

MAR 19580002: WEST CENTRAL ALBERTA

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PREMIER STEEL MILLS LTD.

P.O. Box No. 348

EDMONTON, ALBERTA

TELEPHONE 61161

March 6th, 1957

ECONOMIC MINERALS

FILE REPORT No.

EE-AF-014(61)

Mr. J. W. Patrick,
Director of Mineral Rights,
Government of the Province of Alberta,
Department of Mines and Minerals,
Edmonton, Alta.

Dear Sir:

RE: Iron Prospecting Permit No. 10 applicable to
Your File Reference No. 83261 Permit No. 14.

Up to date, our work on this permit has consisted of geological and topographical examination and metallurgical testing.

Reports from our consultants have not as yet been received but the results of geological and topographical examination have been quite conclusive and indicate very substantial tonnages of ore. Geological work has been suspended until reports on the metallurgical test work are complete. As soon as we feel that the metallurgical problems have been overcome, close spaced drilling will be carried out to definitely prove required tonnages of ore for a smelting operation.

Metallurgical testing is being carried out on three approaches: 1) concentration of the ore to produce a high-grade blast furnace feed; 2) use of the ore directly in the Krupp-Renn process; 3) use of the ore directly in the blast furnace.

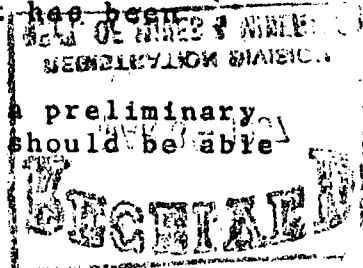
Approach 1) has been undertaken by the Ontario Research Foundation.

Approach 2) is being pursued by a group of German Engineers.

Approach 3) is being followed by the British Iron and Steel Research Association.

Total money spent to date on the project, has been \$19,614.

I hope that this letter will suffice as a preliminary report on our development work and believe that we should be able



PREMIER STEEL MILLS LTD.

Mr. J. W. Patrick

- 2 -

March 6th, 1957

to present you with a much fuller report by the expiry date of this permit.

Yours very truly,

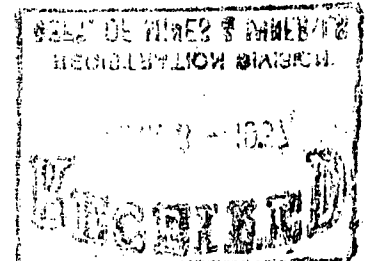
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G. R. Heffernan,
Managing Director

GRH:mp

cc: Mr. R. A. Seaton ✓
Asst. Director of
Mineral Rights



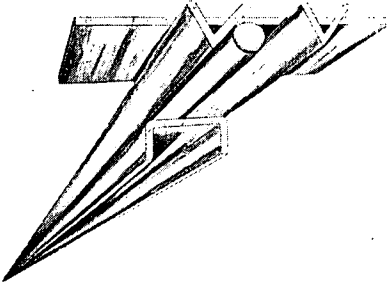
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PREMIER STEEL MILLS LTD.

P.O. Box No. 348

EDMONTON, ALBERTA

TELEPHONE 61161



June 27th, 1957

ECONOMIC MINERALS
FILE REPORT No.
FE-AF-014(61)

Mr. J. W. Patrick,
Director of Mineral Rights,
Government of the Province of Alberta,
Department of Mines and Minerals,
Edmonton, Alta.

Dear Sir:

RE: Iron Prospecting Permit No. 14
Your File Reference No. 85367

Our letter of March 6th, 1957, on Iron Prospecting Permit #10 covered our overall program which is being carried out jointly on the two prospecting permits.

Reports from our consultants on metallurgical testing have been received and are available to you if you should require them.

The tests indicate that a suitable blast furnace feed can be made from certain sections of the ore under examination. During this coming summer, we plan to carry out a drilling program to determine whether or not there is sufficient ore of the quality required for making a suitable blast furnace feed to justify a smelting operation.

