

concentrate these by water concentration and also to obtain a separation and concentration of the molybdenite values by flotation."

The shipment was divided into three lots as follows:

"Lot No. 1, test No. 1, dry net weight, 12144 lbs.; lot No. 2, test No. 2; dry net weight, 35,234 lbs.; lot No. 3, test No. 3, dry net weight, 5,850 lbs.

"Lot No. 1, test No. 1: The procedure was as follows:

The ore was crushed to 20-mesh and concentrated on a Wilfley Concentrator to remove as much as possible of the cobalt, nickel, arsenic and gold values. Two products were made, a concentrate and tailing. The tailings were re-ground in a Hardinge mill to 60-mesh and the molybdenite concentrated by means of the Callow Pneumatic flotation process. The flotation tailings were re-run over the Wilfley concentrator to further remove any cobalt, nickel, arsenic and gold values.

"Lot No. 2, Test No. 2:—The procedure was as follows:

The ore was crushed to 40-mesh and concentrated on a Wilfley concentrator to remove as much as possible of the cobalt, nickel, arsenic and gold values. Two products were made, a concentrate and tailing. The tailings were re-ground in a Hardinge mill to 80-mesh and the molybdenite concentrated by flotation in a Callow unit. The flotation tailings were re-run over the Wilfley concentrator and the tailings from the table were considered final and allowed to go to waste.

"Lot No. 3, Test No. 3:—The procedure was as follows:

The ore was ground in a Hardinge mill to 80-mesh and the molybdenite first floated in a Callow unit. The flotation tailings were concentrated on a Wilfley concentrator to remove the cobalt, nickel, arsenic and gold values, and the tailings from the table pumped to waste.

This latter test was run to obtain a comparison of results between tabling followed by flotation and flotation followed by tabling.

"The results are contained in the attached tables.

"Conclusions: From the attached summary, the actual recoveries made on this carload of ore were as follows:

"In table concentrates: cobalt, 72.6 per cent.; nickel, 87.5 per cent.; arsenic, 84.9 per cent. In flotation products: molybdenite, 54.4 per cent. These recoveries should be im-

proved upon in practice where a closed circuit could be maintained and the losses due to handling and slime overflow would be reduced to a minimum.

"As the molybdenite values are of secondary value as compared to the other metals present, it is advisable to remove as much as possible of the cobalt, nickel, arsenic and gold values before flotation to recover the molybdenite values. From the attached tables it is shown that most of these values can be removed at 40-mesh, and, as it is necessary to grind it to 100-mesh to recover the molybdenite values, it would not be wise to float first and table afterwards, as the loss in cobalt, nickel, arsenic and gold values due to fine grinding would not compensate for the higher recovery of the molybdenite.

"From the test work conducted, the procedure to follow on the concentration of this ore would be as follows: The crude ore crushed in a jaw crusher to 1½ inch or 1 inch and ground in a wet ball mill in circuit with a classifier to about 40-mesh and concentrated on tables of the Wilfley type; the table tailings re-ground in a ball or tube mill to 100-mesh in circuit with a classifier and the molybdenite floated in an oil flotation unit; the tailings from the flotation unit concentrated on slime tables or vanners."

Harry Bidder has succeeded F. J. Longworth as superintendent of the Greenwood smelter. Mr. Longworth has been appointed superintendent of a big copper smelter in Tennessee.

The old Torpedo mine, about 800 yards from the depot at Penticton, on the lake shore, is shipping ore. The iron sulphides are sent to Greenwood, and the other ore to Trail. The ore gives values from \$15 to \$40 a ton.

Joe Deane and others have made some locations not far from Nakusp that run high in copper, silver and lead. Eight chrome locations have recently been made in the same district.

The Waterloo No. 2 at Lightning Peak, has made a five-ton shipment of silver ore to Trail. The ore had to be packed 23 miles before it reached the wagon road ten miles from Edgewood. This shipment will probably run 1000 ounces in silver to the ton.

BRITISH COLUMBIA

The Mineral Province of Western Canada

TO END OF DECEMBER, 1917

Has produced Minerals valued as follows: Placer Gold, \$75,116,103; Lode Gold, \$93,717,974; Silver, \$43,623,761; Lead, \$39,366,144; Copper, \$130,597,620; Other Metals (Zinc, Iron, etc.), \$10,933,466; Coal and Coke, \$174,313,658; Building Stone, Brick, Cement, etc., \$27,902,381; making its Mineral Production to the end of 1917 show an

Aggregate Value of \$595,571,107

Production for Year Ending December, 1917, \$37,010,392

The Mining Laws of this Province are more liberal and the fees lower than those of any other Province in the Dominion, or any colony in the British Empire.

Mineral locations are granted to discoverers for nominal fees.

Absolute Titles are obtained by developing such properties, the security of which is guaranteed by Crown Grants.

Full information, together with mining Reports and Maps, may be obtained gratis by addressing—

THE HON. THE MINISTER OF MINES
VICTORIA, British Columbia.