FSW192

	NAME: ELISE (L.1310)	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 5 tonnes	6 tons
	Milled: tonnes	tons
Recovery:	Silver: 9,331 grams	300 ounces

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MINFILE NUMBER: 082FSW193		NAME: ARIZONA (L.13026)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1946	12		Silver	2,084	
			Gold	778	
1943	23		Silver	1,959	
			Gold	1,058	
1942	15		Silver	1,120	
			Gold	653	
1941	16		Silver	1,462	
			Gold	653	
1905	230	230	Silver	591	
			Gold	1,462	

SUMMARY TOTALS: 082FSW193

NAME: **ARIZONA (L.13026)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	296 tonnes	326 tons
Milled:	230 tonnes	254 tons
Recovery:		
Silver:	7,216 grams	232 ounces
Gold:	4,604 grams	148 ounces

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MINFILE NUMBER: 082FSW194	NAME: YMIR BELLE	STATUS: Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1938	4		Silver	62	
			Gold	31	
1899	5		Silver	249	
			Gold	187	

SUMMARY TOTALS: 082FSW194

NAME: **YMIR BELLE**

		<u>Metric</u>	<u>Imperial</u>
	Mined:	9 tonnes	10 tons
	Milled:	tonnes	tons
Recovery:	Silver:	311 grams	10 ounces
	Gold:	218 grams	7 ounces

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MINFILE NUMBER: 082FSW196	NAME: PILOT-GOOD HOPE	STATUS: Developed Prospect			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1905	7		Silver Gold	871 249	

SUMMARY TOTALS: 082FSW196

NAME: **PILOT-GOOD HOPE**

	Mined:	7 tonnes	8 tons
	Milled:	tonnes	tons
Recovery:	Silver:	871 grams	28 ounces
	Gold:	249 grams	8 ounces

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW197		NAME: MYRTLE		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	7		Silver	373		
			Gold	93		
1937	3		Silver	280		
			Gold	93		
1934	15		Silver	1,400		
			Gold	342		
			Lead			122
			Zinc			183

SUMMARY TOTALS: 082FSW197

NAME: **MYRTLE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	25 tonnes	28 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,053 grams	66 ounces
Gold:	528 grams	17 ounces
Lead:	122 kilograms	269 pounds
Zinc:	183 kilograms	403 pounds

Comments: 1934: Hand sorted ore.

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MINFILE NUMBER: 082FSW198		NAME: DEWEY (L.14431)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1952	12		Silver	1,369	
			Lead		692
			Zinc		559
1949	28		Silver	3,546	
			Gold	156	
			Lead		1,008
			Zinc		1,227

SUMMARY TOTALS: 082FSW198

NAME: **DEWEY (L.14431)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	40 tonnes	44 tons
Milled:	tonnes	tons
Recovery:		
Silver:	4,915 grams	158 ounces
Gold:	156 grams	5 ounces
Lead:	1,700 kilograms	3,748 pounds
Zinc:	1,786 kilograms	3,937 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: **082FSW199** NAME: **HOWARD (L.12538)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1970	28		Silver	280	
			Gold	31	
			Lead		141
			Zinc		84
1969	35		Silver	1,213	
			Gold	124	
			Lead		665
			Zinc		665
1968	29		Silver	404	
			Gold	62	
			Lead		172
			Zinc		230
1947			Silver	840	
			Gold	93	
			Lead		344
			Zinc		4,940
1942			Silver	1,586	
			Gold	248	
			Lead		825
			Zinc		5,524
1941	15		Silver	3,079	
			Gold	280	
			Lead		1,530
			Zinc		1,976
1940			Silver	6,127	
			Gold	435	
			Lead		2,316
			Zinc		56,682
1939	178		Silver	56,296	
			Gold	3,173	
			Lead		35,827
			Zinc		28,127
1938	19,216	19,216	Silver	1,533,533	
			Gold	205,933	
			Lead		1,010,931
			Zinc		232,385
1937	590	590	Silver	10,513	
			Gold	1,742	
			Cadmium		68
			Lead		6,258
			Zinc		12,694

