

"The deposit examined, which consists of a sheet of bog-iron ore of unknown thickness, extending from the 'moss-roots' to bed-rock, lies on the steep north side of Llanonite Creek valley. It extends from the stream itself for a distance of 1,800 feet in a straight line up the mountain-side, which rises steeply from an elevation of 2,600 feet at the stream to 3,500 feet at the upper edge of the bog-iron ore. The irregular area underlain by the limonite measures about 2,250,000 square feet (50 acres), and its greatest width is about 1,800 feet.

"Everywhere in this area, yellow or brown earthy limonite may be uncovered merely by removing the moss from the surface; there is no overburden except the trees and moss growing on the limonite beneath, and this vegetation has been removed by burning in two places, leaving large areas of the ore exposed.

"The deposit consists of bedded bog-iron ore, occurring in platy layers from 1 to 3 inches thick, lying parallel to the hillside, which here has an average slope of nearly 30 degrees. In addition to the stripping of the ore by burning, prospecting has been done by trenching and sinking numerous pits. The greatest thickness of limonite anywhere exposed is 15 feet; in two or three places 10 feet is exposed, and several cuts show 3 to 4 feet. In no place has the bottom of the sheet of ore been reached, and as no systematic attempt has been made to determine the quantity of ore present it is difficult to form any estimate of the amount available.

"The ore consists of yellow and brown earthy limonite, free from sandstone or other impurities, rather soft and of a loose consistency, so that it may readily be dug with a pick or cut with an axe. The ore extracted from the large open-cuts has disintegrated on weathering to a crumbly, in part pulverulent mass, ranging in size of from a grain of powder to fragments an inch or two across. It is thoroughly saturated with water as it lies in the bed, but when dried might run about 20 cubic feet to the ton, at a guess.

"If the surface area be taken at 2,250,000 square feet, this figure would give 112,500 tons per foot of depth. An average depth of 5 feet for the deposit is almost certain; 10 feet is probable and perhaps the depth is greater. In other terms, 562,500 tons may be considered as almost certainly proven; twice that as probable, and perhaps the amount is considerably larger. Analyses of the ore are given below:—

"ANALYSES OF ORE FROM NORTH PACIFIC IRON MINES, LTD.

	1.	2.	3.	4.	5.	6.	7.	8.	9.
Iron (metallic)	54.20	56.01	51.32	52.19	51.0	50.6	53.2	53.2	54.0
Silica (SiO ₂)	1.02	0.83	1.30	1.56	2.0	1.7	1.31	1.62	1.04
Manganese (Mn)	0.85	0.51	0.39	0.70	..	..	..	..	..
Phosphorus (P)	0.407	0.016	0.065	0.616	None	None	0.0016	0.014	0.002
Sulphur (S)	1.16	1.52	1.14	1.47	1.7	0.8	2.65	1.89	1.15
Water, combined	18.54	16.02	20.47	19.61	..	..	..	..	..

Analyses 1 to 4 were made by H. A. Leverin, Mines Branch, from samples collected by J. D. MacKenzie.

1. Sample of a trench wall, from 2 feet to 10 feet below the surface. Taken by cutting a groove 1 foot wide, 6 inches deep, 8 feet long, and quartering to 8 lb.

2. A picked specimen representing a 12-inch, harder, more compact band about 2 feet below the surface at the locality of No 1, and also found in several other places in the deposit.

3. Sample of dump thrown out of a cut made in the deposit on a steep hillside; the cut is 2 to 3 feet wide, with a level bottom 40 feet long and a 20 foot face, exposing 15 feet of platy bedded ore lying on the hillside.

4. Sample of the dump from a trench 2 feet wide, 3 feet deep, and 50 feet long.

(These four analyses were made on material finely ground and dried at 104°C. until all hygroscopic moisture had been expelled.)

5. Sample taken at a depth of 15 feet from the surface (doubtless from the cut represented by analysis 3). Collector, W. M. Brewer.

6. Sample sent to British Columbia Bureau of Mines by the owner. (Analyses 5 and 6 by the Analyst of the British Columbia Bureau of Mines.)

7, 8, and 9. Analyses by Falkenburg and Laucks, of Seattle.

"These analyses, on samples taken in different ways and by different men, and made by at least three different analysts, agree very well, and emphasize the homogeneity and purity of the bog-iron ore.