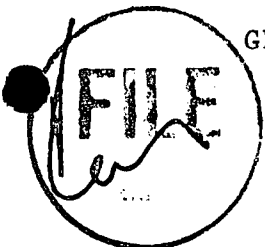
The total amount expended so far on the two permits has been \$31,566.

Yours very truly,

PREMIER STEEL MILLS LTD.

G. R. Heffernan,
Managing Director

GRH:mp



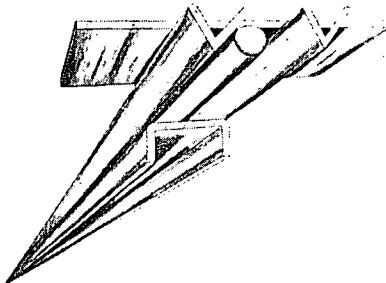
PREMIER STEEL MILLS LTD.

P.O. Box No. 348

EDMONTON, ALBERTA

TELEPHONE 61161

October 1, 1957



Mr. Robert A. Seaton,
Assistant Director of Mineral Rights,
Department of Mines and Minerals,
Government of the Province of Alberta,
Natural Resources Building,
EDMONTON, Alta.

Dear Sir:

RE: Iron Prospecting Permit No. 10
Your Reference 83261

In reply to your letter of September 16th in respect to the above permit, please find enclosed:

The British Iron & Steel Research Association -

"Report on The Investigation of an Integrated Steel Industry in Alberta" (date of receipt at P.S.M. Feb. 12/57)

Ontario Research Foundation -

"Premier Steel Mills Ltd. Summary of Report No. 56234" (date of receipt Jan. 8/57)

"Report of Investigation No. 56234 - Comparison of Possible Methods --- (date of receipt Mar. 19/57)

"Report No. 56234-A Roasting and Concentration of Peace River Ore" (date of receipt May 8/57)

D. B. McDougall - Preliminary Report on Peace River Iron Ore
- Geological Report Clear Hills District
Peace River, Alta., Canada
- Summary Report - Peace River Iron Deposit
(May, 1956)
- Maps A and B

The enclosed copies of the McDougall Report are our only copies and we respectfully request that these be re-

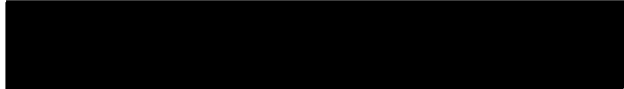
October 1, 1957

Department of Mines and Minerals

turned to us as soon as they have served your purpose. The Messrs. Voice and Cavanagh Reports may be retained by you.

Yours very truly,

PREMIER STEEL MILLS LTD.


G. R. Heffernan,
Managing Director

GRH:mp
Report Encls.



RESEARCH COUNCIL OF ALBERTA

87TH AVENUE AND 114TH STREET
EDMONTON, ALBERTA, CANADA

Geology Division

October 8, 1957.


Mr. Robert A. Seaton,
Assistant Director of Mineral Rights,
Department of Mines and Minerals,
Natural Resources Building,
EDMONTON, Alberta.

Dear Mr. Seaton:

Thanks very much for the copies of the reports
concerning Iron Prospecting Permit No. 10.

Illness forced me to postpone the Clear Hills survey
until next season. I shall try to keep you well posted on developments.

Yours very truly,


Donald J. Kidd.

DJK/G

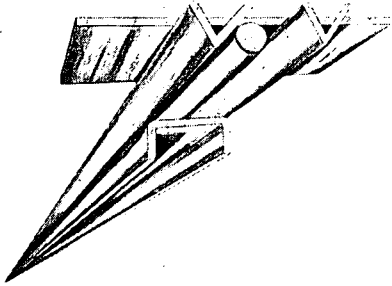
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P.O. Box No. 348

EDMONTON, ALBERTA

TELEPHONE 61161

May 5th, 1958



Mr. H. H. Somerville,
Deputy Minister,
Mines and Minerals,
Natural Resources Bldg.,
Edmonton, Alta.