SUMMARY TOTALS: 082FSW199

NAME: **HOWARD (L.12538)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	20,091 tonnes	22,147 tons
Milled:	19,806 tonnes	21,832 tons
Recovery:		
Silver:	1,613,871 grams	51,887 ounces
Gold:	212,121 grams	6,820 ounces
Cadmium:	68 kilograms	150 pounds
Lead:	1,059,009 kilograms	2,334,715 pounds
Zinc:	343,307 kilograms	756,862 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW200		NAME: CLUBINE		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	31		Silver	778		
			Gold	373		
1941	68		Silver	653		
			Gold	1,835		
			Zinc		818	
1940	170		Silver	8,709		
			Gold	8,087		
1939	645		Silver	47,059		
			Gold	17,978		
1938	807		Silver	51,102		
			Gold	25,722		
1937	905		Silver	52,968		
			Gold	29,734		
1936	633		Silver	48,085		
			Gold	23,016		
1935	26		Silver	2,333		
			Gold	1,369		
1934	93		Silver	5,941		
			Gold	3,639		
1933	52		Silver	3,795		
			Gold	2,022		
1932	158		Silver	15,552		
			Gold	8,087		
1931	22		Silver	2,208		
			Gold	1,244		
1926	6		Silver	280		
			Gold	187		

SUMMARY TOTALS: 082FSW200

NAME: **CLUBINE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	3,616 tonnes	3,986 tons
Milled:		tons
Recovery:		
Silver:	239,463 grams	7,699 ounces
Gold:	123,293 grams	3,964 ounces
Zinc:	818 kilograms	1,803 pounds

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MINFILE NUMBER: 082FSW201	NAME: SECOND CHANCE	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1934	3		Silver	62	
			Gold	31	
1933	2		Silver	31	
			Gold	62	
1932	4		Silver	62	
			Gold	187	

SUMMARY TOTALS: 082FSW201

NAME: **SECOND CHANCE**

	<u>Mined:</u>	9 tonnes	<u>Imperial</u>	10 tons
Recovery:	<u>Milled:</u>	tonnes		tons
	<u>Silver:</u>	155 grams		5 ounces
	<u>Gold:</u>	280 grams		9 ounces

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW202		NAME: KEYSTONE (L.5137)		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>
1981	85		Silver	7,709	
			Gold	1,370	
			Lead		1,257
			Zinc		551
1980	195		Silver	11,508	
			Gold	3,266	
			Copper		123
			Lead		2,952
			Zinc		2,177
1979	40		Silver	5,319	
			Gold	1,337	
			Copper		54
			Lead		1,459
			Zinc		1,072
1942	43		Silver	1,586	
			Gold	280	
			Lead		502
			Zinc		434
1941	22		Silver	3,919	
			Gold	1,026	
			Lead		1,599
			Zinc		1,772
1939	101		Silver	4,572	
			Gold	1,337	
			Lead		1,525
			Zinc		1,399
1938	77		Silver	6,718	
			Gold	1,711	
			Lead		1,560
			Zinc		2,029
1937	58		Silver	2,582	
			Gold	1,213	
			Lead		522
			Zinc		1,160
1936	65		Silver	4,759	
			Gold	1,586	
			Lead		1,133
			Zinc		1,470
1935	155		Silver	9,735	
			Gold	3,390	
			Lead		2,036
			Zinc		1,874
1934	96		Silver	9,891	
			Gold	4,697	
			Lead		2,104
			Zinc		3,748
1933	286		Silver	13,281	
			Gold	5,132	
			Lead		3,132
			Zinc		3,622
1932	24		Silver	809	
			Gold	249	
			Zinc		185
1910	15		Silver	9,206	
			Gold	4,790	
1909	23		Gold	622	
1908	64		Silver	12,317	
			Gold	9,175	
1907	64		Silver	12,130	
			Gold	8,584	
			Lead		680
1906	32		Silver	5,225	
			Gold	2,053	
			Lead		983
1905	69		Silver	10,482	
			Gold	6,376	
1904	78		Silver	9,673	
			Gold	4,634	
			Lead		1,300
1903	221		Silver	39,905	

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MINFILE NUMBER: 082FSW202		NAME: KEYSTONE (L.5137)		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>
1903	221		Gold	18,382	
1901	176		Silver	6,718	
			Gold	3,266	

SUMMARY TOTALS: 082FSW202

		NAME: KEYSTONE (L.5137)	
		<u>Metric</u>	<u>Imperial</u>
	Mined:	1,989 tonnes	2,192 tons
	Milled:		
Recovery:	Silver:	188,044 grams	6,046 ounces
	Gold:	84,476 grams	2,716 ounces
	Copper:	177 kilograms	390 pounds
	Lead:	22,744 kilograms	50,142 pounds
	Zinc:	21,493 kilograms	47,384 pounds

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW203		NAME: CANADIAN KING (L.4196)		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>
1912	48		Silver	8,958	
			Gold	4,728	
1911	34		Silver	6,158	
			Gold	3,266	
1909	73		Silver	11,073	
			Gold	6,252	
1908	100		Silver	24,540	
			Gold	11,290	
1905	34		Silver	5,381	
			Gold	2,830	
			Lead		442
1904	32		Silver	5,941	
			Gold	2,115	
			Lead		782
1903	83		Silver	18,475	
			Gold	5,256	
1902	23		Gold	1,555	
1900	13		Gold	684	

