



Mackenzie Valley Land and Water Board
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Closure Workshop Meeting Summary Notes
De Beers Canada Inc. – Gahcho Kué Mine
(MV2005L2-0015 MV2005C0032)

Dates and Location:

December 14, 2017 8:30 a.m. -2:00 p.m.
 Mackenzie Valley Environmental Impact Review Board Room
 (2nd Floor, Scotia Centre)
 5102 50th Ave Suite 200

Attendees:

Jamie Vangulck	Arktis (for De Beers)	Kathy Racher	K. Racher Consulting (for MVLWB)
Sarah McLean	De Beers	Angela Love	MVLWB
Francois Larouche	DFO	Chris Hotson	MVLWB
Marc d'Entremont - phone	DKFN	Heather Scott	MVLWB
Anne Wilson - phone	ECCC	Jacqueline Ho	MVLWB
Brian Asher – phone	ECCC	Kierney Leach	MVLWB
Melissa Pinto	ECCC	Shannon Allerston	MVLWB
Reg Ejeckam - phone	ECCC	Dawn Keim	Ni Hadi Xa
Paul Green	GNWT	Nicole Goodman	NSMA
Rick Walbourne	GNWT	Phoebe Rabesca	Tlicho Government
Joseph Heron	GNWT-Lands	Tyanna Steinwand	Tlicho Government

Note:

The meeting notes are meant to provide a general summary of the meeting. Discussions are paraphrased and summarized, and not reproduced verbatim.

MVLWB Presentation

- Regulatory requirements for the Closure and Reclamation Plan
- Discussion on submission and review process for version 4 of the Interim Closure and Reclamation Plan (ICRP)
 - a. Board staff explain Board process and refer to Board direction letters

De Beers Presentation

1. Amendment Application expected to be submitted in February 2018

- Description of amendment application:

- a. Problem caused by joint sets at 5034 pit and other pits, resulting in reduction of catch benches, and leading to safety issues for workers below
- Impacts of amendment application to closure plan:
 - a. Longer time to refill Kennady Lake
 - b. Watercourse required to allow runoff
- The amendment application is not incorporated in the current version of ICRP; De Beers proposed to present the ICRP according to the approved mine plan, notify reviewers the ICRP may change as a result of the proposed mine plan, and revisit the ICRP after the proposed mine plan is approved
- Discussion on impacts of proposed mine plan on water streams
 - a. Runoff from the mine rock pile is going to the water management pond, no new fish bearing water is to be affected
 - b. Diversion channel on the north side of the mine rock pile will be longer to go around the expanded west mine rock pile to the water management pond
- De Beers is drilling the pits to estimate the range of additional mine rock (currently estimated at an additional 65-100M tonnes)
- De Beers' proposed mine plan is to deposit all additional mine rock in the West Mine Rock Pile
- Discussion on changes in amount of mine rock versus mine footprint took place

2. Site Wide (SW)

- SW1 Air quality levels safe for people, vegetation, aquatic life and wildlife
 - a. Discussion on research, monitoring and timeline of developing site-specific criteria when site condition differs from NWT standards
 - b. ECCC announced new federal guidelines will be released
 - i. Discussion on factors used for generating federal guidelines, and timeline of releasing federal guidelines
 - ii. Question by De Beers on adoption of federal guideline in the NWT
 - 1. No GNWT representative to answer
- SW2 Drainage pathways for surface runoff are physically stable
 - a. Discussion on how "significant" will be measured
 - i. De Beers can modify closure plan to clarify that closure criteria can be set when detailed designs become available
 - ii. This discussion is meant to apply to all other criteria that use the term "significant"
 - b. Discussion on monitoring timeline
 - i. Reviewers can submit suggestions on timeline during review
 - c. Discussion that there are multiple ways to demonstrate criteria has met the objective, e.g. geotechnical inspection, no erosion, and monitoring of downstream WQ
- SW3 Surface runoff and seepage water quality that is safe for people, vegetation, aquatic life, and wildlife
 - a. Discussion on specific criteria for mine structure e.g. rock pile versus criteria for Kennady Lake
 - b. Discussion of referencing criteria that are associated e.g. SW2 (physical stability) and SW3 (chemical stability)
 - c. Discussion on risk-based criteria
 - d. Discussion on whether criteria would meet drinking water standards
 - e. Discussion on preference of federal/territorial guideline versus site-specific criteria

