

Mining Improvements.—The copper deposit terminates at its north end in the McLeod River Gorge (Erin End) which cuts across the strike of the ore. Here the mineral appears as green carbonates. Eight hundred and sixty feet south is an open cut into the deposit from the west side of the hill, thirty-five feet in length, showing mineralization in both walls, though the rock is leached. An 1800 pound sample was taken from here by W. H. Kinnon, M. E. for a working test and a 100 pound sample was also sent from this point to Rossland, B. C. to be tested by the Elmore Oil Concentration process, which has been introduced at Rossland mines. The open cut is the approach to the entrance of an exploratory "slope," sunk on the "dip" of the deposit for 95 feet. The slope is timbered and provided with double track for hoisting in balance. The first 20 feet shows regular mineralization in floor and walls. The direction of the slope was changed at 20 feet and diverted to cut an overlying series and passed through partially leached and barren rock for a considerable distance, striking the ore again toward the foot where a sample furnished to F. H. Mason, F. C. S., Halifax, assayed 6.16 per cent copper. Immediately inside the entrance of the slope there is a short "drift" to the north showing coarse copper in all four walls.

There is a "sump" 20 feet deep in the floor of the slope showing coarse copper and regular mineralization.

Near the slope a trench or "ditch" extends fifty feet toward the hanging wall and shows evidence of continuous mineralization. Below the slope on the foot wall side of the deposit a number of ore outcrops are exposed in brook sections and by shallow pits.

Between the slope and McLeod Gorge there is a line of seven test pits, showing a shallow zone of oxides and carbonates of copper, with sulphides of copper immediately underneath. There is a birds-eye map of the mining property at the Company's office.

Assay Values.—Mr. M. V. Grandin gives the following assays, starting from the slope and going north to the McLeod Gorge:—

"An average sample of quartz veins near the surface at the slope and which had not the valuable contents leached out, the same as the surrounding schist, gave the following results:—

Gold \$6.60; silver \$4.40; copper 7.81 p. c.

"Along the ditch (trench) extending east towards the hanging wall the rock is very much leached and indicates that it formerly carried 3 p. c. or over of copper.

"Near the entrance to the slope an average sample across a thickness of 6 feet gave

Gold \$1.32; Silver \$1.03; Copper 2.40 p. c.

"At a depth of two feet at the same point, average samples from the same thickness, which included quartz veins, gave in copper:—

No. One 3 p. c.; No. Two 4 p. c.; No. Three 5 p. c.; Gold and Silver not assayed for.

"An 1800 pound working sample, which did not include quartz veins, taken from this point by W. H. Kinnon, then the manager of the Pictou smelter, gave:—

Gold 0.09 oz.; Silver 3.80 oz.; Copper 3 p. c.

"From the data obtained at this opening it would appear that above the water line we may expect large masses of rock carrying about 3 p. c. copper, \$1.50 to \$2.00. In gold and \$1.50 to \$2.00 in silver, also that zones of ore of too low grade to work may be encountered. Below the water line we may expect a somewhat better class of ore, than at the top of the slope, carrying a little over 3 p. c. copper. I am not taking into consideration the gash quartz veins which would increase the average copper percentage and the gold and silver values.

"Test Opening No. 1—A few feet deep, rock very much leached. Quartz veins assayed from 2 to 3 per cent copper.

"Test Openings Nos. 2, 3 and 4—Very much leached when visited.

"Test Opening No. 5—The least oxidized samples gave 3 p. c. copper.

"Test Opening No. 6—Masses of quartz and partly decomposed lenses of massive chalcopyrite are met; samples here gave:

Gold 0.20 oz.; Silver 3.60 oz.; Copper 5.50 p. c.

"Test Opening No. 7—Similar conditions as at No. 6. Least oxidized material gave:—

Copper 7.20 p. c.; Gold and silver not assayed for.

"At the Erin End, green carbonate incrustated rock runs as high as 3 p. c. and small masses of malachite mixed with limonite as high as 10 p. c. copper. Three to six feet in from the face of the cliff the least oxidized material gave:

Gold 0.15 oz.; Copper 5 p. c. Silver not assayed for.

"I believe Mr. Kinnon's opinion that the bulk of the ore will run about $3\frac{1}{2}$ p. c. below the zone of oxidation will be confirmed when the slope has been carried down to that depth and the deposit cross-cut. Above the water line the evidence is all in favor of the deposit running at least 3 p. c. copper, beneath say a 10 ft. crust of leached rock. The gold and silver values of the ore bearing rocks of this formation vary to a great extent but they rarely carry less than \$4.00 in gold and silver, generally exceed that amount, and occasionally carry as high as \$90.00 in gold. I think therefore that \$4.00 would be a conservative estimate of the gold and silver tenor of this deposit and that from a commercial standpoint the deposit may be regarded as a big low grade gold-copper proposition, averaging about \$10.00 per ton, figuring copper at 10 cents per pound."