

Angela Love
Regulatory Officer
Mackenzie Valley Land and Water Board
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PO Box 2130, Yellowknife, NT
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March 13, 2017

Dear Ms. Love:

Re: Gahcho Kué Standard Operating Procedure V.2 (MV2005L2-0015)

De Beers Canada Inc. (De Beers) is pleased to submit the revised Gahcho Kué Standard Operating Procedure V.2 for Board review and approval in accordance with Part E, item 8 of Water License MV2005L2-0015 and as directed by the Board.

The Board requested a revised SOP following approval of the Rock Placement Verification Program Report on November 3, 2016. The purpose of the revision was to incorporate details provided during the review of the Rock Placement Verification Report. On November 16th, De Beers requested an extension for re-submission from November 17th 2016 to April 15th, 2017 and on December 5, 2016, the Board granted that extension to April 13th, 2017. The purpose of De Beers' extension request was to ensure that the company had sufficient time to fully consider all required adjustments to the SOP as well as operational adjustments necessary for an efficient operation.

To facilitate an efficient review process of the revised SOP we have detailed the key changes from Version 1 of the SOP to the proposed Version 2 in the conformance table below.

Table 1 Conformance Table of the Standard Operating Procedure V.2

Reference Document	Adjustment from V.1 to V.2	Section
November 3, 2016 Board Letter outlining Reviewer comments. See Comment 3 – “care should be taken to ensure the sampling frequency is obtained on each bench.”	Added the wording ‘Care will be taken to sample at this frequency on each bench’	SOP V.2 Section A3, Field Sampling at Pits, 5th bullet
November 3, 2016 Board Letter outlining Reviewer comments. See Comment 11 – “De Beers shall update the Standard Operating Procedure to provide further details of protocols for the	-added “No specific particle size fraction will be selected. Rock will be ground up by the drill prior to sampling.” This is consistent with the selection	SOP V.2 Section A3

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<p>selection, storage, preparation, and analysis of mine rock and determination of PAG material. It is recommended that the MEND Report 1.20.1, 2009 (http://www.abandonedmines.org/pdfs/MENDPredictionManual-Jan05.pdf) be reviewed for guidance on the approach to selection, storage and preparation of samples.</p>	<p>procedure described in the Mine Rock Placement Verification Program Report.</p> <p>-added section describing the lab analysis procedures “Lab Analysis of pit samples” consistent with the procedures described the Mine Rock Placement Verification Program Report.</p> <p>-clarified that analysis of pit rock samples will be conducted with an on-site lab, and that a random selection will be sent to an accredited lab for QA/QC.</p>	
<p>The use of PAG rock in interior dykes, placed below the final elevation of Kennady Lake, has been approved by the Board (see letter from the Board to De Beers October 16th, 2014; Construction Water Management Plan V.6 Table 2a, Page 12, and the Processed Kimberlite and Mine Rock Management Plan V.4, Pg. 15 and Section 2.1.2.3).</p>	<p>-clarified the locations of PAG placement, consistent with previous clarifications and approvals</p>	<p>Section A2 point 9 bullet 4</p>

De Beers looks forward to the review and approval of the Standard Operating Procedure V.2. Please contact me anytime if you have any questions regarding this submission at 867-688-9227 or sarah.mclean@debeersgroup.com

Sincerely,



Sarah McLean
Regulatory Specialist

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APPENDIX A

**PRELIMINARY STANDARD OPERATING PROCEDURE – GEOCHEMICAL
CLASSIFICATION FOR SEGREGATION OF MINE ROCK**

A1 OBJECTIVE, SCOPE AND APPLICABILITY

The objective of this guideline is to establish a uniform method for the handling and placement of mine rock at the Gahcho Kué Mine. This includes the collection rate of appropriate samples, responsibilities for sampling and data analysis, criteria for identification of PAG rock, placement of PAG rock in designated areas, and ongoing analysis of results.

