



Location/Identification

MINFILE Number: 092HSW007 **National Mineral Inventory Number:** 092H4 Cu1

Name(s): LUCKY FOUR (L.989)
RICO

Status: Developed Prospect **Mining Division:** New Westminster

Regions: British Columbia **Electoral District:** Chilliwack-Kent

BCGS Map: 092H013 **Resource District:** Chilliwack Forest District

NTS Map: 092H04E **UTM Zone:** 10 (NAD 83)

Latitude: 49 09 43 N **Northing:** 5446427

Longitude: 121 34 54 W **Easting:** 603402

Elevation: 1840 metres

Location Accuracy: Within 500M

Comments: The main showing, about 400 metres northeast of Foley Peak (Minister of Mines Annual Report 1949, Figure 27).

Mineral Occurrence

Commodities: Copper, Molybdenum, Silver, Gold

Minerals **Significant:** Chalcopyrite, Pyrrhotite, Pyrite, Arsenopyrite, Molybdenite, Bornite
Associated: Quartz, Calcite
Alteration: Garnet, Zoisite, Pyroxene, Hornblende, Actinolite
Alteration Type: Skarn

Deposit **Character:** Disseminated, Vein, Podiform, Massive
Classification: Skarn
Type: K01: Cu skarn

Strike/Dip: 000/

Host Rock

Dominant Host Rock: Metasedimentary

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Paleozoic-Mesozoic	-----	-----	Cogburn Schist
Miocene	-----	-----	Mount Barr Batholith

Isotopic Age	Dating Method	Material Dated
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Lithology: Garnetite, Greywacke, Argillite, Schist, Gneiss, Granodiorite

Comments: The metasedimentary host is not known but assumed to be one of the three assemblages mentioned in the Capsule Geology.

Geological Setting

Tectonic Belt: Coast Crystalline **Physiographic Area:** Cascade Mountains

Terrane: Undivided Metamorphic Assembl.

Inventory

Ore Zone: TOTAL **Year:** 1958

Category: Unclassified

Report On: Y

Quantity: 113,375 tonnes

NI 43-101: N

Commodity	Grade
Copper	0.3000 per cent

Comments: Reported reserves.

Reference: Financial Post Survey of Mines 1958, page 121.

Capsule Geology

Muller has mapped the area of Foley Peak as being underlain by three metamorphic assemblages of Mesozoic and/or Paleozoic age metamorphosed in the Cretaceous, and all in fault contact (GSC Map 41-1989). These include the Cogburn Schist, the Settler Schist (in part) and the Slollicum Schist. Muller maps a fourth unit of ultramafic rock, of similar age. A few kilometres to the north of the Lucky Four prospect is the contact of the Miocene Mount Barr batholith consisting of granodiorite. Intrusive rock of the Oligocene Chilliwack batholith occurs within several kilometres to the south.

The main geological feature on the property is an intrusive contact between a large body of granodiorite and a series of sedimentary rocks (formerly considered to be of the Devonian to Permian Chilliwack Group). These sedimentary rocks, argillite and greywacke, are closely crumpled, highly metamorphosed and contain abundant feldspathic material from the intrusive body. The original rocks are now represented as schists and gneisses. The mineralized zones occur within this zone of altered sediments. The Lucky Four (Main zone) is about 46 metres from the granodiorite contact.

A skarn zone outcrops on a prominent steep bluff on the crest of the mountain and extends northwest down a precipitous spur. The zone is a coarsely crystallized mass of brown garnet and contains sheaves of curved, columnar, black crystals believed to be zoisite, dark green pyroxene, calcite and clear quartz. Some of the minerals are remarkable for their large size and well developed crystal form. A zone of giant quartz crystals about 6 metres wide, adjoins the main skarn zone on its northeastern side. The quartz crystals range from 10 to 35 centimetres in diameter and up to 1 metre in length.

The skarn zone is about 15 metres wide and has an exposed horizontal length of 152 metres and a vertical distance of 122 metres. Economic mineralization in the skarn consists of chalcopyrite as disseminations, fracture fillings and cavity fillings. Three high grade lenticular zones of almost solid or massive chalcopyrite occur as well as in several smaller areas. However, much of the skarn contains little or no chalcopyrite.

Copper mineralization is generally in garnetite but has been observed in greywacke along with associated high silver values. Other sulphide minerals present are pyrrhotite, pyrite, arsenopyrite, bornite and minor amounts of molybdenum. The silver mineral has not been identified. Other gangue minerals besides the coarsely crystalline garnet include zoisite, pyroxene, calcite and quartz. Several pods of coarse pegmatitic hornblende and radial actinolite occurs in a siliceous matrix. Crystals can reach 50 centimetres in size for hornblende and 10 centimetres in size for clusters of actinolite.

Few notable gold values were obtained; the majority assayed in the 0.34 gram per tonne range. One of the notable exceptions was sample ASK L13-OE which yielded 4.25 grams per tonne gold, 49.03 grams per tonne silver and 0.13 per cent copper (Assessment Report 18537).

An indicated reserve of 23,600 tonnes of ore averaging 8 per cent copper and 205 grams per tonne silver in four separate shoots was reported (Northern Miner - December 15, 1955 (as reported by Department of Energy, Mines and Resources, Ottawa, National Mineral Inventory 92H/4 Cu1)). Later reserves were reported as 113,375 tonnes averaging 3 per cent copper (Financial Post Survey of Mines, 1958, page 121 (as reported by Department of Energy, Mines and Resources, Ottawa, National Mineral Inventory 92H/4 Cu1)).

Assessment Report 17587 reports that 32 tonnes of selected material from the main showing was flown out by helicopter (apparently in the 1960s). No government record exists of this event.

Bibliography

EMPR AR 1916-264; 1917-286,300; *1918-284; 1919-234,258; 1924-257; 1925-293; 1926-324; *1949-214; 1950-167; 1951-194; 1952-206; 1953-158; 1954-519; 1955-74; 1956-115, 1965-219, 1967-64
EMPR ASS RPT 455, 458, *17587, *18537, *19822
EMPR EXPL 1988-C98
EMPR FIELDWORK 1985, pp. 95-97
EMPR GEM 1971-257
EMPR PF (Plans of Crown grant)
GSC MAP 737A; 12-1969; 1069A; 41-1989
GSC P 69-47
EMPR PFD 903652, 903655, 9290, 9291, 9292, 9293, 9294, 9295, 9296, 9297, 750527, 812365, 820901, 826728, 681228, 681229, 681230, 681231, 681233, 681234, 681237, 681238, 681239, 681240, 681241, 681242

Date Coded: 1985/07/24

Coded By: BC Geological Survey (BCGS)

Field Check: N

Date Revised: 1994/11/15

Revised By: Garry J. Payie (GJP)

Field Check: N