

UPPER LIARD RIVER AREA

(Copper)

Mont Group (61°01'N, 130°40'W) ² ₆Reference: Wheeler, Green and Roddick (1960b).

The group, originally explored by Newmont Mining Corporation of Canada Limited between 1955 and 1957, was restaked in 1965 by G.E. Stephen of Watson Lake, Yukon. The property was visited briefly with Stephen in August 1965.

The showing, located in a cirque at an elevation of about 5,500 feet, was explored from a camp in the main valley of Old Gold Creek, about 3 miles west of the showing and 4 miles from the mouth of the creek. The camp was accessible by a winter air strip nearby and by a road, about 17 miles in length and suitable for tracked vehicles, leading from Watson Lake. Except in periods of very low water, the Liard River is navigable by small river boats from Upper Liard bridge, on the Alaska Highway, to the mouth of Old Gold Creek, a straight-line distance of about 90 miles. Float-equipped aircraft have landed on suitable stretches of the Liard River in this area. Work done between 1955 and 1957 included trenching of the main showings and 7 diamond drill holes with a total length of about 7,055 feet.

Country rock of the showing is hornfels formed from phyllite and minor limestone of Middle and Upper Cambrian age (?) (Wheeler, Green, and Roddick, 1960) located about one mile southwest of the contact of a small batholith of granodiorite. The showings, consisting of lenses of white quartz with minor calcite, pyrrhotite, and chalcopyrite, have been trenched for about 1,500 feet along the flank of the cirque and some copper staining was noticed over a distance of about 5,000 feet. The thickness and number of quartz lenses appear to vary across the area and the showing appears to consist of an echelon lenses rather than a single vein. The

lenses strike about N 55°W and dip steeply. A chip sample taken from the most westerly cut over a distance of 12 feet assayed*: trace of gold, 0.20 ounces of silver per ton, 1.80 per cent copper and a trace of zinc. The quartz vein in this cut is wider and contains more visible chalcopyrite than most others observed. In the surface cuts, much of the pyrrhotite is altered to limonite and chalcopyrite to secondary copper minerals.

Diamond drilling was done from 3 stations, all at an elevation of about 5,300 feet and roughly 300 to 500 feet beneath the showings. Holes 1, 3, and 5 were fanned from the most westerly station, Holes 2, 4, and 6 from a station 790 feet S 47° E of the original station and Hole 7, 1,040 feet S 54° E of the centre station. The holes were drilled at an inclination of about 15 degrees below the horizontal, with the exception of Hole 7 at about 25 degrees. Some quartz containing scattered pyrrhotite and chalcopyrite was encountered in all the drill holes but none appeared to be of potential economic interest. Examined microscopically in index oils, the rocks were found to be hornfels. Minerals present include: muscovite, biotite, albite, calcite, tremolite (?), and quartz. Distinctive purplish-brown bands in the hornfels are coloured by fine grained biotite and the light green to white areas are rich in muscovite and fine albite, and possibly tremolite.

Exploration of this showing proved discouraging because of low copper values and the narrow width and lens-like nature of the mineralized quartz. However, a number of other copper showings are known in the general area and it would appear to warrant additional prospecting. During 1965, Stephens located a new copper showing on the left limit of the Liard River about one mile downstream from the mouth of Old Gold Creek. He also

* Assayed by George Spalding, Whitehorse, Y.T.

prospected an area about $4\frac{1}{2}$ miles up Dome Creek ($60^{\circ}55\frac{1}{2}'N$, $130^{\circ}49'W$) where flat-lying lenses of quartz in a grey to white marble contain minor chalcopyrite and secondary copper minerals. The lenses are up to 1 foot thick and form about 5 per cent of the bluff. The overall copper content is low and an assay* indicated only traces of precious metals.

* Assayed by George Spalding, Whitehorse, Y.T.