SUMMARY TOTALS: 082FSW203

NAME: **CANADIAN KING (L.4196)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	440 tonnes	485 tons
Milled:	tonnes	tons
Recovery:		
Silver:	80,526 grams	2,589 ounces
Gold:	37,976 grams	1,221 ounces
Lead:	1,224 kilograms	2,698 pounds

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MINFILE NUMBER: 082FSW204	NAME: GOLD HILL	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1942	5		Silver	467	
			Gold	342	
1934	12		Silver	404	
			Gold	156	
1932	2		Silver	156	
			Gold	62	

SUMMARY TOTALS: 082FSW204

NAME: **GOLD HILL**

		<u>Metric</u>	<u>Imperial</u>
Mined:	19 tonnes	21 tons	
Milled:	tonnes	tons	
Recovery:			
Silver:	1,027 grams	33 ounces	
Gold:	560 grams	18 ounces	

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW205		NAME: ARLINGTON (L.3648)		STATUS: Past Producer		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1983	3,084	3,084	Gold	7,400		
1970	1,001		Silver	33,374		
			Gold	2,644		
			Lead		8,337	
			Zinc		5,336	
1969	3,029		Silver	69,018		
			Gold	12,379		
			Lead		17,236	
			Zinc		20,865	
1968	5,191		Silver	93,091		
			Gold	21,181		
			Lead		19,872	
			Zinc		27,121	
1967	6,645		Silver	100,805		
			Gold	26,469		
			Lead		27,943	
			Zinc		36,202	
1966	6,366		Silver	111,131		
			Gold	31,196		
			Lead		30,568	
			Zinc		42,259	
1965	4,904		Silver	94,678		
			Gold	23,856		
			Lead		21,844	
			Zinc		32,387	
1964	3,781		Silver	58,132		
			Gold	17,044		
			Lead		13,711	
			Zinc		23,396	
1963	1,231		Silver	31,227		
			Gold	10,824		
			Lead		7,789	
			Zinc		7,962	
1962	251		Silver	8,149		
			Gold	4,603		
			Lead		2,404	
			Zinc		2,337	
1961	146		Silver	9,953		
			Gold	3,546		
			Lead		2,771	
			Zinc		2,810	
1960	47		Silver	3,266		
			Gold	1,151		
			Lead		806	
			Zinc		995	
1958	27		Silver	1,959		
			Gold	684		
			Lead		571	
			Zinc		639	
1957	10		Silver	2,799		
			Gold	809		
			Lead		591	
			Zinc		951	
1954	8,314	8,314	Silver	42,331		
			Gold	13,343		
			Lead		8,765	
			Zinc		13,469	
1953	2,359	2,359	Silver	13,841		
			Gold	4,665		
			Lead		2,517	
			Zinc		4,755	
1952	2,604	2,604	Silver	51,631		
			Gold	13,779		
			Lead		11,056	
			Zinc		13,806	
1951			Silver	3,701		
			Gold	1,089		
			Lead		739	
			Zinc		1,273	
1950	1,920	1,905	Silver	31,849		
			Gold	10,171		

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MINFILE NUMBER: 082FSW205		NAME: ARLINGTON (L.3648)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1950	1,920	1,905	Lead Zinc		5,202 8,801
1949	586		Silver Gold Lead Zinc	31,818 7,900	6,664 6,406
1948	238		Silver Gold Lead Zinc	14,992 3,795	2,449 3,517
1947	351		Silver Gold Lead Zinc	47,308 16,889	10,937 13,067
1946	373		Silver Gold Lead Zinc	58,132 24,976	12,628 15,973
1945	232		Silver Gold Lead Zinc	23,265 8,553	5,335 6,484
1944	396		Silver Gold Lead Zinc	23,607 8,771	4,855 6,613
1943	103		Silver Gold Lead Zinc	27,402 9,051	5,099 7,238
1942	509		Silver Gold Lead Zinc	59,438 24,136	15,421 17,589
1941	704		Silver Gold Lead Zinc	73,621 31,010	19,859 21,785
1940	743		Silver Gold Lead Zinc	78,069 35,768	21,100 19,857
1939	710		Silver Gold Lead Zinc	71,319 37,106	19,838 21,094
1938	882		Silver Gold Lead Zinc	93,278 41,834	24,539 26,399
1937	292		Silver Gold Lead Zinc	34,369 13,405	10,135 9,606
1936	495		Silver Gold Lead Zinc	59,096 19,346	17,485 13,302
1935	309		Silver Gold Lead Zinc	44,757 19,191	11,548 10,305
1934	391		Silver Gold Lead Zinc	55,643 16,920	15,611 11,568
1933	29		Silver Gold Lead Zinc	4,354 2,177	1,080 743
1932	3		Silver	249	

