

O T T A W A

June 20th, 1942.

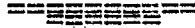
R E P O R T

of the

ORE DRESSING AND METALLURGICAL LABORATORIES.

Investigation No. 1230.

Preliminary Report on Molybdenite Ore
submitted by C. W. Greenland, Geologist,
779 Bayview Avenue, Toronto, Ontario.



(Copy No. ____.)

IR/230

4P
1825

O T T A W A

May 21st, 1942.

June 20th, 1942.

R E P O R T

of the

ORE DRESSING AND METALLURGICAL LABORATORIES.

Investigation No. 1230.

Preliminary Report on Molybdenite Ore
submitted by C. W. Greenland, Geologist,
779 Bayview Avenue, Toronto, Ontario.

=====

Shipment:

A shipment of 10 pounds of ore was received on
May 8th, 1942, from C. W. Greenland, Geologist, 779 Bayview
Avenue, Toronto, Ontario.

The shipment contained two samples, designated as
follows:

No. 1. - High-grade material.

No. 2. - Lower-grade material.

Location of Property:

No mention of the location of the property from which the samples were secured was made in correspondence.

Character of the Ore:

No microscopic examination was made on the shipment. The correspondence stated that the material contains black biotite. The molybdenite occurs both in the pegmatite and in the intruded schist or gneiss.

Purpose of the Investigation:

The investigation was made to determine the grade of concentrate that could be recovered, and to examine the samples by the ultra-violet light to determine the presence of tungsten.

Sampling and Analysis:

The shipment was crushed and sampled by standard methods and was found to contain;

| | <u>Per cent</u> |
|--|-----------------|
| No. 1. - High-grade material, MoS ₂ | - 2.2 |
| No. 2. - Lower-grade " , MoS ₂ | - 0.2 |

Investigative Procedure:

The samples were examined under the ultra-violet lamp.

A flotation concentration test was made on each sample.

Results of Test Work:

No evidence of the presence of tungsten could be found with the ultra-violet lamp.

The plus 80 mesh concentrate from the high-grade sample assayed 96.2 per cent MoS₂ with a ratio of concentration of 119:1; recovery, 40.4 per cent. The minus 80 mesh portion of the concentrate assayed 87.6 per cent MoS₂; recovery 49.5 per cent. The combined concentrate assayed 91.3 per cent MoS₂, ratio of concentration 50:1, and recovery 89.9 per cent.

Details of the Tests:

A portion from each sample was ground in a ball mill, dilution 4 parts solids to 3 parts of water.

Reagents to the ball mill:

Kerosene, 1.0 lb./ton.
Sodium silicate, 0.25 lb./ton.

Reagents to flotation:

Pine oil - 0.15 lb./ton.

The pulp was floated and the rougher concentrates were recleaned without reagents. The cleaner concentrates were screened on 80 mesh.

Flotation Results:

| No. 1. - High-Grade Sample. | | | | | | |
|-----------------------------|------------------|----------------------------------|-------------------------|---|------------------------|---|
| Product | Weight, per cent | MoS ₂ Assay, per cent | Units, MoS ₂ | Distribution of MoS ₂ , per cent | Ratio of concentration | |
| Feed | :100.00 | : 2.00 | : 200.019 | : 100.00 | : | : |
| Conc. +80 | : 0.84 | : 96.20 | : 80.808 | : 40.4 | : 119:1. | : |
| Conc. -80 | : 1.13 | : 87.60 | : 98.988 | : 49.5 | : 88.5:1. | : |
| Middling | : 0.68 | : 12.56 | : 8.541 | : 4.3 | : 147:1. | : |
| Flot. tailing | : 97.35 | : 0.12 | : 11.682 | : 5.8 | : | : |
| <u>Calculated Values.</u> | | | | | | |
| Combined conc. | : 1.97 | : 91.27 | : | : 89.9 | : 50.8:1. | : |
| Rougher conc. | : 2.65 | : 71.07 | : | : 94.2 | : 37.7:1. | : |

(Flotation Results, cont'd) -

| No. 2. - Lower-Grade Sample. | | | | | |
|------------------------------|------------------|----------------------------------|-------------------------|---|------------------------|
| Product | Weight, per cent | MoS ₂ assay, per cent | Units, MoS ₂ | Distribution of MoS ₂ , per cent | Ratio of concentration |
| Feed | :100.00 | : 0.21 | : 21.411 | :100.0 | : |
| Conc. +80 | : 0.09 | : 89.50 | : 8.055 | : 37.6 | : 1111:1. |
| Conc. -80 | : 0.30 | : 19.85 | : 5.955 | : 27.8 | : 333:1. |
| Middling | : 0.31 | : 1.45 | : 0.450 | : 2.1 | : 323:1. |
| Flot. tailing | : 99.30 | : 0.07 | : 6.951 | : 32.5 | : |
| Calculated Values. | | | | | |
| Combined conc. | : 0.39 | : 35.92 | : | : 65.4 | : 256:1. |
| Rougher conc. | : 0.70 | : 20.65 | : | : 67.5 | : 143:1. |

..

The results indicate that the material as represented by these small samples is amenable to concentration by flotation.

The results obtained apply only to the shipment submitted for this preliminary investigation.

ooooooooo
ooooo
o

WSJ:GHB.