ALL OFFICIAL CORRESPONDENCE
SHOULD BE ADDRESSED TO THE DIRECTOR.

DIVISION OF ORE DRESSING AND METALLURGY

G. C. MACKENZIE, B.SC., CHIEF OF DIVISION
W. B. TIMM, B.SC., 1ST ENGINEER
C. S. PARSONS, B.SC., 2ND ENGINEER
H. C. MABEE, B.SC., CHEMIST
R. J. TRAILL, ASST. CHEMIST
B. M. DERRY, MILLMAN

DEPARTMENT OF MINES
CANADA

MINES BRANCH

EUGENE HAANEL, PH. D.
Director.

OTTAWA, Ont., Nov. 8th, 1918.

REPORT OF ORE DRESSING AND METALLURGICAL LABORATORIES.

TEST NO. 103

A shipment of 50 pounds of Graphite Ore was received on October 10th, 1918, from the Jas.H. Mason Smelting Co. Toronto, Ont.

The graphite in this ore was a fairly coarse flake in a gangue of quartz and crystalline limestone.

The ore was crushed to 30 mesh and sampled, giving an analysis of 8.37% Carbon.

Tests were made on the Callow-Pneumatic Testing Machine to determine its adaptability to concentration.

Run #1- Made on 4000 grams of the ore. Ground in a pebble jar for 5 minutes with a small amount of pine oil and coal oil. Floated in Testing Machine; the concentrates reground for 10 minutes in the pebble jar and refloated.

Concentrates + 80 mesh----------36 grams.
Analysis----C----------87.65%
Content-----C----------32.79 grams
Recovery of C. Values---26.2%

Concentrates - 80 + 115 mesh----------31 grams
Analysis----C----------66.60%
Content-----C----------20.65 grams
Recovery of C. Values---23.8%

Concentrates - 115 mesh----------58 grams
Analysis----C----------65.45%
Content-----C----------37.86 grams
Recovery of C. Values---43.6%

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Middlings ----------44 grams

Analysis--------C---------3.00%

Content---------C---------1.32 grams

Percentage of C. Values---1.6%

Tailings ----------3841 grams

Analysis---------C--------0.11%

Content----------C--------4.23 grams

Percentage of C. Values---4.8%

Total Recovery in concentrates------93.6%

Percentage of Carbon Values in Middlings and Tailings-6.4%

Run #2-Made on 2000 grams of the ore. Ground in pebble jar for 5 minutes with a small amount of pine oil and coal oil. Floated in Testing machine and the concentrates reground for 5 minutes in the pebble jar and refloated.

Concentrates +80 mesh----------32 grams.

Analysis---------C--------82.70%

Content----------C--------26.46 grams

Recovery of C. Values------50.4%

Concentrates -80+115 mesh----------12 grams

Analysis---------C--------74.50%

Content----------C--------8.94 grams

Recovery of C. Values------17.0%

Concentrates -115 mesh----------21 grams

Analysis---------C--------69.00%

Content----------C--------14.49%

Recovery of C. Values------27.6%

Middlings ----------60 grams

Analysis--------C---------1.80%

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OTTAWA, Ont., Nov. 8th,, 191 8.

Content----------C---------1.08 grams

Percentage of C. Values---2.1%

Tailings ----------1875 grams

Analysis----------C---------0.08%

Content----------C---------1.50%

Percentage of C. Values----2.9%

Total Recovery in Concentrates--------95.0%

Percentage of Carbon Values in Middlings and Tailings 5.0%

Summary:-

The ore is adaptable to concentration by the Oil Flotation process. A Recovery of 95% of the Carbon Values can be obtained in concentrates. A 90% Carbon Flake should be obtained on the coarser sizes with a 65% to 70% grade in the fines. It is a question of manipulating the crushing to obtain this. The low content of graphite in the ore would not make ~~it~~ a commercial proposition.

(Sgd.) W. B. Timm