

NORANDA MINES LIMITED

Annual Report

1950

Transmitting the report of the Manager dealing with the operations at the Horne Mine for the year 1950.

Plans and estimates have been prepared for a sulphur-iron plant, designed to treat about 300 tons per day of pyrite concentrate by the process which has been developed by our technicians in collaboration with the National Research Council of Canada in the early stages and, in more recent years, with the Battelle Memorial Institute.

This process is designed to produce sintered iron-oxide (iron ore), elemental sulphur and sulphur dioxide gas from pyrite which is composed of iron and sulphur in about equal parts. About 35% of the sulphur can be converted into elemental sulphur quite easily and the remainder comes off as sulphur dioxide gas, which is the raw material from which sulphuric acid is made, so if freight rates are not too onerous, the most logical location for a sulphur-iron plant would be in an industrial area where both steel and sulphuric acid are made. There the pyrite concentrate could be processed, the sintered iron-oxide sold to a steel company and the sulphur dioxide gas sold to a near-by sulphuric acid manufacturing plant. The elemental sulphur would stand shipment to distant markets. Negotiations are being conducted with interested parties looking toward such a marketing arrangement and it is hoped that a decision as to the location of the initial commercial sized plant will be made in the near future.

The demand for elemental sulphur has exceeded the supply in recent years with the result that the price has been increased by about 20% during the past year and shipments to consumers have been restricted. This has led to an increased interest in our process by consumers of sulphur. It seems reasonable to expect that if and when the practicability of our process has been demonstrated by this proposed initial plant, it should not be difficult to find locations for similar or larger plants, all of which could be supplied for many years with pyrite obtained from the large body of pyritic material that has been developed on the lower levels of the Horne Mine.

During the past year an additional source of supply of pyrite was obtained by taking a lease on fifty acres of the property of Macdonald Mines Limited. The leased area which is about seven miles from the Horne Mine contains about 9,000,000 tons of ore, averaging about 75% pyrite and 2% zinc.

L. Addicks

Lima, April 11, 1951

MEMORANDUM to: Files
From: R. P. Koenig
Subject: Pyrite, economic use of

Attached is an extract from the 1950 Annual Report of
Noranda Mines Limited.

Robert P. Koenig

Enclosure.
RPK-tg
cc. NYO (7)
 (G. Reinberg
 (M. B. Littlefield
 (W. C. Smith
 (F. N. Spencer
 (C. Dasso
ARM (6)
JDS (2)
L. Addicks, Bel Air, Md. ✓
B. T. Colley, Huanuco

Bureau Files
Rept. Inv. 3415
October 1938
Fixation of Sulfur
from Sulfur Sulfide
Robertson & Marks

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During the past year an additional source of supply of pyrite was obtained by taking a lease on fifty acres of the property of Macdonald Mines Limited. The leased area which is about seven miles from the Horne Mine contains about 9,000,000 tons of ore, averaging about 78% pyrite and 3% zinc.