A2 MANAGEMENT OF MINE ROCK

The overall protocol for identification and handing of mine rock is as follows:

1. Sample locations are identified by the Mine Planners prior to drilling and the drill cuttings are sampled and analyzed by the Mine Geologists.
2. Samples will be analyzed onsite for the Total Sulphur content by an on-site LECO Sulphur Analyzer.
3. The threshold for the definition of PAG material is a total sulphur content greater than 0.1%. Any sample or cluster of samples exceeding this threshold will be demarcated as PAG material.
4. The demarcated area is defined as half the distance between the PAG and nearest NAG sample. This protocol will be reviewed and updated as required as the database of available information increases during operations.
5. Results of the on-site analysis will be available prior to the removal of rock from the pit and placement in the appropriate areas.
6. The PAG area will be demarcated by the mine surveyor using survey stakes and flagging, or other means after the blast. This will define the area to be loaded as PAG material.
7. The mine operations team will be responsible for monitoring the loading of mine rock after blasting and survey staking to ensure that PAG material is being dispatched to the assigned PAG area.
8. Non-PAG material will be used for construction on land as well as within the basin of Kennady Lake above the original high water mark.

9. PAG material will be placed as follows:

- Within the submerged zones of either the South or West Mine Rock Piles;
- Within a PAG management zone of either the South or West Mine Rock Pile. PAG management zone will be demarcated to ensure that there is a minimum horizontal distance of 15 metres (m.) from the pile's edge.
- Within the mined out Hearne and 5034 pits.
- Within internal dykes below the original high water mark of Kennady Lake.

10. The amount of PAG material (i.e. truck loads/tonnes) placed on each level of the mine rock piles, in the submerged zones, within the basin of Kennady Lake, or within the mined out pits will be recorded by the mining team and provided to the mine Technical Services team.

11. An annual report identifying geochemical trends with any follow-up actions will be completed. The report will be included within the MV2005L2-0015 Annual Water License Report

A3 SAMPLING AND ANALYSIS (SAMPLE IDENTIFICATION, SHIPPING, AND TURNAROUND TIMES)

Sampling and analysis of mine rock will be undertaken where there is potential for mine rock to be used for construction, or placed above the final water level in Kennady Lake.

Field Sampling at Pits

- Blasting and sampling will take place following a regular pattern or grid spacing as defined by the Mining Planning Engineers.
- Samples will consist of drill cuttings collected as composite grab samples from each hole prior to loading of explosives.
- No specific particle size fraction will be selected. Rock will be ground up by the drill prior to sampling.

- Samples will be uniquely identified, by blast hole designation, and the location and results of samples will be recorded using a site database managed by the mine Geologist.
- Sampling will occur at a minimum frequency of eight (8) samples per 100,000 t, or 1 sample per 12,480 t, which equates to a bench sample grid spacing of about 20 m, with a bench height of 12 m, and an assumed rock density of 2.6 tonnes per cubic metre (t/m³). Care will be taken to sample at this frequency on each bench.

Field Sampling at Mine Infrastructure

- During the bi-annual audit, rock placed in mine rock piles, roads, and other infrastructure is sampled as per Section 8.1.1 of the Geochemical Characterization Plan.
- Samples of mine rock are collected from areas in which ROM has been placed in the last 6 months, typically, mine roads, rock pads and mine rock piles.
- Sample rock is selected at each location by examining rock fragments characteristics (colour, grain size, texture, visible minerals etc.) and selecting a sample representative of the dominant rock type at each location.
- No specific particle size fraction is selected.
- Sample rock is shipped to an off-site lab for ABA analysis.

Lab Analysis of pit samples

- For the purpose of Total Sulphur analysis, samples are dried and finely crushed to better than 70% passing a 2 mm (Tyler 9 mesh, US Std. No.10) screen.
- A split of up to 250 g is taken and pulverized to better than 85% passing a 75 micron (Tyler 200 mesh, US Std. No. 200) screen.
- A random selection of 30 samples/year will be split and submitted to an accredited laboratory under a chain of custody protocol as a quality assurance/quality control measure