

VOJ → Windy Craggy



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MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

Bag 5000, Smithers, B.C. VOJ 2NO

FAX: (604) 847-7603 Phone: (604) 847-7383

DATE: _____ TIME: _____

Please deliver the following message:

FAX TO # 387-8153

Tom Schroeter

Geological Survey Branch

756 Fort Street,

Victoria, B.C.

FROM:

Dave Lebbawe

COMMENTS:

My comments on Windy Craggy Revised Stage I report and supporting documents. Please note it was due yesterday. Dave

Number of pages 8 including cover sheet.



Province of
British Columbia

Ministry of
Energy, Mines and
Petroleum Resources

MEMORANDUM

Smithers telephone: (604) 847-7983

To: Tom Schroeter

DATE: March 14, 1991

From: Dave Lefebure

RE: WINDY CRAGGY REVISED STAGE 1 REPORT

I have read the Windy Craggy Revised Stage 1 report submitted by Geddes Resources Limited. I am impressed with the increased data base dealing with acid mine drainage. It is also encouraging to see the substantial reduction in waste rock generated by the combined open pit and underground mine proposal favoured in the revised report. The stripping ratio for the open pit has dropped from 3.1:1 to 1.9:1 with a decrease in the total waste rock from 481 million tonnes to 251 million tonnes. Unfortunately for Geddes Resources Ltd., their new plan will reduce the overall copper recovery from the mining operation by 35% from the Stage I mining plan.

In my comments on the Stage I report I mentioned that

"The Stage I discusses only an open pit mining operation. This does beg the question why not consider an underground mining operation. The latter mining method would offer some distinct advantages, such as reducing the amount of waste rock which would have to be stockpiled. This could be one of the simplest ways to reduce a potential acid mine drainage problem on the site. The stage II document should weigh the relative benefits, costs and risks associated with both an underground and open pit operation."

The revised Stage I report does address this concern with a proposed mixed method of open pit and underground mining. They have included costs for the open pit and three styles of underground mining. Their conclusion is that a completely underground mine would be more costly and is not an economic proposition. There should be a more complete analysis of the relative costs of dealing with the acid-generating rock wastes (handling and reclamation) in the Stage II report. An assessment of the relative long term risks of the different mining methods should also be prepared.

This may be an area which will have to be addressed by the government to have an independent risk assessment of the mining plans.

On page 5-10 it is remarked that "the risks associated with open pit operations are much less than with underground operations". This statement is followed by several other remarks which suggest a strong bias for open pit mining by Geddes Resources Ltd. Recent experience at the Nickel Plate and Premier Gold open pit mines have underlined the risky nature of mines in general. There are many examples of highly profitable underground mines handling massive sulphide ore similar to the Windy Craggy deposit.

On page 4-20 it states that "much of the waste rock within the proposed open pits contains erratic amounts of sulphide and carbonate". This will require considerable control be used during the mining operation to identify potentially acid-generating waste rock. Geddes Resources Ltd. has outlined an ambitious plan for categorizing and handling waste rock. The mitigation of the acid rock drainage problem will depend on Geddes Resources Ltd. ability to separate the acid-generating waste from the other waste. I anticipate that the Engineering and Inspection Branch will review this area in detail.

More information is needed on the limestone quarry proposed for the Tats valley - size, exact location, quality.

The results of studies of the impact of glaciers covering on reducing acid generated by sulphide-bearing rock will be interesting. It should be noted that there is an existing surface gossan which is currently covered in part by the ice sheet.

I have included a copy of the memorandum I completed for the Stage I report for your reference.

Conclusions

The Geological Survey Branch should consider requesting the following information be included in the Stage II report by Geddes Resources Ltd.:

- 1) An analysis of the relative costs of handling acid-generating rock waste in both open pit with underground and underground mining operations.
- 2) An assessment of the relative long term environmental risks of both open pit with underground and underground operations.

Our Ministry should consider the need for an independent risk assessment of the Windy Craggy mine plan.

In response to Norm Ringstad's questions in his memorandum of January 7, 1991:

- 1) No concerns with Stage 1.
- 2) See above for Stage II.
- 3) More information about proposed limestone quarry.

David Lefebvre



Province of
British Columbia

ENGINEERING AND
INSPECTION BRANCH

Ministry of
Energy, Mines and
Petroleum Resources

MEMORANDUM

Selected Members
Mine Development Review Process
(See attached distribution)

January 7, 1991
File: 15140/Windy Craggy

MINISTRY OF ENERGY, MINES
AND PETROLEUM RESOURCES

rec'd JAN 10 1991

SMITHERS, B.C.

