



November 7, 2012

Chuck Hubert
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Mackenzie Valley Environmental Impact Review Board
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Dear Mr. Hubert:

Technical Report Responses – Natural Resources Canada

De Beers is pleased to provide the Mackenzie Valley Environmental Review Board with Responses to the Technical Submission from Natural Resources Canada dated October 22, 2012.

Should you have any questions regarding this submission, please contact our office.

Regards,

Veronica Chisholm
Permitting Manager

Attachment





DE BEERS

CANADA

GAHCHO KUÉ PROJECT

**Natural Resources Canada
Technical Report Responses**

November

2012

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1 INTRODUCTION

On October 22, 2012 Natural Resources Canada (NRCan) submitted their technical report to the Mackenzie Valley Environmental Impact Review Board (MVEIRB) for the De Beers Canada Inc. (De Beers) proposed Gahcho Kué Project (Project). This report provides responses to those recommendations outlined in the NRCan technical report (NRCan 2012).

2 NATURAL RESOURCES CANADA RECOMMENDATION AND RESPONSE

2.1 PERMAFROST AND TERRAIN CONDITIONS AND STABILITY OF PROJECT COMPONENTS (MINE WASTE MANAGEMENT FACILITIES, DAMS AND DYKES)

2.1.1 Recommendation 1

The Proponent conduct the identified further geotechnical investigations including collection of information on ground thermal conditions along dyke alignments to better characterize foundation materials;

2.1.2 Response

A geotechnical investigation program is planned for February/March 2013 to obtain additional information on all the planned dyke alignments. Ground thermal conditions will be collected as part of this program.

2.1.3 Recommendation 2

The Proponent conduct the identified thermal analysis to evaluate the long-term thermal behaviour of permafrost foundations. The analysis should incorporate the site specific geotechnical data and consider the effect of increases in water level (such as that that will occur on the upstream side of Dyke A1) and potential effects of a changing climate; and

2.1.4 Response

Upon completion of the geotechnical program mentioned above (Section 2.1.2), De Beers will develop detailed designs for the planned dykes. The detailed design will be undertaken in accordance with the Canadian Dam Association Guidelines (2007). None of the dykes planned rely on permafrost conditions for long-term containment although and thermal analysis will be carried out for dykes that will be constructed on permafrost foundations. The detailed design for each dyke will consider all input parameters as well as a review of potential effects of changing climate conditions.

2.1.5 Recommendation 3

Monitoring plans be developed to monitor thermal performance and stability of dyke foundations to determine if mitigation is required.

2.1.6 Response

De Beers will develop monitoring plans to monitor the thermal performance and stability of dyke foundations to determine mitigations as required. The planned dykes that are to be constructed on frozen ground are low height with wide embankments, which are stable and not dependent on frozen ground conditions for long term stability.

2.2 WASTE MANAGEMENT FACILITIES

2.2.1 Recommendation 4

The Proponent develop a monitoring plan for the processed kimberlite facility to assess the condition and stability of the pile and to determine the need for mitigation should there be instability or deformation of the cover affecting the performance.

2.2.2 Response

De Beers will develop a monitoring plan for the processed kimberlite facility. The plan will include thermal monitoring of the facility.

2.3 MINE WASTE MANAGEMENT (METAL LEACHING AND ACID ROCK DRAINAGE) - GROUNDWATER FROM OPEN PIT DEVELOPMENTS

2.3.1 Recommendation 5

As part of the Proponent's ongoing groundwater quality monitoring programs, NRCan recommends that the proponent include U, Th and possibly Ra-226 as screening parameters.

2.3.2 Response

De Beers will include uranium, thorium, and possibly radium 226, in the suite of monitoring parameters, developed for the groundwater quality monitoring program.

3 REFERENCES

NRCan (Natural Resources Canada) 2012. Natural Resources Canada's Technical Submission for Gahcho Kué Project, NT. Submitted to: Mackenzie Valley Environmental Impact Review Board – Gahcho Kué Panel. October 22, 2012. Available at:
http://reviewboard.ca/registry/project_detail.php?project_id=37&doc_stage=0.

Canadian Dam Association. 2007. CDA Dam Safety Guidelines, 2007. Available at
<http://www.cda.ca/>

4 ACRONYMS AND ABBREVIATIONS

AANDC	Aboriginal Affairs and Northern Development Canada
AEMP	Aquatic Effects Monitoring Plan
De Beers	De Beers Canada Inc.
MVLWB	Mackenzie Valley Land and Water Board
NRCan	Natural Resources Canada
Ra-226	radium 226
SNP	Surveillance Network Monitoring Program
Th	thorium
U	uranium