

AF → KB
to fruit

MEMORANDUM

TO: A.W. Fleming
CC: F. van de Water, J.S. McAlpine, K. Morton
FROM: K. Blower
SUBJECT: RESEARCH - WAROX PILOT PLANT FILTRATION TEST
DATE: March 17, 1989

We have made application under the Northern Technology Assistance Program (copy attached) for partial cost of the above testing.

It is proposed that we spend \$25,000; N.T.A. contribute \$75,000. There is an excellent chance that the funds will be released without delay.

Unless you have an objection we will proceed with this program as soon as possible.



Ken Blower

KB/ja

afmemwar.m17

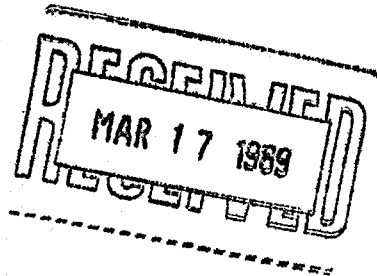


Tel: 403/873-6301 • Telex: 034-45514 • Fax No: 403/873-2980

Yellowknife Division

March 9, 1989

Marek Stephanski, Ph.D.,
Technology Coordinator,
Mineral and Energy Technology,
CANMET,
Energy, Mines and Resources Canada,
555 Booth Street,
Ottawa, Ontario K1A 0G1



Dear Dr. Stephanski:

RE: NORTHERN TECHNOLOGY ASSISTANCE PROGRAM

As discussed during our telephone conversation of March 3, Giant's Application for Assistance under the Canada/NWT Economic Development Agreement is enclosed.

It is Giant's opinion that the proposal is very worthwhile, and the results obtained from the test program might help in the transformation of what is now a liability, into a substantial new resource.

Thank you for your assistance.

Yours truly,

GIANT YELLOWKNIFE MINES LIMITED

A handwritten signature in black ink, appearing to be "KM", written over the company name.

Kent Morton
Technical Project Supervisor

cc: S. McAlpine
K. Blower

HIGH TEMPERATURE GAS FILTRATION PROJECT

STATEMENT OF WORK

Introduction

During the past several years, Giant Yellowknife Mines has marketed a small amount of crude arsenic trioxide produced as a by-product of the gold extraction process. Due to the poor quality of the product, the market has always been extremely limited and recently, Giant's sole customer declined to renew their purchase contract. Unless the quality of the product can be greatly improved, the product cannot be sold.

Over the past eighteen months, Giant has developed a purification process that will achieve the necessary product purity in a plant designed to control capital and operating costs at a level where a profit can be earned.

The process, sublimation of crude baghouse dust, followed by high temperature gas filtration, condensation and agglomeration, has been thoroughly proven. Detailed filtration testwork is all that remains of the research phase of the program.

Objectives

Successful completion of the filtration testwork will enable Giant Mines to detail purification plant design for the purpose of full scale production. The \$10,000,000 plant will employ 12 to 15 people and will be capable of producing 7,000 stpy of high purity product. The high temperature gas filter will help to improve product quality from approximately 65% As₂O₃ to 99.5% As₂O₃.

There are several benefits that Giant might realize from high temperature gas filtration testwork and eventual production of a high purity product. These potential benefits are summarized below.

1. Produce a saleable arsenic trioxide product
2. Recover gold values contained in high temperature filter residues.
3. Empty underground arsenic storage chambers, making surrounding gold bearing ore available for mining.
4. Recover antimony oxide values from high temperature gas filter residues.
5. Eliminate storage requirements for currently produced As₂O₃ bearing baghouse dust.
6. Eliminate long-term storage concerns related to permanent mine closure.

Scope of Work

The work involves design and fabrication of a high temperature sintered metal pilot scale filter followed by a two week pilot plant campaign at Research and Productivity Council's New Brunswick research facility. Fabrication of the test filter will be done by Pall Corporation, who are represented by Pall Canada of Toronto. Testing will be done using crude baghouse dust shipped from Giant.

Giant representatives will visit the pilot plant during the testing to ensure that all data necessary for full scale filter design is being collected. RPC will prepare a final report of the test program that is expected to enable Giant to detail filter specifications required in the purification plant.

PY (Person Year) Requirements

The work involved in conducting the test can be separated into 3 distinct areas, design and preparation, fabrication and installation, and testing and reporting. Manpower required at each stage is as follows:

Design and Preparation	100 hours at \$40.00/hr
Fabrication and Installation	250 hours at \$50.00/hr
Testing and Reporting	1153 hours at \$44.55/hr
Total	1503 hours at \$45.15/hr.

Budget

Total project cost is estimated at \$100,000, with \$67,860 allocated to labour, engineering and supervision, the rest allocated to safety and miscellaneous supplies, chemical analyses, travel, equipment, etc.

Timetable

Following approval of the project, design, fabrication and installation can be completed in about 4 weeks. Pilot testing will occupy another 2 weeks and the final report is expected to be distributed within 3 weeks of completion of the test. Starting date is not critical but it must be scheduled so that the work can be accommodated by RPC without major disruption of their existing schedule. Current planning anticipates starting the project by May 1, 1989.

Note: A general application form must accompany each project proposal. Please refer to the guidelines for information requirements under each subsidiary agreement.

