

NAME OF PROPERTY LAVERDIERE, BUTTE, CALLAGHAN

LOCATION - adit symbol, map 19-1957.

Uncertainty: 500 metres. Lat. 59°14' Long. 134°07'

Mining Division Atlin District Cassiar

County Township or Parish

Lot Concession or Range

Sec. Tp. R.

OWNER OR OPERATOR AND ADDRESS

DESCRIPTION OF DEPOSIT

Two types of deposits are found here, replacement deposits in limestone and fissure vein deposits. The rocks outcropping along the western edge of the valley consist primarily of finely textured, greenish, schistose amphibolites, greenstone schist and limestone. Cutting these and lying to the west and southwest of them are the coast range granitic intrusives which are light grey or pink coarsely textured granodiorite. Numerous faults, having displacements generally of only a few inches or a few feet, were encountered in the workings. Mineralization of the contact zone was found in one tunnel to be about 130 feet wide. The ore occurs as bands of magnetite, carrying chalcocopyrite, up to 10 or 12 feet wide. On the surface bunches of magnetite, carrying chalcocopyrite, can be seen in the limestone belt for 200 to 300 feet south of one of the tunnels. Some cobalt bloom was noticed in pieces picked up from the dump. The minerals are chiefly magnetite, specularite, hematite, chalcocopyrite, tetrahedrite, pyrite, yellow garnet, and other complex silicates. The veins, from several inches to two feet in width, contain quartz and some calcite disseminated with galena, argentiferous tetrahedrite and small flakes of native silver. A sample from the dump assayed 1.7% copper.

Two quartz veins lie in a greenish schistose formation which outcrops on the south shore of Willison Bay. The formation is (p.t.o.

Associated minerals or products of value - Iron, silver, gold, lead, zinc.

HISTORY OF EXPLORATION AND DEVELOPMENT

This property is located along the west side of Hoboe Creek, which flows northerly into Willison Bay at the south end of Atlin Lake.

Claims were reported staked on Hoboe Creek in 1899 by the Laverdiere brothers. The Holy Cross, French, and Alvine claims (Lots 245-247) were Crown-granted to Frank, Tom and Noel Laverdiere in 1903. These Crown-grants, along with the Broughton claim, were known as the Laverdiere group. The Butte, Great Falls, and Helena claims (Lots 304-306) were Crown granted to John Caplice in 1903. Exploration work by the Laverdiere brothers was carried on intermittently until about 1918 when the property apparently was abandoned.

The first tunnel driven is 180 feet long and cuts a mineralized zone about 130 feet wide. About 100 feet north of this tunnel another crosscut tunnel has been driven about 40 feet, cutting a deposit of almost pure pyrrhotite. Some 1,000 feet south of the first tunnel another crosscut tunnel has been driven for 213 feet into limestone. A little scattered chalcocopyrite shows in the face and may be disseminated throughout the limestone. About 1,000 feet south of this tunnel an open cut and drift have been driven about 50 feet, following a small quartz vein in granite. The face of the tunnel shows only a mud seam marking the fissure, and about a foot on each side of it of altered granite. A sample across it gave only a trace of gold and silver. A crosscut tunnel 35 feet vertically lower was driven 40 feet but had not intersected the vein.

In 1918 a group of 6 claims extending south from Willison Bay along the west side of Hoboe Creek to the Laverdiere property were held by a Mrs. Callaghan; the only work reported was some open cutting near the shore of Willison Bay.

Bethlehem Copper Corporation Ltd. in 1956 purchased 8 claims, reported to be the Laverdiere group, from H. Reed and W.J. Russelbee of Atlin. An additional 17 claims were staked by the company. Cominco Ltd, optioned the property in 1964 and carried out magnetometer and geological surveys and 505 feet of diamond drilling in 5 holes.

Centex Mines Ltd. optioned the Crown-grants (Lots 304-306) and 5 recorded claims from Bethlehem Copper Corporation in April 1969. Diamond drilling during the year in 2 holes returned a combined total of 107 feet of core averaging 1.83% copper plus values in gold, silver, and zinc. The company (Centex) assigned

Mineral Resources Branch, Department of Energy, Mines and Technical Surveys (P.T.O.)

HISTORY OF PRODUCTION

REFERENCES

- Reports of Minister of Mines, British Columbia; 1903, p. 241; 1904, p. 679; 1918, pp. 93, 94; 1964, p. 8.
- Cairnes, D.D.; Portions of Atlin District, British Columbia; Memoir 37, pp. 117-121 and diagram 3, Geol. Surv. of Canada, 1913.
- Cairnes, D.D.; Portions of Atlin District, British Columbia; Summary Report 1910, pp. 50, 55-56, Geol. Surv. of Canada.
- Mineral Development Sector; Corporation Files: "Bethlehem Copper Corporation Ltd."; "Centex Mines Ltd."; "Hobo Creek Coppermines Ltd."; "Rio Plata Silver Mines Ltd."
- Geology, Exploration, and Mining; British Columbia Dept. of Mines: 1974, p. 350.

MAP REFERENCES

- #Map 19-1957, Bennett, (Geol.), Sc. 1":4 miles.
- Map 218 A, Atlin, (Geol.), Sc. 1":8 miles.
- *Map 104 M, Skagway, (Topo.), Sc. 1:250,000.

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

its interest in the property to Hobo Creek Coppermines Ltd. which was incorporated in September 1970. During 1971 the company carried out diamond drilling in 5 holes to investigate the mineralized area south of the "French" adit.

Hobo Creek optioned 113 claims, including the Laverdiere group and 106 surrounding Loon claims, to the Vancouver Syndicate by an agreement of February 20, 1973. This option was assigned by a February 22, 1973, agreement to Rio Plata Silver Mines Ltd. The company carried out a diamond drill program totalling 187 feet in 5 holes on Loon 71, 79, 80, 100, and an airborne magnetometer survey of 110 line-miles covering all claims during 1973-74.

MAY 1971
JULY 1973
APR 1976

DESCRIPTION OF DEPOSIT (continued)

badly distorted and indications are that the veins have no continuity. The quartz carries good gold values. A few pieces picked from one of the open cuts assayed: gold, 1.58 ounces a ton; silver, 7 ounces a ton.

Diamond drilling in 1971 proved the high-grade contact metamorphic chalcopyrite-magnetite showings to be discontinuous. 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 over 200 feet, copper values ranged up to 0.51%. The mineralization occurs both intratenturally and as microfracture fillings.