



MINFILE Detail Report
BC Geological Survey
Ministry of Energy, Mines and Petroleum Resources

Location/Identification

MINFILE Number: 082ESE147 **National Mineral Inventory Number:** 082E2 Cu16

Name(s): SAPPHO (L.2039)
CABIN, PT

Status: Past Producer **Mining Division:** Greenwood

Mining Method: Underground **Electoral District:** Boundary-Similkameen

Regions: British Columbia **Resource District:** Selkirk Natural Resource District

BCGS Map: 082E007

NTS Map: 082E02E **UTM Zone:** 11 (NAD 83)

Latitude: 49 00 22 N **Northing:** 5429537

Longitude: 118 42 22 W **Easting:** 375229

Elevation: 1075 metres

Location Accuracy: Within 500M

Comments: The Sappho claim (Lot 2029), is centred 9.6 kilometres south of Greenwood and 0.6 kilometre north of the International Boundary. Access to the property is 2.7 kilometres on a winding dirt road southeast of the Norwegian Creek road.
Location of adit portal from Figure 20, EMPR Paper 1986-2, page 57.

Mineral Occurrence

Commodities: Copper, Silver, Platinum, Gold, Palladium

Minerals **Significant:** Chalcopyrite, Pyrite, Platinum, Pyrrhotite
Associated: Epidote, Chlorite, Garnet, Magnetite, Biotite
Alteration: Biotite, Garnet, Magnetite
Alteration Type: Skarn
Mineralization Age: Tertiary

Isotopic Age: 156 +/- 3 Ma **Dating Method:** Argon/Argon **Material Dated:** Hornblende

Deposit **Character:** Disseminated, Shear, Massive
Classification: Magmatic
Type: H08: Alkalic intrusion-associated Au, K01: Cu skarn

Comments: The Jurassic date is similar to other adjacent alkalic complexes.

Host Rock

Dominant Host Rock: Plutonic

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Permian	Attwood	Unnamed/Unknown Formation	-----
Eocene	-----	-----	Coryell Intrusions
Jurassic	-----	-----	Lexington Intrusion

Isotopic Age	Dating Method	Material Dated
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-----	-----	-
-----	-----	-

Lithology: Shonkinite, Monzonite, Amphibolite, Microdiorite, Greenstone, Altered Monzodiorite, Altered Pyroxenite

Geological Setting

Tectonic Belt: Omineca **Physiographic Area:** Okanagan Highland

Terrane: Quesnel

Grade: Hornfels

Inventory

Ore Zone: DRILLHOLE
Category: Assay/analysis

Year: 2010
Report On: N
NI 43-101: N

Sample Type: Drill Core

Commodity	Grade
Silver	8.68 grams per tonne
Gold	0.22 grams per tonne
Copper	0.124 per cent
Platinum	0.07 grams per tonne

Comments: drill hole 10SP03 located on a magnetic anomaly intersected a biotite-gannet-magnetite hornfels to skarn with pyrite and chalcopyrite in conjunction with a highly altered monzodiorite and pyroxenite yielding 0.124 per cent copper, 8.68 grams per tonne silver, 0.22 gram per tonne gold and 0.07 gram per tonne platinum over 63.5 metres, including 4.32 grams per tonne gold over 0.6 and 1.83 grams per tonne platinum with 2.09 grams per tonne palladium over 1.0 metre

Reference: Dufresne, M. (2013-11-25): Technical Report for the Greenwood Gold Project

Ore Zone: TRENCH
Category: Assay/analysis

Year: 2009
Report On: N
NI 43-101: N

Sample Type: Rock

Commodity	Grade
Silver	75.3 grams per tonne
Copper	8.28 per cent
Palladium	1.49 grams per tonne
Platinum	27.10 grams per tonne

Comments: from a sample (09SDP062) of metavolcanics containing semi-massive pyrite, pyrrhotite and chalcopyrite near a fault and exposed in a trench, while other samples yielded values of up to 2.20 grams per tonne gold, 298.0 grams per tonne silver, 13.55 grams per tonne platinum, 2.57 grams per tonne palladium and 13.10 per cent copper

Reference: Dufresne, M. (2013-11-25): Technical Report for the Greenwood Gold Project

Ore Zone: BULLSEYE
Category: Assay/analysis

Year: 2002
Report On: N
NI 43-101: N

Sample Type: Grab

Commodity	Grade
Silver	254.0000 grams per tonne
Gold	2.2630 grams per tonne
Copper	25.6000 per cent
Palladium	0.9380 grams per tonne
Platinum	2.0180 grams per tonne

Comments: Grab samples of well mineralized specimens.

Reference: GeoFile 2002-2.

Summary Production

	Metric	Imperial
Mined:	102 tonnes	112 tons

Milled: 0 tonnes 0 tons

Recovery	Silver	6,127 grams	197 ounces
	Copper	6,161 kilograms	13,583 pounds

Capsule Geology

The Sappho claim (Lot 2039), at 1040 metres elevation, is centred 9.6 kilometres south of Greenwood and 0.6 kilometre north of the International Boundary. Access to the property is 2.7 kilometres on a winding dirt road southeast of the Norwegian Creek road.

The principal rock types underlying the claim are a microdiorite intrusion (Jurassic?), exposed in the central area and southeast corner of the claim, and younger crosscutting Eocene Coryell syenomonzonite-shonkinite intrusions. Greenstones, of uncertain age, hosting these intrusions are well exposed near the east boundary of the claim and in the south central area.