A. APPLICATION INFORMATION

1. LEGAL NAME OF APPLICANT Giant Yellowknife Mines Limited		2. OPERATING NAME IF DIFFERENT	
3. MAILING ADDRESS P.O. Bag 3000, Yellowknife, NWT		POSTAL CODE X1A - 2M2	BUSINESS PHONE (403) 873-6301
4. CONTACT NAME K. Morton		POSITION/TITLE Technical Project Supervisor	HOME PHONE (403) 873-6050
5. TYPE OF ORGANIZATION:			
<input checked="" type="checkbox"/> Incorporated Company <input type="checkbox"/> Sole Proprietor <input type="checkbox"/> Partnership <input type="checkbox"/> Co-operative <input type="checkbox"/> Non Profit Organization			
<input type="checkbox"/> Travel Association <input type="checkbox"/> Settlement/Hamlet Council <input type="checkbox"/> Educational Institution <input type="checkbox"/> Other (specify)			
The percentage of your organization/operation owned by residents of the Northwest Territories is: _____%			
6. DATE OF INCORPORATION (if applicable):			
Day	Month	Year	

B. PROJECT INFORMATION

7. PROJECT TITLE																							
8. Provide a brief description of the proposed project indicating the function, activity, or service to be carried out by the project.																							
<u>Design; build and test a sintered metal high temperature gas filter. This project will aid-</u> <u>in the development of a new arsenic trioxide purification process and eventual construction</u> <u>and operation of a purification plant.</u>																							
9. PROJECT LOCATION (Region) COMMUNITY ADDRESS (if different from above)																							
Yellowknife, Northwest Territories and Fredericton, New Brunswick																							
10. START/COMPLETION DATES:																							
		Day	Month	Year	Estimated	Day	Month	Year	Estimated	Day	Month	Year											
		Estimated Project Start	0	1	0	5	8	9	Project Completion	3	0	0	6	8	9	Interim Stages							
11. CHECK ONE ONLY. REFER TO APPLICATION GUIDELINES.																							
Renewable Resource Development <input type="checkbox"/> 1.1 Renewable Resource Business Development <input type="checkbox"/> 1.2 Product Development and Test Market												Mineral Development <input checked="" type="checkbox"/> 4.2 Northern Technology Assistance <input type="checkbox"/> 4.3 Northern Mining Information											
Arts and Crafts Development <input type="checkbox"/> 2.1 Product and Market Development <input type="checkbox"/> 2.2 Management Improvement <input type="checkbox"/> 2.3 Artist and Artisan Development												Small Business Development <input type="checkbox"/> 5.1 Opportunity Identification <input type="checkbox"/> 5.2 Small Business Development Incentives <input type="checkbox"/> 5.3 Business Service Centres											
Applied Economic Planning <input type="checkbox"/> 3.1 Community Planning and Project Implementation <input type="checkbox"/> 3.2 Economic Information Systems <input type="checkbox"/> 3.3 Economic Planning Studies												Tourism Development <input type="checkbox"/> 6.1 Market Development <input type="checkbox"/> 6.2 Product and Facility Development <input type="checkbox"/> 6.3 Tourism Industry Support											

12. SOURCES OF FINANCING	Applicant's Equity:	- Cash	\$ 10,000.00
		- Contributed Labour	\$ 15,000.00
		- Inventory	\$
		- Plant & Equipment	\$
		TOTAL	\$ 25,000

Other sources of financing. Please give details.		
		\$
		\$
		\$
		\$
	Total	\$ 25,000
	Total Funds Available	\$ 25,000
	Total Project Costs	\$ 100,000
	Identified Shortfall (EDA contribution requested)	\$ 75,000

Does the applicant anticipate applying for future EDA funding for this proposal? ☐ yes ☐ no (If yes, provide details.)

. PROJECT ECONOMIC BENEFITS	
- employment to be created (in person months)	# 9.0
- wages to be paid	\$ 33,930
- northern residents to be trained by this project/business	# 0
potential - increase in business/individual's assets	\$ 14,000,000 NPV
- portion of total project costs to be spent in the NWT	\$ 20,000
- number of NWT businesses to benefit from this project	# 1
- quantification of any productivity improvement (where applicable)	\$ %

D. ENVIRONMENTAL CONSIDERATION

What are the likely changes to the environment which will result from this project.

☐ air emission, ☐ discharge into a water body, ☐ land disturbance, ☐ disturbance to wildlife, ☐ other (specify).

Describe the preventive measures to be taken:

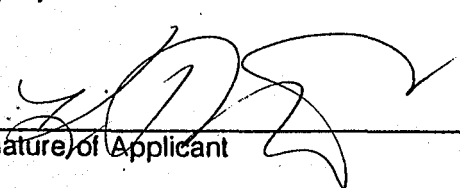
None.

E. DECLARATION OF APPLICANT

The information given in this application is, to the best of the applicant's (my) knowledge and ability, complete, true and correct.

The applicant (I) certify(ies) that financial assistance from the EDA is a significant factor in the decision to proceed with this project.

The applicant (I) will provide all information required by the agreement administration to complete the assessment of this project.


Signature of Applicant

Kent Morton
Print Name

March 10, 1989
Dated

Technical Project Supervisor
Title