MINFILE NUMBER: **082FSW205**

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MINFILE NUMBER: 082FSW205		NAME: ARLINGTON (L.3648)		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>
1932	3		Gold	280	
			Lead		73
			Zinc		10
1913	415		Silver	83,356	
			Gold	38,723	
1912	695		Silver	137,133	
			Gold	59,967	
1911	858		Silver	134,583	
			Gold	70,759	
1910	1,021		Silver	184,472	
			Gold	94,802	
1909	1,072		Silver	199,464	
			Gold	85,191	
1908	1,074		Silver	244,843	
			Gold	104,910	
1907	1,134		Silver	220,582	
			Gold	88,364	
1906	1,190		Silver	254,205	
			Gold	97,819	
			Lead		43,083
1905	1,070		Silver	212,496	
			Gold	98,659	
			Lead		42,589
1904	991		Silver	223,599	
			Gold	89,514	
			Lead		42,617
1903	1,168		Silver	250,099	
			Gold	94,615	
			Lead		3,907
1902	2,134		Silver	289,476	
			Gold	125,345	
			Lead		846
1901	807		Silver	152,000	
			Gold	68,924	
1900	1,022		Silver	186,618	
			Gold	62,206	

SUMMARY TOTALS: 082FSW205

NAME: **ARLINGTON (L.3648)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	72,907 tonnes	80,366 tons
Milled:	18,266 tonnes	20,135 tons
Recovery:		
Silver:	4,334,578 grams	139,360 ounces
Gold:	1,707,739 grams	54,905 ounces
Lead:	520,420 kilograms	1,147,329 pounds
Zinc:	456,920 kilograms	1,007,336 pounds

Comments: 1983: Chutine Resources Ltd.
 1954: Estimate
 1953: Estimate

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MINFILE NUMBER: 082FSW207		NAME: SILVER DOLLAR (L.12599)		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	182		Silver	45,193	
			Gold	1,275	
			Copper		170
			Lead		1,577
			Zinc		1,274
1970	389		Silver	48,427	
			Gold	1,182	
			Lead		1,927
			Zinc		2,734
1969	513		Silver	79,064	
			Gold	2,488	
			Lead		3,009
			Zinc		3,375
1968	3,713		Silver	1,088,823	
			Gold	33,685	
			Lead		32,262
			Zinc		37,795
1967	405		Silver	308,542	
			Gold	6,687	
			Lead		7,192
			Zinc		7,326
1966	259		Silver	175,297	
			Gold	3,826	
			Lead		4,016
			Zinc		5,141
1965	140		Silver	70,790	
			Gold	1,773	
			Lead		1,762
			Zinc		1,089
1947	6		Silver	2,333	
			Lead		852
			Zinc		1,496

SUMMARY TOTALS: 082FSW207

NAME: **SILVER DOLLAR (L.12599)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	5,607 tonnes	6,181 tons
Milled:		
Recovery:		
Silver:	1,818,469 grams	58,465 ounces
Gold:	50,916 grams	1,637 ounces
Copper:	170 kilograms	375 pounds
Lead:	52,597 kilograms	115,957 pounds
Zinc:	60,230 kilograms	132,784 pounds

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MINFILE NUMBER: **082FSW208** NAME: **PERRIER** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1946	4		Silver	93	
			Gold	62	
			Lead		25
			Zinc		33
1943	24		Silver	498	
			Gold	187	
			Lead		24
			Zinc		94
1937	440	5	Silver	15,334	
			Gold	3,795	
			Lead		986
			Zinc		4,290
1936	11	11	Silver	187	
			Gold	62	
			Lead		44
			Zinc		72
1935	33	33	Silver	653	
			Gold	373	
			Lead		211
			Zinc		268
1934	96	18	Silver	2,644	
			Gold	840	
			Lead		263
			Zinc		423
1933	265		Silver	7,185	
			Gold	3,266	
			Lead		1,833
			Zinc		2,185
1932	778		Silver	25,442	
			Gold	12,037	
			Lead		8,554
			Zinc		10,588
1931	138		Silver	9,611	
			Gold	3,546	
			Lead		1,953
			Zinc		2,678
1929	73	62	Silver	1,835	
			Gold	404	
			Lead		173
			Zinc		513
1916	127	127	Silver	23,327	
			Gold	8,242	
			Lead		318
1915	27		Silver	6,532	
			Gold	1,400	
1914	6		Silver	529	
			Gold	156	
1913	5		Silver	933	
			Gold	311	