Mineralization consists mostly of pyrite and chalcopyrite disseminations in shears and blebs and pods of the same minerals in biotite shonkinite and pegmatoid phases of the Coryell intrusion. Sulphides are also found locally in skarns of epidote, chlorite, garnet and magnetite near intrusive contacts.

The Jurassic date on material said to host the Sappho deposit is in contrast to the traditional Eocene Coryell assignment. There are indications that later event have disturbed the age around 100 Ma.

The Cu-Ag-PGE mineralization occurs in shallow dipping massive to semi massive veins, blebs and pods of chalcopyrite-pyrite-magnetite ore and as disseminations in pyroxenite and syenite dykes. Thin leucocratic melanite bearing syenite veins are found locally at the margins of the sulphide oxide assemblages.

The deposit is typed as an Alkalic intrusion-associated gold-silver deposit. The mineralizers are believed to represent immiscible fluids evolved in oxidized, CO₂-rich alkaline magma chambers.

There are no ore reserve estimates for this property.

Production from this property was recorded from 1916 to 1918. This amounted to 102 tonnes of ore containing 6,127 grams per tonne of silver and 6.2 tonnes of copper.

The old workings consist of a cluster of pits and shafts in the central part of the claim. C.E. Johnson and others made ore shipments from these workings between 1916 and 1918. In 1927, A. Bravard and associates drove a short adit south to intersect the same mineralization at depth. A grab sample of ore taken from one of the pits assayed 3.2 per cent copper and 0.9 gram per tonne platinum (Annual Report 1927, page 235). In 1964, Triform Mining Ltd. held the property as the Cabin Group and conducted a geophysical survey, trenching and diamond drilling. In 1967, Silver Standard Mines Limited conducted geological mapping, a magnetometer survey and trenching. G.O.M. Stewart trenched in 1975 and 1978. In 1981, Kettle River Resources Ltd. conducted geological mapping, trenching and sampling. Noranda Exploration Company, Limited carried out geological and geochemical surveys in 1984 and 1985.

During 2008 through 2012, Grizzly Discoveries Inc. completed programs of geological mapping, geochemical sampling and four diamond drill holes on the area as the Sappho portion of the Greenwood property.

In 2009 and 2010, sampling of the Sappho area yielded up to 75.3 grams per tonne silver, 27.10 grams per tonne platinum, 1.49 grams per tonne palladium and 8.28 per cent copper from a sample (09SDP062) of metavolcanics containing semi-massive pyrite, pyrrhotite and chalcopyrite near a fault and exposed in a trench, while other samples yielded values of up to 2.20 grams per tonne gold, 298.0 grams per tonne silver, 13.55 grams per tonne platinum, 2.57 grams per tonne palladium and 13.10 per cent copper (Dufresne, M. (2013-11-25): Technical Report for the Greenwood Gold Project).

In 2010, a drill hole (10SP03) located on a magnetic anomaly intersected a biotite-garnet-magnetite hornfels to skarn with pyrite and chalcopyrite in conjunction with a highly altered monzodiorite and pyroxenite yielding 0.124 per cent copper, 8.68 grams per tonne silver, 0.22 gram per tonne gold and 0.07 gram per tonne platinum over 63.5 metres, including 4.32 grams per tonne gold over 0.6 and 1.83 grams per tonne platinum with 2.09 grams per tonne palladium over 1.0 metre (Dufresne, M. (2013-11-25): Technical Report for the Greenwood Gold Project).

Bibliography

EM GEOFILE 2000-5, 2002-2
EMPR AR 1916-518; 1917-449; 1918-211; *1927-234-235; 1928-250;
*1964-110; 1967-226
EMPR ASS RPT 3335, 9364, 12924, *13913
EMPR BC METAL MM00923

EMPR FIELDWORK *1982, pp. 27-32; 2001, pp. 389-396, pp. 171-176

EMPR GEM 1975-E13

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EMPR P *1986-2, pp. 53-54, 57

EMPR PF (Church, B.N. (1975): Geology and Magnetometer Survey of the Sappho Gold-Silver-Platinum-Copper Prospect; Stewart, G.

(1976-06-09): Sketch Map of Sappho and Cabin Groups; Stewart, G. (1976-07-06): Two Mineral Claims of Interest; Stewart, G. (1976-07-06):

Attn: Mr. John Baker; W.R.G. (1981-08-01): Rock Sample Locations - North Showings - Sappho Property; Unknown (1982): Magnetic Survey

of Sappho Property I; Magnetic Survey of Sappho Property II; Magnetic Survey of Sappho Property III; Unknown (1982-07-01): Magnetic

Survey of Sappho Prospect)

EMR MP CORPFILE (Kettle River Resources Limited)

GSC SUM RPT 1918, Pt. G., p. 8

WWW http://www.infomine.com/index/properties/BOUNDARY_PROJECT_-_SAPPHO.html

Dufresne, M. (2013-11-10): Technical Report for the Greenwood Gold Project

*Dufresne, M. (2013-11-25): Technical Report for the Greenwood Gold Project

EMPR PFD 1304, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1322, 1321, 887360, 500027, 502736, 502751, 502955, 896296,
21806, 680078, 680079, 680080, 680081, 680082, 680083

Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	Y
Date Revised:	2020/07/22	Revised By:	Karl A. Flower (KAF)	Field Check:	Y