

NOTES ON PREMIER MINEPORTLAND CANAL MINING DIVISION, B. C.

This mine was visited on October 20th and 21st, 1926. Mr Dale Pitt, the General Manager, was very courteous, and recalled the fact that he had been well received at the Dome a few years ago. Every facility was given to examine the mine plans and two trips were made underground. The main working levels are at an elevation of from 1,325 to 2,000 feet and are connected by a vertical shaft. The mine workings are fairly compact, and the producing zone is on Cascade Falls No. 4, and the northern part of the Simpson claim, as shown on plan herewith. No. 4 tunnel at 1,325 feet elevation follows along the north boundary of the Simpson claim. The stopes are from 10 to 30 feet wide, with some as much as 60 feet. The ore shoot is more or less continuous for 1,500 feet. The dip of the main ore-shoot striking north-east is from 45° to 60° north-west. The ore is in the footwall of a quartz porphyry sill, near its contact with the tuffs. The plans show ore of three types: Bonanza, secondary, and primary. The bonanza type extends down the dip of the vein for 500 feet, and the secondary for 1,000 feet. The bonanza type of ore seems to be due to special structural conditions of fracturing in the vein allowing unusual enrichment by downward moving solutions at certain points. A point that does not seem clear yet is the cause of the unusually high gold values.

Regarding the proposition of gold, an assayer told me that when the ore was running 150 ounces of silver the value of gold and silver would be about \$150. and yet no free gold has ever been found in the Premier.

The bonanza type has been largely mined out. About 750 tons of ore are being mined per day, of which 425 tons is put through the mill. The mill-heads average \$14.00 in gold and silver

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but are very variable. The concentrates and a higher grade ore are shipped to the Tacoma smelter, and a siliceous ore to Anyox.

An areal tram connects the mine with the dock at Stewart.

FLOW SHEET OF PREMIER MILL

Mine Run

Bins

Tram Ore

Mill Feed

20" x 30" Jaw Crusher

Belt Conveyors

Allis Chalmers Gyratory

Tram

Harding Mill

Dorr Duplex Classifier

Overflow

Oversize

Cones

Underflow Overflow

Regrind 4 Wiltley & 8 Deister Plat ϕ tables

Sulphide Conc.

Tails

PbS, ZnS, FeS₂

Thickener

Regrind
8 ft Ball Mill

Bins

Cones

Ship Tacoma

Overflow

Underflow

M & S and J. & J.
Flotation Machines

Conc. \$50. ton
(higher in silver)

Tails"

Ship Tacoma

\$250 per ton Au, Ag.
Bulk of Gold

"Cyanide for flotation tails
recently discarded as uneconomical.

Mill heads \$14.00 425 tons per day Ratio cond.
6½ - 1 ship to copper smelters.

NOTES ON PREMIER MINES Cont'd.

About 1,500 H.P. are used. Water power on Cascade Creek provides about half of this, and semi-Diesel engines the remainder. The cost is said to be \$80.00 per H. P. The cost of fuel oil at Hyder is said to be from 4 to 6 cents per gallon. About 350 men are employed.

Mining and milling costs are about \$5.50 per ton, and freight charges Portland Canal to Tacoma \$2.75 - \$3.00 per ton.