Location/Identification

MINFILE Number: 093M 004
National Mineral Inventory Number: 093M1 Cu4
Name(s): **OLD FORT**
OFF, DDT, RAID, BAD NEWS
Status: Showing
Mining Division: Omineca
Electoral District: Nechako Lakes
Regions: British Columbia
Resource District: Nadina Natural Resource District
BCGS Map: 093M009
NTS Map: 093M01W
UTM Zone: 09 (NAD 83)
Latitude: 55 04 27 N
Northing: 6106291
Longitude: 126 20 05 W
Easting: 670158
Elevation: 930 metres
Location Accuracy: Within 500M
Comments: See location map of trench 3 in Assessment Report 32442.

Mineral Occurrence

Commodities: Copper, Molybdenum, Gold

Minerals
Significant: Chalcopyrite, Molybdenite, Bornite
Associated: Magnetite, Pyrite, Pyrrhotite, Malachite, Sphalerite
Alteration: K-Feldspar, Biotite, Silica, Sericite, Calcite, Actinolite
Alteration Type: Argillic, Potassic, Silicific'n
Mineralization Age: Eocene

Isotopic Age: 49 +/- 2 Ma
Dating Method: Potassium/Argon
Material Dated: Biotite

Deposit
Character: Stockwork, Disseminated
Classification: Porphyry
Type: L04: Porphyry Cu +/- Mo +/- Au

Comments: The isotopic age date is from a mineralized sample of biotite-feldspar porphyry (Bulletin 64, specimen NC 67-1).

Host Rock

Dominant Host Rock: Plutonic

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Jurassic	Hazelton	Undefined Formation	------
Eocene	------	------	Babine Intrusions

Isotopic Age	Dating Method	Material Dated
------	------	------
49 +/- 2 Ma	Potassium/Argon	Biotite

Lithology: Quartz Diorite, Porphyry Dike, Hornblende Biotite Feldspar Porphyry, Quartz Monzonite, Argillaceous Siltstone, Andesitic Tuff, Andesitic Breccia, Siltstone, Argillite
Comments: Isotopic age date is from Bulletin 46, page 89, specimen NC 67-1.

Geological Setting

Tectonic Belt: Intermontane
Physiographic Area: Nechako Plateau
Terrane: Stikine, Plutonic Rocks

Inventory

Ore Zone: TRENCH
Category: Assay/analysis
Year: 2013
Report On: N
NI 43-101: N

Sample Type: Chip

Commodity	Grade
Gold	0.19 grams per tonne
Copper	0.176 per cent
Molybdenum	0.032 per cent

Comments: across the final 7.5 metres of trench no. 3
Reference: Assessment Report 35108

Ore Zone: TRENCH
Category: Assay/analysis
Year: 2010
Report On: N
NI 43-101: N

Sample Type: Chip

Commodity	Grade
Gold	0.15 grams per tonne
Copper	0.14 per cent
Molybdenum	0.022 per cent

Comments: sampling of trench no. 3 over 55 metres; while the easterly most 5 metre sample, closest to the Newman Fault, averaged 0.202 per cent copper, 0.040 per cent molybdenum (0.067 per cent molybdenite) and 0.32 gram per tonne gold
Reference: Assessment Report 32442

Ore Zone: TRENCH
Category: Assay/analysis
Year: 1980
Report On: N
NI 43-101: N

Sample Type: Chip

Commodity	Grade
Copper	0.2100 per cent
Molybdenum	0.0240 per cent

Comments: The samples were taken over a width of 61 metres from trench #3 in quartz diorite.
Reference: Assessment Report 8312.

Capsule Geology

The Old Fort occurrence is located on the south eastern slope of Old Fort Mountain, at an elevation of approximately 930 metres.

The area is underlain by calc-alkaline stock of the Eocene Babine Plutonic Suite. The stock is approximately 760 by 1130 metres in size, trending north east, and intrudes hornfelsed argillaceous siltstones of the Jurassic Hazelton Group. Four phases have been mapped and include the main quartz diorite phase, a smaller interior quartz monzonite phase, a quartz poor diorite and a feldspar porphyry phase. Copper and molybdenum mineralization appear to be primarily associated with the feldspar porphyry phase. Most of the known copper and molybdenum mineralization lies to the west and north of the quartz monzonite body. Andesitic tuffs and breccias, also of the Jurassic Hazelton Group, outcrop nearby. Potassium/Argon dating of a mineralized sample of biotite feldspar porphyry yielded an age of 49 million years.

The Newman fault, an important ore control at several of the mines in the area, traverses the property to the northeast. Exploration over much of the area is greatly hampered by widespread, deep glacial overburden.

Locally, chalcopyrite with minor bornite and molybdenite mineralization occur as fracture fillings and disseminations in both quartz diorite and porphyry dikes adjacent to the western margin of the inner quartz monzonite body. Alteration minerals include silica, potassium feldspar, sericite,

biotite, calcite, actinolite, magnetite and malachite. Pyrite and pyrrhotite are widely disseminated in all of the intrusive rocks as well as in the hornfelsed sedimentary rocks. Minor sphalerite is also reported in thin veins cutting altered sandstone.

In 1980, trench no. 3 exposing a mineralized quartz diorite, west of the small quartz monzonite plug, averaged 0.21 per cent copper and 0.04 per cent molybdenite over 61 metres (Assessment Report 8312, page 4).

In 2010, sampling of trench no. 3 yielded 0.14 per cent copper, 0.022 per cent molybdenum (0.0365 per cent molybdenite) and 0.15 gram per tonne gold over 55 metres; while the easterly most 5 metre sample, closest to the Newman Fault, averaged 0.202 per cent copper, 0.040 per cent molybdenum (0.067 per cent molybdenite) and 0.32 gram per tonne gold (Assessment Report 32442).

In 2013, chip sampling across the final 7.5 metres of trench no. 3 yielded 0.176 per cent copper, 0.032 per cent molybdenum and 0.19 gram per tonne gold (Assessment Report 35108).

In 1965, the area was originally staked by Falconbridge Nickel Mines as the Old Fort property after the company discovered copper mineralization within the quartz-diorite plug. This was followed by programs of soil sampling, geological mapping, trenching, seventeen diamond drill holes, totalling 659.7 metres, and geophysical surveys during the late 1960's. In 1970 and 1971, programs of minor trenching, soil sampling and various ground and airborne geophysical surveys were completed. In 1973, Wesfrob Mines completed a 200 line-kilometres combined airborne electromagnetic and magnetic survey on the area as the DDT, Off and Raid claims. In 1974, Noranda completed a program of soil sampling, an induced polarization survey and six diamond drill holes, totalling 336.0 metres, on the area. In 1980, Pearl Resources staked the area as the Bad News claims and completed a program of geological mapping and minor sampling. In 1982, Lornex Mining Corporation completed a program of soil sampling and geological mapping. In 1984, Pearl Resources soil sampled the area. In 2010 and 2013, programs of sampling trench no. 3 and minor soil sampling were completed.

Bibliography

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Date Coded:	1985/07/24	**Coded By:**	BC Geological Survey (BCGS)	**Field Check:**	N
Date Revised:	2020/06/03	**Revised By:**	Karl A. Flower (KAF)	**Field Check:**	N