100

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
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B. M. DERRY, MILLMAN

DEPARTMENT OF MINES
CANADA

MINES BRANCH

EUGENE HAANEL, PH. D.
Director.

OTTAWA, Ont., Sept. 14th, 1918.

Report of Ore Dressing and Metallurgical Laboratories.

Test No. 100.

A shipment of 25 pounds in One Box containing Manganese Ore Samples was received on Sept. 6th, 1918, from O. Turgeon, M.P. Bathurst, N.B.

On examination the ore was found to be pyrolusite, finely crystalline in a gangue of quartz and reddish slate or shale.

The samples were crushed together to 50 mesh and sampled for analysis:

Analysis-- Manganese-----Mn---------23.27%
Iron----------Fe--------- 5.11%
Silica--------SiO_2-------53.03%

A concentration test was made on a small scale to determine the adaptability of the ore to concentration.

5000 grams of the ore crushed to pass 50 mesh were taken and run over a laboratory Wilfley table, the concentration products from which were weighed and sampled for analysis. The results of this test were as follows:-

Concentrates obtained----------1566 grams
Analysis--------Mn----------53.13%
Fe---------- 3.06%
SiO_2---------- 6.10%
Content---------Mn----------832.02 grams
%age of Mn. Values---------- 71.5%
Middlings obtained----------85 grams
Analysis--------Mn----------35.41%
--------Fe,---------- 6.76%
--------SiO_2----------30.54%
Content---------Mn.----------30.10 grams
%age of Mn. Values---------- 2.6%

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OTTAWA, Ont., Sept. 14th, 191 3.

Tailings obtained----------2319 grams

Analysis----------Mn---------- 8.58%

Fe---------- 3.16%

SiO_2---------79.91%

Content----------Mn----------198.97 grams

%age of Mn. Values---------- 17.1%

Slime Loss ----------1030 grams

Analysis----------Mn---------- 9.04%

Content----------Mn----------103.46 grams

%age of Mn. Values---------- 8.8%

Conclusions:- It will be noted from the above results that a concentrate was obtained of a grade 53.13% Maganese with a recovery of 71.5% of the Manganes Values and that a Middling product was made of grade 35.41% Manganese representing 3.6% of the Manganese Values in the Ore. The tailing and slime loss combined represented 25.9% of the Manganes Values in the ore.

The above results are exceptionally good for a mangabese ore. The ore, however is a fairly high grade one, and the recovery obtained would drop in proportion to the grade of the ore, that is on an ore of this class of grade 15% Manganese a recovery of 50% of the Manganese Values would be the most that would be expected.

The concentrates obtained are a chemical product as the iron and silica are below the limit. Should the grade of the ore be around 15% Manganese, it would hardly be feasible in practice to make this high grade product or at least any quantity of it but a metallurgical product could be made of grade 45% to 48% that could be used for reduction to Ferro-Manganese.

(Sgd.) W. B. Timm