

Ottawa, Ont. Feb. 28th 1919

Report of Ore Dressing & Metallurgical Laboratories

Test No - 114

Two Bags of approximately 200 pounds of magnetic fines were received on February 10th 1919 from the Poe Mining Co., Claremont Station, Ont.

These fines were from their Dry Separator System and a separation test was desired on the Wet Gröndal Magnetic Separator, to be treated in the state received.

On examination however it was found that they contained coarse pieces of ore and considerable material coarser than 20 mesh. This coarse material could not be treated in the Gröndal Wet Unit, so it was necessary to screen on 20 mesh and crush the oversize down so that the total material passed thru this screen. A sample was then cut out for analysis which gave the following:-

Iron - Fe - 27.90%

Silica - SiO₂ - 17.87%

Phosphorus - P - Trace.

The material through 20 mesh was separated in the Wet Gröndal Unit in a magnetic field with a current density of 6.5 amperes x 110 volts on the Rougher Drum magnets and 5 amperes x 110 volts on the Cleaner Drum magnets.

Two products were made; a magnetic concentrate from the Cleaner Drum and a tailing from both Rougher and Cleaner Drums. These products were dried, weighed and sampled, the results being as follows:-

Magnetic Concentrates - 60 pounds.

Analysis - Iron - Fe - 69.40%

Silica - SiO₂ - 1.39%

Phosphorus - P - none.

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Tailings ----- 78 pounds.
Analysis - Iron - Fe - 4.92 %

Summary and Conclusions :-

In conducting this small test, tubs and Overflow Boxes were used to catch the products. On account of the large quantity of water passing through the machine and these boxes, especially with the tailings the loss in slime overflow was very large, besides there would be the loss in handling such small quantities so that no accurate recoveries can be calculated.

The recovery is between 80% and 90% of the total iron content ~~is in the form of~~ in the form of a high grade concentrate, with an analysis of Fe - 69.40%; SiO₂ - 1.39%; P - none.