Dear Sir:

Following our conversation of Friday, May 2nd, regarding the Peace River ores, we would like to make the following submission to you in support of our application for a 10 year, low rental, renewable lease on 40,000 acres of the Peace River deposit as outlined in the attached sketch map:

- (1) Premier Steel Mills, during 1956, '57 and '58, carried out field exploration and extensive metallurgical work on the Peace River ores as per our letter to the Department of Mines and Minerals under date of October 1st, 1957.
- (2) The general results of these findings are:
 - a) that the areas underlain by the Peace River ores are very extensive and possibly constitute one of the major iron reserves of the world.
 - b) that the ores are extremely low-grade and difficult to concentrate, although success has been achieved by Premier Steel Mills in producing a useable acid blast furnace feed.
- (3) a) Since markets large enough to support the output of a blast furnace will not be available in the foreseeable future, it is the plan of Premier Steel Mills to carry on additional metallurgical work on the Peace River ores in an effort to develop a smelting technique that would allow for the economic production of steel from the Peace River ores in quantities in line

with the requirements of the Alberta markets.

- b) An integrated steel operation would require a minimum of 25 million tons of metallic iron in reserve in order to justify the large capital outlay for such a plant.
 - c) When concentration and smelting losses are taken into consideration, 25 million tons of metallic iron would represent 100,000,000 tons of Peace River ore. This tonnage of economically recoverable ore would require an acreage of approximately 40,000 acres. This acreage could be reduced to possibly 5,000 acres by the carrying out of a closely spaced drilling program and selection of the most suitable areas. However, the cost of this work would be high and, since the ore has no value whatsoever until success has been achieved in the metallurgical investigation, Premier Steel Mills believes that all available funds should be directed toward metallurgical rather than geological work at this time.
- (4)
- a) The present leasing rate of \$1.00 per acre, per year, is prohibitive for such low-grade material lying in relatively thin horizontal beds.
 - b) Premier Steel Mills wishes to make application for the 40,000 acres under question at a nominal rental of 1¢ or 2¢ per acre in order that all funds available may be devoted to metallurgical research.
 - c) It is probable that the Department of Mines and Minerals would require, in addition to the nominal rental suggested, proof of certain minimum amounts of metallurgical and/or geological work to be carried out in order to hold the lease.
 - d) Any such requirement should be in aggregate over the term of the lease rather than on a yearly basis, since pilot plant work which would be the expensive aspect of the development, would depend upon success in slow but relatively inexpensive laboratory work. An aggregate requirement rather than a yearly requirement would also allow the operating company to make funds available in years of good earnings.
 - e) It is desirable that the lease should be for a period of 10 years, renewable at the end of the

May 5th, 1958

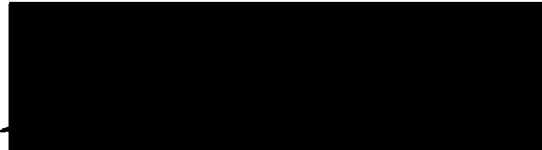
first 10 year period provided that the requirements of the first lease have been met.

- f) It is hoped that the Alberta Government will look for major revenues from neither rentals nor royalties on the Peace River ores but rather to the benefits that would accrue to the Province from the development of a major iron and steel industry.

We trust that you will give the foregoing submission your approval and that, while the matter is under consideration, a temporary extension will be given to Permit No. 14 which is due to expire on May 7th.

Yours very truly,

PREMIER STEEL MILLS LTD.



G. R. Heffernan,
Managing Director

GRH:mp

P.S.

Encl.

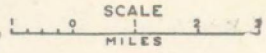
May 6th:

The sketch map referred to in paragraph one has not been received to date from Dr. J. Black. This map will be forwarded to you as soon as received and generally covers the area now held under permit #14 plus additional acreage surrounding the area specified in permit #14.

