Location/Identification

MINFILE Number: 104M 022
National Mineral Inventory Number: 104M1 Cu1
Name(s): **LAVERDIERE**
BUTTE (L.304), HELENA (L.306), FRENCH (L.246), HOLY CROSS (L.245), ALVINE (L.247), BROUGHTON, GREAT FALLS (L.305), LOON, BLUE
Status: Prospect
Mining Division: Atlin
Electoral District: Stikine
Regions: British Columbia
Resource District: Skeena Stikine Natural Resource District
BCGS Map: 104M030
NTS Map: 104M01E
UTM Zone: 08 (NAD 83)
Latitude: 59 13 24 N
Northing: 6565251
Longitude: 134 07 17 W
Easting: 550150
Elevation: 824 metres
Location Accuracy: Within 500M
Comments: Location of French adit (Assessment Report 9162, map).

Mineral Occurrence

Commodities: Copper, Silver, Gold, Molybdenum, Tungsten, Cobalt, Iron, Magnetite

Minerals
Significant: Chalcopyrite, Bornite, Tetrahedrite, Molybdenite, Magnetite, Pyrrhotite, Pyrite, Scheelite, Cobaltite
Associated: Serpentine, Chlorite, Epidote, Tremolite, Specularite
Alteration: Serpentine, Chlorite, Epidote, Tremolite, Malachite, Erythrite
Alteration Type: Skarn, Oxidation

Deposit
Character: Disseminated
Classification: Skarn, Porphyry, Replacement, Industrial Min.
Type: K01: Cu skarn, L04: Porphyry Cu +/- Mo +/- Au

Host Rock

Dominant Host Rock: Metasedimentary

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Cretaceous	------	------	Unnamed/Unknown Informal
Paleozoic-Mesozoic	------	------	Boundary Ranges Metamor. Suite

Isotopic Age	Dating Method	Material Dated
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Lithology: Dolomitic Limestone, Calcareous Siltstone, Schist, Skarn, Quartzite, Biotite Hornblende Granodiorite, Granite

Geological Setting

Tectonic Belt: Intermontane
Physiographic Area: Boundary Ranges
Terrane: Nisling, Stikine, Cache Creek

Metamorphic Type: Contact, Regional
Relationship: Pre-mineralization, Syn-mineralization
Grade: Hornfels, Amphibolite
Comments: Both pre- and syn-mineralization.

Inventory

Ore Zone: SAMPLE
Year: 1989

Category: Assay/analysis

Report On: N

NI 43-101: N

Sample Type: Chip

Commodity	Grade
Silver	18.7 grams per tonne
Gold	0.69 grams per tonne
Copper	4.05 per cent

Comments: Sample WB-8806. 30-centimetre chip-sample taken from French Adit.

Reference: Assessment Report 19887

Ore Zone: SAMPLE

Year: 1969

Category: Assay/analysis

Report On:

NI 43-101: N

Sample Type: Drill Core

Commodity	Grade
Silver	10.2900 grams per tonne
Gold	0.6900 grams per tonne
Copper	2.8500 per cent

Comments: The sample width is 3.05 metres.

Reference: Property File - White, W.H., 1969.

Capsule Geology

The Laverdiere prospect is located along the west side of Hoboe Creek, south of Willison Bay (Atlin Lake).

The prospect occurs in an area if limestone, marble, and calcareous sedimentary rocks of the Devonian to Middle Triassic Boundary Ranges Metamorphic Suite. This unit is surrounded by tuffaceous non-calcareous sediment (?) and lesser biotite schist of the Boundary Ranges Metamorphic Suite. Dolomitic limestone and underlying thin-bedded calcareous siltstone, quartzite, and schist dip moderately west along the western edge of Hoboe Creek valley. These are intruded by Cretaceous granite that forms high bluffs west of the valley wall.

A series of semi-conformable skarn deposits occupy a horizon in dolomitic limestone near the siltstone contact and are explored by several adits. Mineralization consists mainly of magnetite or magnetite-serpentine (chlorite, epidote, tremolite) skarn with disseminated to massive chalcopyrite. Three separate mineralized sections total over 265 metres in length, with widths of 3 to 12 metres, reaching a maximum of 55 metres. In addition to magnetite and chalcopyrite, specularite, tetrahedrite, pyrite, pyrrhotite, molybdenite, scheelite, cobaltite, erythrite, bornite and malachite have been reported in skarn, with molybdenite and scheelite occurring locally in fractured zones in the intrusives.