Re: Windy Craggy Copper/Cobalt/Gold/Silver Project
- Revised Mine Plan Review

Geddes Resources Ltd. has now distributed its November 1990 Stage I Revised Mine Plan for a full detailed review prior to completing Stage I of the Province's Mine Development Review Process. The company has distributed the report directly to provincial and federal MDRP review agencies, Yukon and Alaska governments, Native groups, public groups and individuals, and public libraries.

The objective of the review of the revised mine plan is to determine whether it adequately replaces those components rejected as a result of a preliminary review of the company's January 1990 stage I submission, and to finalize detailed terms of reference for a full Stage II submission.

With respect to the foregoing, you are asked to review the submission from your agency's mandate and management perspective, and respond to the following questions by March 13, 1991:

1. Does the revised mine plan adequately cover those components rejected in a preliminary review of the January 1990 Stage I submission, such that detailed terms of reference for a full Stage II submission can now be completed? If not, please outline the specific issues which require further assessment prior to completing Stage I
2. If so, would you please review your agency's preliminary Stage I review comments and, where necessary, incorporate the review comments of the revised mine plan, and provide a consolidated set of review comments and terms of reference for a Stage II submission.
3. Are there any additional issues not previously identified that have arisen as a result of the revised mine plan that will be required to be addressed in a Stage II. If so, please outline the type and level of detail required to address these issues.

The Mine Development Steering Committee will shortly be circulating Newsletter #3 in which the public will be informed of the location where the Revised Mine Plan can be reviewed, and where written comments can be submitted. As well, the full detailed compendium of Stage I review comments will not be completed and thus available for public distribution until the Revised Mine Plan review and Stage I review has been completed. The public were provided with a detailed summary of preliminary Stage I review comments in Newsletter #2 released in July, 1990.

In closing, if you have any questions, or require further information, please call me (Victoria 356-2229).

Thank you for your cooperation in the review of this project.



Norman Ringstad
Chairman
Mine Development Steering Committee
c/o Engineering and Inspection Branch
Mineral Resources Division

cc: R. McGinn

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Tom *F.Y.I.*
Dave

To: Vic Preto

DATE: ~~March 14, 1991~~
April 30, 1990

From: Dave Lefebure

RE: WINDY CRAGGY STAGE 1 REPORT COMMENTS

I have read the Windy Craggy Stage 1 report submitted by Geddes Resouces Limited with particular attention given to sections 2, 3.6, 5,7, 9 and 14.

Section 2

The ore reserves are substantial and the estimates are reasonable based on my knowledge. A more detailed review of their data might be warranted.

Section 3.6

The Stage I discusses only an open pit mining operation. This does beg the question why not consider an underground mining operation. The latter mining method would offer some distinct advantages, such as reducing the amount of waste rock which would have to be stockpiled. This could be one of the simplest ways to reduce a potential acid mine drainage problem on the site. The stage II document should weigh the relative benefits, costs and risks associated with both an underground and open pit operation.

It would appear that relatively small amounts of low grade ore shown in Table 3-2 might be better handled by processing immediately rather than being stored at the head of Red Creek, at least for the first three years. This would reduce the necessity of temporary stockpiles.

In the Stage II report it will be important to provide a complete picture of the distribution of the sulphide-bearing waste. The deposit has a very sulphide-rich stringer zone which includes a lot of probable waste rock. Any plans to deal with potential acid mine drainage need to be based on accurate assessments of the type and volume of waste material. These assessments should include scenarios such as the following which is mentioned in the report:

"It should be noted that less sulphide waste will be mined during the operations than is predicted in Table 3-3 because pit-planning completed to date has been based on conservative cutoff grade. Consequently, some of the stringer stockwork and sulphide lenses and most of the massive sulphides below cutoff grade will, in fact, be processed in the mill as ore."

Section 7

The access road is a critical aspect of this project. I have already recommended the Geological Survey Branch support the company's decision to utilize the Scottie Pass corridor (July 24, 1989).

SECTION 14

The Stage I report may have overestimated the number of employees which will come from towns such as Prince George, Fort St. John and Smithers. Other fly-in mining operations in the northwest province have frequently drawn a lower percentage of people from the north and many more from southern B.C..