G. R. H.



840/10+11



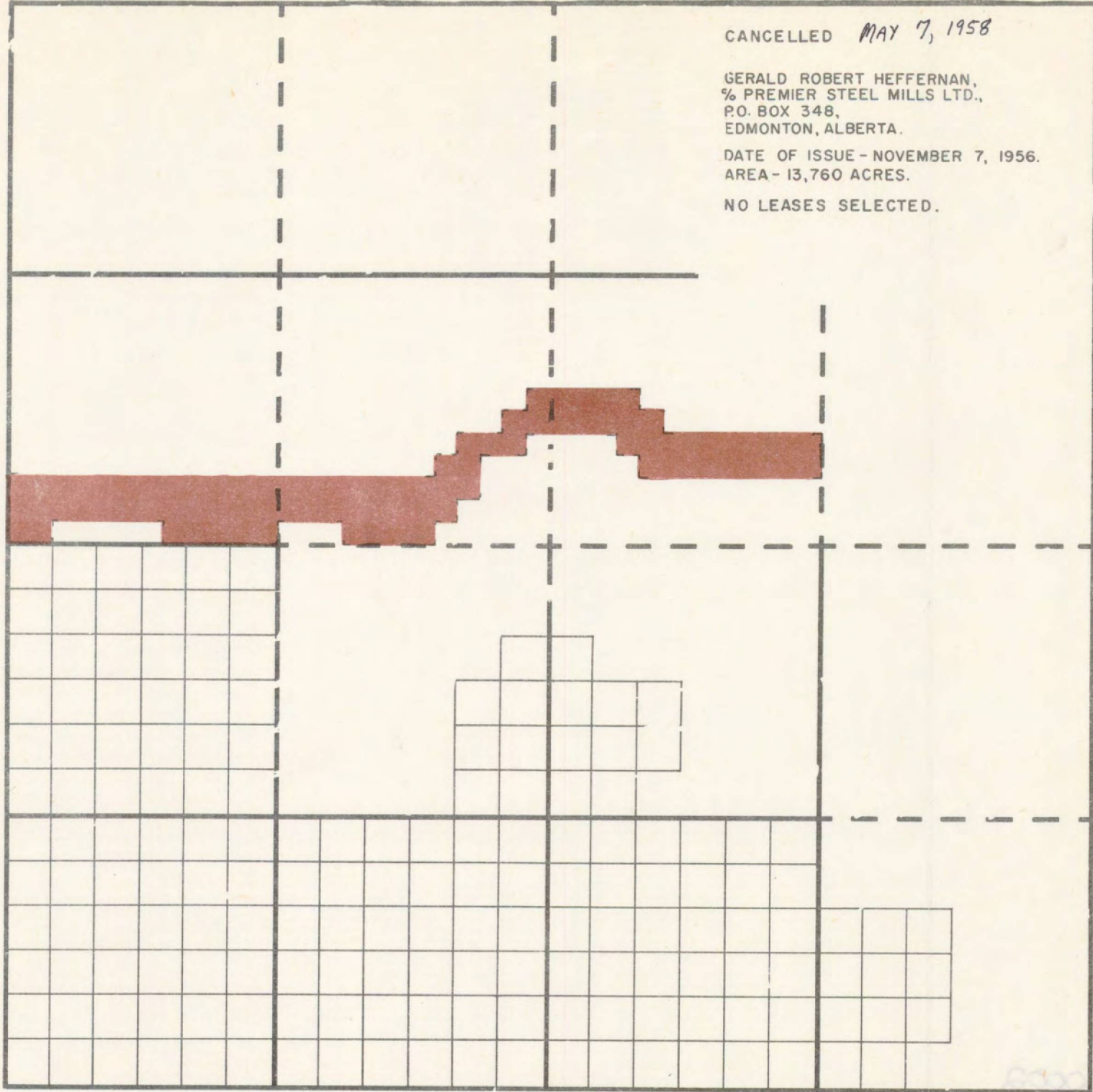
IRON PROSPECTING PERMIT No.14

CANCELLED *MAY 7, 1958*

GERALD ROBERT HEFFERNAN,
% PREMIER STEEL MILLS LTD.,
P.O. BOX 348,
EDMONTON, ALBERTA.

DATE OF ISSUE - NOVEMBER 7, 1956.
AREA - 13,760 ACRES.

NO LEASES SELECTED.



TP.88

TP.87

TP.86

R.7

R.6

R.5

R. 4 W. 6 M.