SUMMARY TOTALS: 082FSW208

NAME: **PERRIER**

	<u>Metric</u>	<u>Imperial</u>
Mined:	2,027 tonnes	2,234 tons
Milled:	256 tonnes	282 tons
Recovery:		
Silver:	94,803 grams	3,048 ounces
Gold:	34,681 grams	1,115 ounces
Lead:	14,384 kilograms	31,711 pounds
Zinc:	21,144 kilograms	46,615 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW209		NAME: CATHERINE (L.4437)		STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1941	5		Silver	373	
			Gold	124	
			Lead		112
			Zinc		102
1940	23		Silver	1,586	
			Gold	498	
			Lead		362
			Zinc		354
1939	24		Silver	2,146	
			Gold	902	
			Lead		725
			Zinc		800
1936	22		Silver	1,431	
			Gold	187	
			Lead		237
			Zinc		71
1935	1		Silver	124	
			Gold	31	
			Lead		42
1931	18		Silver	3,546	
			Gold	778	
			Lead		963
			Zinc		642
1928	42		Silver	6,034	
			Gold	3,079	
			Lead		1,276

SUMMARY TOTALS: 082FSW209

NAME: **CATHERINE (L.4437)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	135 tonnes	149 tons
Milled:	tonnes	tons
Recovery:		
Silver:	15,240 grams	490 ounces
Gold:	5,599 grams	180 ounces
Lead:	3,717 kilograms	8,195 pounds
Zinc:	1,969 kilograms	4,341 pounds

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW210		NAME: HUMMINGBIRD		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	20		Silver	1,711		
			Lead			357
			Zinc			973
1941	54		Silver	3,452		
			Gold	1,555		
			Lead			426
			Zinc			4,449
1933	23		Silver	1,244		
			Gold	404		
			Lead			909
			Zinc			704

SUMMARY TOTALS: 082FSW210

NAME: **HUMMINGBIRD**

	<u>Metric</u>	<u>Imperial</u>
Mined:	97 tonnes	107 tons
Milled:	tonnes	tons
Recovery:	Silver: 6,407 grams	206 ounces
	Gold: 1,959 grams	63 ounces
	Lead: 1,692 kilograms	3,730 pounds
	Zinc: 6,126 kilograms	13,506 pounds

Comments: 1960: Clean-up

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW215		NAME: SWIFT 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>
1992	55,000		Limestone		55,000,000
1991	54,603		Limestone		54,603,000
1983	4,232		Limestone		4,232,017
1982	5,054		Limestone		5,053,926
1981	8,420		Limestone		8,420,488
1980	9,492		Limestone		9,491,874
1979	8,943		Limestone		8,943,027
1978	8,406		Limestone		8,405,973
1977	5,397		Limestone		5,396,842
1976	4,873		Limestone		4,873,396
1975	5,426		Limestone		5,425,872
1974	5,260		Limestone		5,259,857
1973	2,859		Limestone		2,858,539
1972	2,107		Limestone		2,107,390

SUMMARY TOTALS: 082FSW215

NAME: **SWIFT CREEK**

	<u>Metric</u>	<u>Imperial</u>
Mined:	180,072 tonnes	198,495 tons
Milled:	tonnes	tons
Recovery: Limestone:	180,072,201 kilograms	396,991,136 pounds
Comments: 1992:	Estimate.	

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW219		NAME: ANNEX (L.14070)		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>	
1975	32,211	32,211	Silver	296,847		
			Cadmium		7,924	
			Lead		151,543	
			Zinc		850,479	
1974	179,283	179,283	Silver	2,619,992		
			Cadmium		59,762	
			Lead		1,808,281	
			Zinc		6,186,909	
1973	173,669	173,669	Silver	4,962,266		
			Cadmium		73,244	
			Lead		2,558,969	
			Zinc		7,143,150	
1972	163,463	163,463	Silver	8,858,819		
			Cadmium		126,337	
			Copper		3,825	
			Lead		821,088	
			Zinc		10,746,358	
1971	150,673	150,673	Silver	11,148,217		
			Cadmium		146,845	
			Copper		8,383	
			Lead		1,210,077	
			Zinc		12,283,248	
1970	64,015	64,015	Silver	6,165,952		
			Cadmium		68,132	
			Copper		4,284	
			Lead		587,017	
			Zinc		5,469,490	

SUMMARY TOTALS: 082FSW219

NAME: **ANNEX (L.14070)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	763,314 tonnes	841,410 tons
Milled:	763,314 tonnes	841,410 tons
Recovery:		
Silver:	34,052,093 grams	1,094,799 ounces
Cadmium:	482,244 kilograms	1,063,166 pounds
Copper:	16,492 kilograms	36,359 pounds
Lead:	7,136,975 kilograms	15,734,332 pounds
Zinc:	42,679,634 kilograms	94,092,460 pounds

