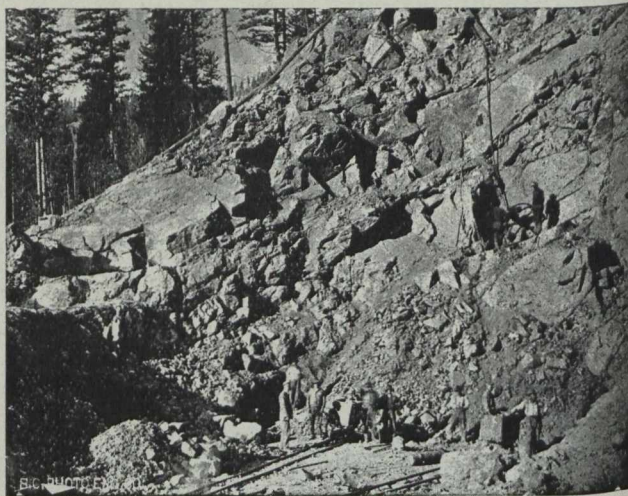


feet in length or depth on the claim; to-day he is still in charge and during the intervening periods of between ten and eleven years there has been done under his direction development work that in sinking and raising, drifting and cross-cutting, has aggregated fully 21,000 lineal feet (about four miles), leaving out of account much other work done in underground stoping and surface quarrying in the big ore bodies opened up here

In March, 1897, prospecting operations having meanwhile proved the occurrence on the Mother Lode and adjoining mineral claims of unusually large bodies of ore, the British Columbia Copper Company, Limited, was organized in New York, to acquire and work the Mother Lode group, consisting of the Mother Lode and five adjoining fractional claims previously purchased, the whole giving an area of about 80 acres. A power plant was installed and the systematic development of the mine undertaken. The plant consisted of two 60 horse-power steam boilers, 10-drill Ingersoll-Sergeant air compressor with complement of drills, station sinking pumps, Ligderwood hoisting engine with 30 inch drum, and all else requisite to make a complete plant. The weight of this machinery, etc., was about 85 tons, and it was no light undertaking to haul it in wagons from the railway at Marcus, Washington (at that time the



Open Quarry as it appeared in 1902.

steam from two 100 horse-power boilers; a Canadian Rand double cylinder hoisting engine, with cylinders 22 x 42 inches and drums of 6 feet diameter, with two 80 horse-power boilers to furnish steam for operating; two large rock crushers, and much other machinery, were



GENERAL VIEW OF MOTHER LODGE MINE IN 1902.

nearest railway station), to the mine, a distance by road of 65 miles. A two-compartment shaft was sunk and levels opened at 200 and 300 feet depth.

Three years later it became necessary to provide a much larger power plant, so an air compressor having a capacity of 30 to 40 machine drills, and supplied with

installed. Ore bins having a holding capacity of about 3,000 tons were erected, and bunk and boarding house accommodation was provided for more than 100 men, beside cottages for married employees. Recently electricity was substituted for steam to drive the heavier machinery.

The several different methods followed in working the mine, after the company had erected smelting works and it became necessary to regularly maintain a comparatively large output of ore, were dealt with in two papers contributed by Mr. Keffer to the "Journal of the Canadian Mining Institute" in 1902 (p. 213, and 1904, p. 42), respectively. One plan, known as the "pillar and stope" method, which continues to be of interest to mining men, was thus described by Mr. Keffer:

"The ore body was divided into stopes 30 to 40 feet wide, the length of the stope being the distance across the ore body. The cross-cuts already existing were used, and others cut where needed under the centre of each stope. From these cross-cuts upraises were made 30 feet apart. These were made 10 to 12 feet high, and were then connected by second and parallel cross-cuts. From these latter the stopes were opened out the intended width, and then carried vertically upward, the short upraises being cribbed and fitted with gates for loading. Between the stopes, pillars 20 to 25 feet in thickness



Open Quarry as it appeared in 1902.