

a very large tonnage. A surface tramway can be constructed to the base of the ridge from deep water in a sheltered harbour with a reasonable grade, where if necessary a connection can be made with a short gravity or an aerial tramway.

There is a plentiful supply of water except for power purposes. Timber is quite plentiful for all purposes, including saw-logs for lumber.

To the southward from the *Glengarry* and *Stormont* claims a mountain-slope rises to an elevation of about 1,500 feet above sea-level, almost within the length of one mineral claim. The *Fido* mineral claim is located on the north slope of this mountain and adjoins the south line of the *Glengarry* and *Stormont*, the No. 1 post of the *Fido* being on the south line of those claims, 200 feet west from their No. 2 posts.

Wm. Poole and J. H. Gardhouse, of Nootka, own the *Fido* claim, and have prospected it to some extent by stripping and open-cuts, which have exposed large bodies of magnetite on the north slope of the mountain southward from those exposed on the *Glengarry* and *Stormont* claims. The grade of this magnetite is so near that in the samples taken from those claims there was no necessity for sampling.

It is to be regretted that no diamond-drill boring or other development-work has been done on any of these deposits of magnetite, because the surface indications promise so favourably with regard to extent.

The writer can only estimate roughly a tonnage of *probable* and *possible* ore, as there is no work done by which actual ore can be measured. This estimate is placed at 50,000 tons of *probable* ore and 200,000 tons of *possible* ore.

WEST ARM, QUATSINO SOUND.

Some years ago a large number of claims were located in the vicinity of Coal harbour, near the east end of the West arm of Quatsino sound, for bog-iron ore, a form of limonite, some of which were sold to the Moore Investment Company, of Seattle, which operated the blast-furnace at Irondale, in the State of Washington, for a few months, and some shipments of this bog-ore were made, but since that enterprise failed the mineral claims have reverted to the Metropolitan Trust Company, of New York, which acquired the assets of the original purchasers.

The most important of the deposits occur about one mile west from Coal harbour, in and on the border of swampy basins, and on the ranges of adjoining hills.

The origin of bog-ore is described in Kemp's "Ore Deposits of the United States and Canada," page 87, as follows: "Bog-ore, beds of limonite, superficially formed in marshes, swamps, and pools of standing water. The general circulation of water through the rocks enables it very frequently to take up iron in solution. Ferruginous minerals are amongst the first and easiest that fall a prey to alteration. Carbonic acid in the water aids in dissolving the iron, which thus, in waters containing an excess of CO_2 , passes into solution as the protocarbonate (FeCO_3). Organic acids may also play a part. The alteration of pyrite affords sulphuric acid and ferrous sulphate, and the latter enters readily into solution. On meeting calcium carbonate, both ferric and ferrous sulphate are decomposed, yielding in the first place calcium sulphate, ferric hydrate, and carbonic acid; in the second place, if air is absent, ferrous carbonate and calcium sulphate, but on the admission of air, ferric hydrate soon forms."

The fact that the prevailing country-rock in the vicinity of the occurrences of bog-ore on Quatsino sound are granites and felsitic rocks, often heavily charged with iron pyrites, accounts for the rusty water, impregnated with decomposed pyrite, flowing down the hillsides and leaving a thick scum on the rocks. This was considered an outcropping of iron ore and was responsible for many claims being staked, especially on the divide between Iron creek and Nahwitte river.

The occurrences that appear to possess commercial value are those exposed in many open-cuts on the group of mineral claims about a mile west from Coal harbour,