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MINFILE NUMBER:	082FSW222	NAME:	WHITEWATER (L.529)	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1933	21		Silver	964	
			Gold	311	
1932	17		Silver	467	
			Gold	653	
1890	2		Silver	373	
			Gold	187	

SUMMARY TOTALS: 082FSW222

NAME: **WHITEWATER (L.529)**

		<u>Metric</u>		<u>Imperial</u>	
	Mined:	40 tonnes		44 tons	
	Milled:	tonnes		tons	
Recovery:	Silver:	1,804 grams		58 ounces	
	Gold:	1,151 grams		37 ounces	

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MINFILE NUMBER:	082FSW257	NAME:	DAVNE	STATUS:	Prospect
Production Year		Tonnes Mined		Grams Recovered	Kilograms Recovered
1938		4		Silver 5,381 Gold 342 Lead 193 Zinc 68	

SUMMARY TOTALS: 082FSW257

NAME: **DAVNE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	4 tonnes	4 tons
Milled:	tonnes	tons
Recovery:		
Silver:	5,381 grams	173 ounces
Gold:	342 grams	11 ounces
Lead:	193 kilograms	425 pounds
Zinc:	68 kilograms	150 pounds

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MINFILE NUMBER: 082FSW266	NAME: BEAVER CREEK	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1941	10		Silver	746	
			Gold	93	
1940	45		Silver	4,230	
			Gold	467	

SUMMARY TOTALS: 082FSW266

NAME: **BEAVER CREEK**

		<u>Metric</u>		<u>Imperial</u>
	Mined:	55 tonnes		61 tons
	Milled:			
Recovery:	Silver:	4,976 grams		160 ounces
	Gold:	560 grams		18 ounces

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MINFILE NUMBER: 082FSW267	NAME: ARMSTRONG (L.5483)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1939	13		Silver Gold	871 31	

SUMMARY TOTALS: 082FSW267

	NAME: ARMSTRONG (L.5483)	
	<u>Metric</u>	<u>Imperial</u>
	Mined: 13 tonnes	14 tons
	Milled: tonnes	tons
Recovery:	Silver: 871 grams	28 ounces
	Gold: 31 grams	1 ounces

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MINFILE NUMBER: 082FSW279		NAME: KOOTENAY STONE		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	4,000		Building Stone		4,000,000
1996	4,000		Building Stone		4,000,000
1995	4,000		Building Stone		4,000,000
1972	181		Building Stone		181,437
1970	5		Building Stone		5,000
1969	181		Building Stone		181,437
1964	272		Building Stone		272,155

SUMMARY TOTALS: 082FSW279

NAME: **KOOTENAY STONE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	12,639 tonnes	13,932 tons
Milled:	tonnes	tons
Recovery:	Building Stone: 12,640,029 kilograms	27,866,486 pounds

Comments:

- 1997: Quartzite flagstone.
- 1996: Quartzite flagstone.
- 1995: Quartzite flagstone.

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MINFILE NUMBER: 082FSW282	NAME: MONARCH (L.2082)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1918	153		Silver	31,103	
			Gold	529	
			Copper		4,627

SUMMARY TOTALS: 082FSW282

NAME: **MONARCH (L.2082)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	153 tonnes	169 tons
Milled:	tonnes	tons
Recovery:		
Silver:	31,103 grams	1,000 ounces
Gold:	529 grams	17 ounces
Copper:	4,627 kilograms	10,201 pounds

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MINFILE NUMBER: 082FSW283	NAME: ALLOUEZ	STATUS: Showing			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1918	12		Silver Lead	4,665	5,443

SUMMARY TOTALS: 082FSW283

	NAME: ALLOUEZ	
	<u>Metric</u>	<u>Imperial</u>
	12 tonnes	13 tons
Mined:		
Milled:		
Recovery:		
	4,665 grams	150 ounces
Silver:		
Lead:	5,443 kilograms	12,000 pounds

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MINFILE NUMBER: **082FSW286** NAME: **SILVERINE (L.732)** STATUS: Past Producer

<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>
1944	13		Silver	467	
			Gold	93	
1937	5		Silver	622	
			Gold	31	
1936	30		Silver	809	
			Gold	529	
1935	20		Silver	218	
			Gold	591	
1934	14		Silver	62	
			Gold	249	

SUMMARY TOTALS: 082FSW286

NAME: **SILVERINE (L.732)**

	<u>Metric</u>	<u>Imperial</u>
Mined:	82 tonnes	90 tons
Milled:	tonnes	tons
Recovery:		
Silver:	2,178 grams	70 ounces
Gold:	1,493 grams	48 ounces

