

A sample reported by Mudeman from the same dump assayed:—

	Per Cent.
Iron	60.80
Sulphur	0.70
Phosphorus	0.001
Insoluble matter	3.51

The quantity of available magnetite in the Sarita River deposits, so far as exposed by the workings, is estimated by the Provincial Mineralogist, in the bulletin published in 1903, at 55,000 tons of "probable or possible ore." Since that time no further work has been done. In this estimate no allowance has been made for possible continuity to a depth below the adit level, which the writer considers is possible, but must remain an open question until proven. Prospecting with a diamond-drill would determine the conditions at depth, and this undoubtedly should be done before any equipment is installed to mine on an extensive scale.

Water-power can be developed on the Sarita river by using the lake at the head for a reservoir. Timber for building, mining, and fuel is very plentiful and easy of access.

COPPER ISLAND DEPOSITS.

This island, also called Tzartook, is the largest of a chain of islands in Barkley sound, between the Eastern and Middle channels. It rises quite abruptly from the sea on the east side, and reaches an elevation of about 1,000 feet within about half a mile from the shore.

The *Mountain, Barkley, Clifton, Charmer, Pilot Fraction, Rainbow, and Sunbeam* mineral claims form the group on Copper Island on which magnetite occurs, near the summit, about two miles from the north end. The workings consist of an adit and several open-cuts over a large area which expose extensive bodies of magnetite; sometimes apparently resting on an igneous rock of greenish colour, and in places filling fissures in the country-rock.

The exposures are too irregular and the distribution too erratic to base any calculations as to tonnage of available ore, but there is no doubt but that a very considerable quantity can be obtained from the exposures already made.

Although a belt of limestone occurs a short distance north of the magnetite-deposits, there is none in the immediate vicinity, so that these occurrences of magnetite appear to belong to the type described by Clapp as "replacement or segregation deposits," or such as are described in "Kemp's Ore Deposits," page 63: "The concentration of the magnetite seems to the writer best explained by its settling in the still molten mass until it formed considerable aggregates. When once these rich aggregates have formed they may, in the process of eruption or intrusion, take almost any place in the resulting rock."

The most important development-work has been done on the *Mountain* claim, where there is an adit 94 feet long, with open-cut approach 44 feet long, also an open-cut 100 feet long by about 50 feet deep at the face, and a shallow shaft sunk from the open-cut 50 feet from the entrance. There is also an open-cut between the two mentioned, which is 24 feet long in solid magnetite, but towards the face igneous rock underlies the magnetite, which appears as a blanket, covering the rock up the bluff nearly to the summit.

The open-cut approach to the adit exposes a body of magnetite about 20 feet wide, but in the adit the only magnetite exposed is a body about 6 feet wide in a drift on the right-hand side, at the junction, and about 27 feet from the portal of the adit. These bodies are not connected, and beyond the last mentioned the adit is continued for about 75 feet in country-rock, evidently in the expectation of intersecting the body of magnetite exposed in the open-cut about 50 feet northward, but whether this has been continued sufficiently far requires a survey to determine.

The open-cut northward from the adit is on the same level, and made into a bluff about 50 feet high, above the floor of the open-cut; on the right of the cut about 50 feet from the entrance there is a shaft said to be 12 feet deep, but fruit of