May 21st, 8.

Report of Ore Dressing and Metallurgical Laboratories

Test No. 86

Molybdenite Ore from Haleys, Ont.

A shipment of 20 sacks of Molybdenite Ore was received May 1st from J. F. Day, Sudbury, Ont. This shipment came from a property near Haleys Station, Ont.

The Molybdenite was of the flake variety, in quartz. Very little mica or Iron Sulphides was present.

Gross Weight Recd.	--	2601 lbs.
Net " "	--	2584 "
Moisture	--	0.18 %
Net Dry Weight	--	2579 lbs.
Analysis - MoS_2	--	1.97 %
Content - MoS_2	--	50.8063 lbs.

Small Scale Tests

A sample of the ore was crushed to pass 40 mesh from which 1000 grams were taken for a test on the Laboratory Callow Flotation Machine.

Oil mixture added -- 2 lbs. Coal oil per ton
½ lb. Pine oil per ton

Concentrates obtained - 18.5 grams

Analysis - MoS_2 - 76.28 %

Content - MoS_2 - 14.1118 grams
Recovery - 83.0 %

86

Middlings obtained	-	101 grams
Analysis - MoS_2	-	1.09 %
Content - MoS_2	-	1.1009 grams
%age MoS_2 Values	-	6.00 %
Tailings obtained	-	880.5 grams
Analysis - MoS_2	-	0.20 %
Content - MoS_2	-	1.7610 grams
Loss	-	11.0 %

Figuring on a Recovery of 70 % of the Molybdenite Values in the middlings, the total Recovery would be 87 %.

465 grams of the ore crushed to 40 mesh was used for a test on the Janney Laboratory Flotation Machine. Oil mixture same as former test.

Concentrates obtained	-	7.5 grams
Analysis - MoS_2	-	80.35 %
Content - MoS_2	-	6.02625 grams
Recovery	-	89.6 %
Middlings obtained	-	43 grams
Analysis - MoS_2	-	1.09 %
Content - MoS_2	-	0.4687 grams
%age MoS_2 Values	-	7.0 %
Tailings obtained	-	414.5 grams
Analysis - MoS_2	-	0.055 %
Content - MoS_2	-	0.2280 grams
Loss in Tailing	-	3.4 %

Figuring on a Recovery of 70 % of the Molybdenite Values in the Middlings, the total Recovery would be 94.5 %.

Large

Large Scale Test:-

The ore which was already crushed for sampling was run through the regular Molybdenite Circuit. It was fed to the ball mill, where the oil mixture was added. The discharge of the mill passed over a Callow Screen, fitted with a 45 mesh ten-cap screen, the oversize returning to the mill, while the under-size went direct to the Flotation Machines. Only two products were made, a concentrate and a tailing.

Concentrate obtained	-	65 pounds
Analysis - MoS_2	-	69.77 %
Content - MoS_2	-	45.3505 lbs.
Recovery	-	89.1 %
Tailings to Waste	-	2514 pounds
Analysis - MoS_2	-	0.22 %
Content - MoS_2	-	5.5308 lbs.
Loss	-	10.9 %

Conclusions:- Ore is very easily concentrated and would in actual practice produce a very high grade concentrate with a high recovery of the Molybdenite Values. A concentrate of 85 - 90 per cent grade should be obtained with a recovery of 95 % of the Molybdenite Values.