ALL OFFICIAL CORRESPONDENCE
SHOULD BE ADDRESSED TO THE DIRECTOR.
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MINES BRANCH
EUGENE HAANEL, PH. D.
Director.

OTTAWA, May 6th, 1918.

Report of Ore Dressing & Metallurgical Laboratories

Test No. 80

Alice Arm Molybdenite Ore.

Supplementing our Report of June 13th, 1917, in which are contained the results of our small Laboratory Tests on Alice Arm Molybdenite ore we made a regular mill test on this shipment with the following results:-

Net Weight of Ore Treated		-	1145 Lbs.
Analysis -	MoS_2	-	1.67 %
	MoO_3	-	0.07 %
	Cu	-	0.17 %
Content -	MoS_2	-	19.1215 Lbs.
	Cu	-	0.19465 Lbs.

The ore was ground in the Ball Mill to 60 mesh. 8A 60 mesh ton cap screen used)

Rate of feed - 1 Ton per hour

Oil mixture - Coal oil - ½ lb. per ton of ore
Pine oil - 1/3 lb. " " " "

A sample of the concentrates and tailings was taken every 10 minutes.

Concentrates

Concentrates	---	36 pounds
Analysis - MoS_2	---	44.50 %
Cu	---	0.125 %
Content - MoS_2	---	16.020 lbs.
Cu	---	0.045 lbs.
Recovery - MoS_2 Values -		83.7 %
Cu " -		23.1 %
Tailings	---	1109 pounds
Analysis - MoS_2	---	0.29 %
Cu	---	0.013 %
Content - MoS_2	---	3.2161 lbs.
Cu	---	0.14965 lbs.
Loss - MoS_2 Values	---	16.8 %
Cu "	---	76.9 %

Conclusions:- No trouble was experienced in the operation of the cells on this crude ore. An ideal froth was obtained on both Rougher and Cleaner Cells, showing that the trouble experienced in our runs on two shipments of ground ore from the International Molybdenum Co., Renfrew, Ont., supposed to be for the most part of this ore, was not due to the nature of the ore itself, but rather to the fact of it being ground and allowed to stand and oxidize for a considerable time.

In the above test the grade of the concentrates is low and does not represent what could be secured in practice, as the cells were run so long to clean them up that the other sulphides were floated as well as the molybdenite. Owing to the nature of the ore however it does not seem probable that a grade much above 70 % MoS_2 would be made on this ore, unless by regrinding the concentrates and refloating. By raising the grade of the concentrates the Copper values would be reduced in the concentrates.

The tailings looked very clean as far as free flake was concerned. It is doubtful whether any better tailing could be obtained, unless a little finer crushing was adopted.