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MINFILE NUMBER: 082FSW288	NAME: SHEEP CREEK QUARTZITE	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1969	45	45	Dimension Stone		45,000
1968	91	91	Dimension Stone		91,000
1967	181	181	Dimension Stone		181,000
1966	136	136	Dimension Stone		136,000
SUMMARY TOTALS: 082FSW288		NAME: SHEEP CREEK QUARTZITE			
		<u>Metric</u>	<u>Imperial</u>		
	Mined:	453 tonnes	499 tons		
	Milled:	453 tonnes	499 tons		
Recovery:	Dimension Stone:	453,000 kilograms	998,694 pounds		

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MINFILE NUMBER: 082FSW295	NAME: MITZIE 1	STATUS: Showing			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1910	59		Silver	1,026	
			Gold	218	
			Copper		3,538

SUMMARY TOTALS: 082FSW295

NAME: **MITZIE 1**

	<u>Metric</u>		<u>Imperial</u>
Mined:	59 tonnes		65 tons
Milled:	tonnes		tons
Recovery:			
Silver:	1,026 grams		33 ounces
Gold:	218 grams		7 ounces
Copper:	3,538 kilograms		7,800 pounds

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MINFILE NUMBER: 082FSW299	NAME: RACHEL	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1980	14	14	Silver Gold Lead	3,851 946	1,335

SUMMARY TOTALS: 082FSW299

NAME: **RACHEL**

	<u>Metric</u>	<u>Imperial</u>
Mined:	14 tonnes	15 tons
Milled:	14 tonnes	15 tons
Recovery:		
Silver:	3,851 grams	124 ounces
Gold:	946 grams	30 ounces
Lead:	1,335 kilograms	2,943 pounds
Comments:		
1980:	Kimberley Gold Mines.	

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MINFILE NUMBER:	082FSW307	NAME:	LOST CREEK	STATUS:	Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1997	160,000		Limestone		160,000,000
1996	160,000		Limestone		160,000,000
1995	40,000		Limestone		40,000,000
1987	6,619		Limestone		6,618,820
1986	7,123		Limestone		7,123,214
1985	8,061		Limestone		8,061,243
1984	4,576		Limestone		4,575,840

SUMMARY TOTALS: 082FSW307

NAME: **LOST CREEK**

		<u>Metric</u>		<u>Imperial</u>	
	Mined:	386,379	tonnes	425,910	tons
	Milled:		tonnes		tons
Recovery:	Limestone:	386,379,117	kilograms	851,819,902	pounds

Comments:

1997: Approximate annual rate.
1996: Approximate annual rate.

MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW310		NAME: EMERALD		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>	
1925	5,728		Silver	51,755		
			Lead		408,109	
			Zinc		19,771	
1924	2,183		Silver	23,421		
			Lead		182,924	
1923	202		Silver	8,740		
			Lead		68,342	
1922	108		Silver	5,319		
			Lead		45,774	
1920	792		Silver	29,050		
			Lead		307,489	
1919	165		Silver	8,118		
			Lead		48,262	
1918	1,898		Silver	56,701		
			Lead		490,486	
1917	3,932		Silver	104,817		
			Lead		1,125,080	
1916	3,932		Silver	41,802		
			Lead		370,619	
1915	1,006		Silver	42,580		
			Lead		388,913	
1914	1,221		Silver	39,408		
			Lead		379,849	
1913	1,006		Silver	34,555		
			Lead		350,498	
1912	1,413		Silver	37,946		
			Lead		566,450	
1911	1,813		Silver	67,182		
			Lead		668,505	
1910	1,419		Silver	61,211		
			Lead		556,810	
1909	929		Silver	38,226		
			Lead		355,651	
1908	353		Silver	22,021		
			Lead		151,406	
1907	506		Silver	24,758		
			Lead		246,529	
1906	145		Silver	7,682		
			Lead		77,240	

SUMMARY TOTALS: 082FSW310

NAME: **EMERALD**

	<u>Metric</u>	<u>Imperial</u>
Mined:	28,751 tonnes	31,693 tons
Milled:		
Recovery:		
Silver:	705,292 grams	22,676 ounces
Lead:	6,788,936 kilograms	14,967,038 pounds
Zinc:	19,771 kilograms	43,588 pounds

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MINFILE NUMBER:	082FSW312	NAME:	CARIBOU SHOWING (L.1205)	STATUS:	Showing
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1940	7		Silver	715	
			Gold	124	
1939	47		Silver	2,550	
			Gold	404	
1938	5		Silver	405	
			Gold	56	