A 3.05-metre drill core sample assayed 2.85 per cent copper, 10.29 grams per tonne silver, and 0.69 grams per tonne gold (Property File - White, W.H. 1969). Molybdenum, tungsten, cobalt, and iron are also noted. A 30-centimetre sample (WB-8806) taken in 1989 from French Adit assayed 0.46 grams per tonne gold, 18.7 grams per tonne silver, and 4.05 per cent copper (Assessment Report 19887).

Diamond drilling in 1971 by Hobo Creek Copper Mines indicated that the chalcopyrite-magnetite showings lack continuity. However, an unexpected result of the drilling was the discovery of copper and molybdenum mineralization in the igneous rocks beyond the contact. In Hole HC-5, where the mineralized granite was intersected for a length of 61 metres, copper values ranged up to 0.51 per cent (National Mineral Inventory card 104M1 Cu1).

WORK HISTORY

Claims were staked on Hoboe Creek in 1899 by the Laverdiere brothers. The Holy Cross, French, and Alvine claims (lots 245-247) were crown-granted to them in 1903. The Butte, Great Falls, and Helena claims (lots 304-306) were crown-granted in 1903 to John Caplice. The Laverdiere brothers carried out intermittent exploration work until about 1918 when the property was abandoned. There are 4 tunnels, a drift, and an open cut on the property.

Bethlehem Copper purchased 8 claims in 1956, reportedly over the Laverdiere Group. In 1964, Cominco optioned the property and carried out magnetometer and geological surveys and 154 metres of diamond drilling in 5 holes. In 1969, Centex Mines optioned lots 304-306 and drilled 32.6 metres in 2 holes. It is reported that the 2 holes yielded a combined total of 32.6 metres of core averaging 1.83 per cent copper plus values in gold,

silver, and zinc (National Mineral Inventory card 104M1 Cu1).

The property was taken over by Hobo Creek Coppermines in 1970. In 1971, Hobo Creek drilled 5 holes to test the area south of the French adit.

In 1973, the property, including the Loon claims, was assigned to Rio Plata Silver Mines Ltd. This company drilled 57 metres in 5 holes on the Loon 71, 79, 80, and 100 claims and flew an airborne magnetometer survey over all the claims in 1973-74. The French adit was sampled by Pacific Sentinel in 1989 during prospecting on their surrounding Willison Bay property (Assessment Report 19887). In 1990, prospecting and sampling was conducted on the Ara property, which may have covered this prospect, by Equity Silver Mines.

The 2018 field program of Zimtu Capital Corp. consisted of the collection of 28 rock grab samples. A total of 4 grab samples from bed rock in the historical “French Adit” were sampled every 10-12 metres; 6 grab samples were taken from the exterior area of the French Adit (rubble from potential mine dump); and 2 samples from bedrock 10 metres south of the French Adit. A total of 11 samples were taken from bedrock in the area of the historical “North Adit”; and 5 samples from areas of the northern most extent of the property. All areas of sampling returned very promising values. Rocks from the French Adit area assayed up to 1.56 grams per tonne gold, 43.3 grams per tonne silver, and 8.46 per cent copper. Rocks from the North Adit area assayed up to 1.57 grams per tonne gold, 46.5 grams per tonne silver, and 1.86 per cent copper (Assessment Report 37923).

In 2019, Core Assets Corp. undertook a reconnaissance program on the Blue property in June of 2019, and a ground based geophysical survey from June 15 to June 22 (Assessment Report 38650). The programs consisted of the collection of 17 rock grab samples and a 1.1-kilometre ground based induced polarization survey over a portion of the claims. The rock samples were collected in the area of the “North Adit” and “French Adit”, to confirm assay values from the 2018 field program, in order to prepare a NI 43-101 Technical Report. The induced polarization geophysical program was reported to have outlined three potential porphyry targets and to confirm surface skarn mineralization with high chargeability anomalies over historical adits.

Bibliography

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Date Coded:	1985/07/24	**Coded By:**	BC Geological Survey (BCGS)	**Field Check:**	N
Date Revised:	2021/09/29	**Revised By:**	Garry J. Payie (GJP)	**Field Check:**	N