

MIDREX

DIRECT REDUCTION CORPORATION
CHARTERED N.2. B.C. 1985

704-373-1611
FAX NUMBER

704-373-1800
TELEPHONE NUMBER

*Copy 3rd P
return*

②

676632

Lodestone Mtn
93

ATTENTION: LORNE E. SIVERTSON
COMPANY: BRITISH COLUMBIA
INVESTMENT OFFICE
FROM: DONALD R. LYLES
SUBJECT: FASTMETSSM PLANT--PROPOSAL FOR PRELIMINARY
ENGINEERING STUDY

FAX NO.: 604-356-8212
LOCATION: VICTORIA, B. C.

PAGES: 7

cc:

ref. no.:

DATE: April 2, 1993

FOLLOWING IS A COPY OF OUR PROPOSAL WITH THE CHANGES WE DISCUSSED BY PHONE ON MARCH 31, 1993 FOR THE SUBJECT STUDY PROJECT. IF YOU SHOULD HAVE ANY FURTHER QUESTIONS OR COMMENTS, PLEASE LET ME KNOW.

BEST REGARDS,

Donald R. Lyles
DONALD R. LYLES

MANAGER, MARKET DEVELOPMENT

FROM LORNE
SIVERTSON
23 April '93

*Paul - see page 4.
Bill
93/5/28*

(3)

Midrex Direct Reduction Corporation
Charlotte Plaza
Charlotte, North Carolina 28244 U.S.A.
Phone: 704/373-1600 Telex: 572487
Fax: 704/373-1811 G2/G3

MIDREX

April 2, 1993

British Columbia Investment Office
Province of British Columbia
712 Yates Street
Victoria, British Columbia
Canada V8V 1X4

*John
Viner
Geological
Survey*

Attention: Mr. Lorne E. Sivertson, Assistant Deputy Director

Dear Mr. Sivertson:

Subject: FASTMETSM Process - Proposal for Preliminary Engineering Study

Further to our letter of March 26, 1993 and our phone conversation on March 31, 1993, we have reviewed the requirements to conduct a preliminary engineering study in order to develop sufficient information to determine the preliminary feasibility for a FASTMETSM Plant to be located near Princeton, British Columbia. In order to keep the cost of the study to a minimum, we plan to use the existing information on the site and the iron ore from the Lodestone iron ore deposit as given in the document "Lodestone Iron Ore Project Preliminary Evaluation" by PBK Engineers Ltd. dated January, 1992. We do not plan to make a visit to the site at this time. Following are details of our proposal. In addition and as requested in our March 31, 1993, we will also compare the capital and operating parameters for a gas-based MIDREX[®] Direct Reduction Plant with the results of the study for the FASTMET Plant.

BASIS FOR STUDY

The preliminary engineering study will be based on the construction of a FASTMET Plant at a "green field" site near the Lodestone iron ore deposit which is located near Princeton, British Columbia. The FASTMET Plant will have a design annual capacity of 450,000 metric tons per year of hot briquetted iron (92% min. metallization) based on iron oxide pellet feed to be produced from the Lodestone iron ore deposit. The study to be done by Midrex will be based on information available to Midrex to determine, on a preliminary basis, the capital cost and the operating parameter for the FASTMET Plant.

(4)

The study will not include an evaluation of the costs associated with developing the iron ore deposit and processing the ore to produce the required pellet feed.

In addition we will provide capital costs and operating parameters for a gas-based MIDREX Plant designed to produce 450,000 metric tons per year of HBI based on the supply of pellets from the Lodestone pellet plant. Information on the cost and quality of the Lodestone pellets must be supplied by others. U

It should also be noted that we will depend on you to provide information on the reductant sources, including availability and analysis, which should be considered for the study. We will also depend on you to provide any site specific information we may need to complete the study. ?

LABORATORY TESTS

We have reviewed the analysis for the Lodestone iron ore as given PBK Engineers' study referenced above. We have noted that several components, TiO₂ and V, in the ore are outside our experience range and therefore we believe laboratory testing is highly recommended. However, we have made laboratory testing optional because we do not know if samples can be made available and the time required to produce the samples and run the tests may exceed the desired time for completion of the final report. If laboratory tests are conducted, we will require five gallons of concentrate (approximately 80%, - 325 mesh) and five gallons of each reductant (pulverized to approximately 80%, - 200 mesh). The binder for the tests would be provided by Midrex.

If we were to conduct laboratory tests of the Lodestone pellets for application to the MIDREX® Direct Reduction Process, we would need 50 kg of pellets for the tests.

ENGINEERING

Midrex will do preliminary engineering for a 450,000 metric ton per year FASTMET Plant based on the specific requirements of the Lodestone site in order to determine the capital investment requirements within an estimating accuracy of ± 25%. This engineering effort will produce:

- Basic Process Flowsheet
- Plant Layout Drawings
- Mass and Energy Balance for Rotary Hearth Furnace
- Preliminary Equipment List
- Preliminary Project Schedule
- Estimate of the Project Capital Investment Requirements

For the gas-based MIDREX Plant we will provide:

Concentrate
5 gallons
80% - 325
mesh

ore +
each
reductant
??
coal +
graphite -
not our
problem.

- Basic Process Flowsheet
- Plant Layout Drawings
- Estimate of the Project Capital Investment Requirements

FINAL REPORT

Midrex will issue a final report which will include the laboratory results, an analysis of the laboratory results (if the laboratory tests are conducted), a description of the proposed plant, an estimate of the operating parameters for the proposed plant based on the laboratory results, or our estimates based on the analysis of the ore, and the engineering data and drawings produced for the Lodestone site. Based on our current work load, we estimate that this final report will be issued within eight to ten weeks of the date we agree to proceed if we do not conduct laboratory tests. If laboratory testing is included the final report will be issued in approximately twelve to fifteen weeks provided the iron oxide concentrate and pulverized reductant samples are delivered to Midrex' Technical Center within four weeks of the date we agree to proceed with the study.

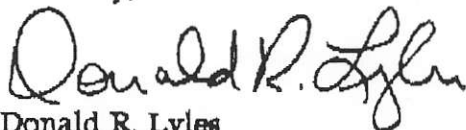
COST FOR PRELIMINARY ENGINEERING STUDY

The cost for the preliminary engineering study as described above and excluding the laboratory work is US\$30,000. If the laboratory testing (for one iron ore sample and up to three different reductant samples for the FASTMET Process and one pellet sample for the MIDREX Process) is included, the preliminary engineering study plus the laboratory testing is US\$40,500. Payment for Midrex's site specific study will be due when the final study document is delivered.

We are happy to make this proposal and we look forward to working with you further on this project. I should also note that we will require a secrecy agreement prior to the study and, in order to save time, I have enclosed a copy of our secrecy agreement for your review.

We welcome the opportunity to discuss or answer questions on our proposal at your convenience and will look forward to receiving your reply.

Sincerely,



Donald R. Lyles
Manager, Market Development
Midrex Direct Reduction Corporation