SUMMARY TOTALS: 082FSW312

NAME: **CARIBOU SHOWING (L.1205)**

		<u>Metric</u>		<u>Imperial</u>
	Mined:	59 tonnes		65 tons
	Milled:	tonnes		tons
Recovery:	Silver:	3,670 grams		118 ounces
	Gold:	584 grams		19 ounces

MINFILE PRODUCTION REPORT
 GEOLOGICAL SURVEY BRANCH
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MINFILE NUMBER: 082FSW337		NAME: RENO LIMESTONE			STATUS: Past Producer	
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1934	163	163	Limestone		163,293	
1933	163	163	Limestone		163,293	
1932	163	163	Limestone		163,293	
1931	127	127	Limestone		127,006	
1930	122	122	Limestone		121,563	

SUMMARY TOTALS: 082FSW337

NAME: **RENO LIMESTONE**

<u>Metric</u>	<u>Imperial</u>
Mined: 738 tonnes	814 tons
Milled: 738 tonnes	814 tons

Recovery:

Limestone: 738,448 kilograms 1,627,999 pounds

Comments:

- 1934: Limestone produced is about 2 times lime produced.
- 1933: Milled refers to limestone consumed for lime manufacturing.
- 1932: Milled refers to limestone consumed for lime manufacturing.
- 1931: Milled refers to limestone consumed for lime manufacturing.
- 1930: Milled refers to limestone consumed for lime manufacturing.

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MINFILE NUMBER: 082FSW347	NAME: RIVERSIDE	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1964	32		Dimension Stone		31,751
1963	45		Dimension Stone		45,359

SUMMARY TOTALS: 082FSW347

NAME: **RIVERSIDE**

<u>Metric</u>	<u>Imperial</u>
77 tonnes	85 tons
Mined:	tonnes
Milled:	tons

Recovery:

Dimension Stone:	77,110 kilograms	169,998 pounds
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Comments:

1964:	Minister of Mines Annual Report 1964, p. 181.
1963:	Minister of Mines Annual Report 1963, p. 139.

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MINFILE PRODUCTION REPORT
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MINFILE NUMBER:	082FSW348	NAME:	B & B	STATUS:	Past Producer
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1978	360		Dimension Stone		360,000

SUMMARY TOTALS: 082FSW348

	Mined:	NAME:	B & B		
	Milled:	<u>Metric</u>		<u>Imperial</u>	
		360 tonnes		397 tons	
Recovery:		tonnes		tons	
	Dimension Stone:	360,000 kilograms		793,664 pounds	

Comments: 1978: Exploration in B.C. 1978, p. 284.

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MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW359	NAME: HATTIE BROWN (L.1047)	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1909	29		Silver Lead	21,772	86

SUMMARY TOTALS: 082FSW359

	NAME: HATTIE BROWN (L.1047)		
	<u>Metric</u>	<u>Imperial</u>	
	29 tonnes	32 tons	
	Milled:	tonnes	tons
Recovery:	Silver:	21,772 grams	700 ounces
	Lead:	86 kilograms	190 pounds

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MINFILE PRODUCTION REPORT
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MINFILE NUMBER: 082FSW374	NAME: SOUTH FORK SILICA	STATUS: Past Producer			
Production Year	Tonnes Mined	Tonnes Milled	Commodity	Grams Recovered	Kilograms Recovered
1988	22,750	22,750	Silica		22,750,000
1987	2,000	2,000	Silica		2,000,000

SUMMARY TOTALS: 082FSW374

NAME: **SOUTH FORK SILICA**

		<u>Metric</u>		<u>Imperial</u>	
	Mined:	24,750 tonnes		27,282 tons	
	Milled:	24,750 tonnes		27,282 tons	
Recovery:	Silica:	24,750,000 kilograms		54,564,395 pounds	
Comments:	1987:	Test shipment.			

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MINFILE NUMBER: 082FSW375		NAME: MCPHEE		STATUS: Showing		
<u>Production Year</u>	<u>Tonnes Mined</u>	<u>Tonnes Milled</u>	<u>Commodity</u>	<u>Grams Recovered</u>	<u>Kilograms Recovered</u>	
1941	3		Silver	31		
			Gold	31		
1940	57		Silver	715		
			Gold	2,582		
1939	32		Silver	373		
			Gold	1,773		
1938	36		Silver	560		
			Gold	4,510		
1937	11		Silver	62		
			Gold	1,058		
1936	5		Silver	31		
			Gold	311		

SUMMARY TOTALS: 082FSW375

NAME: **MCPHEE**

	<u>Metric</u>	<u>Imperial</u>
Mined:	144 tonnes	159 tons
Milled:		tons
Recovery:		
	1,772 grams	57 ounces
	10,265 grams	330 ounces