- SW4 Mine areas are physically stable for use by people and wildlife
 - a. Discussion on “significant” and its measurability
 - b. Discussion on post closure monitoring timeline and frequency
 - i. Suggestion to clarify language so 2 inspections would not occur in one year e.g. annual inspections
- SW5 Safe passage and use for Caribou and other wildlife
 - a. Discussion on “qualified person” and other possible experts e.g. biologist and engineer
 - b. Discussion on referencing associated chemical stability objective/criteria
 - c. Suggestion that the criteria be clarified to acknowledge that not all areas of the site are meant to be equally “used” by wildlife e.g. “use of site as planned for...”

3. Open Pit (OP):

- OP2 Physically stable pit walls to limit risk of a failure impacting people and aquatic life
 - a. Discussion on other indications beyond visual inspections e.g. instrumentation that can be used for monitoring

4. Kennady Lake (KL)

- KL1 Return Kennady Lake to a state that will support a functioning aquatic ecosystem and traditional uses
 - a. Discussion on referencing and reporting the DFO authorization
 - b. Discussion on timeline of post closure monitoring, and demonstrating the return of fish species i.e. the idea that 2 years of monitoring may be too short
 - c. Discussion on long term sustainability of habitat
- KL2 Physically stable constructed banks of Kennady Lake to limit risk of failure that would impact aquatic life, wildlife, and people
 - a. Discussion on timeline of inspection – timeline not suggested yet, but it will be similar to timeline in other criteria
 - b. Discussion that maybe it is better to set inspection timeline closer to closure or even post-closure
- KL3 Kennady Lake is reconnected with the upstream and downstream and small craft navigation is possible within the Kennady Lake basin through the dyke and pit areas
 - a. Discussion on the depth of Kennady Lake

5. Mine Rock (MR):

- MR1 Physically stable slopes to limit risk of failure that would impact people or wildlife
 - a. Discussion on “significant” and its measurability
 - b. Error – there should not be “cover” in the Mine Rock criterion
- MR2 Contaminated rock and non-hazardous waste disposal areas within piles will be safe for aquatic life, people or wildlife
 - a. Discussion on guidelines and design of risk assessment
 - i. Noted that the ECCC guidelines were effective
 - b. Reminder to reference section of EIS for reviewer ease when searching for information

- MR3 Chemically stable mine rock piles that are safe for aquatic life, humans and wildlife
 - a. Discussion on structure specific criteria including water quality criteria for runoff or seepage

6. Process Kimberlite (PK):

- PK1 Prevent PK from entering the surrounding terrestrial and aquatic environment
 - a. Discussion on timeline
 - i. Refilling Kennady Lake will take a very long time, De Beers suggested to set timeline in the Final Closure Plan
 - ii. PK will be monitored and inspected during operation
 - iii. De Beers could acknowledge that timeline will be set when more information becomes available
- PK2 Physically stable PK disposal areas to limit risk of facility failure
 - a. Discussion on wording of the objective sounds like an activity rather than an indicator
- PK3 Chemically stable Processed Kimberlite Facilities (Piles) that do not endanger human, wildlife, or environmental health and safety
 - a. Discussion of measurability of “satisfactory” as a criterion
 - b. Discussion on “qualified person” vs. “qualified geologist”

7. Infrastructure (I)

- No questions

8. ENR Questions:

- Discussion on timeline for establishing closure criteria
 - Discussion of the best mechanism to ensure the water quality is sufficient for aquatic life after refilling of KL
- Discussion on requirement of a ratio of the upper and lower layers to ensure stable meromixis condition
- Discussion on reporting DFO authorization results to indicate criteria have been met
- Discussion on establishing sampling stations in “hot spots” of runoff/seepage in Kennady Lake

9. Workshop conclusion:

- Board staff reminds reviewer to provide supporting rationale, and details on how reviewers would like the criteria to be changed and why while providing comments on the ORS. That will provide the Board more options to consider

From: [Jacqueline Ho](mailto:Jacqueline.Ho@mvmlwb.com)
To: admin@dkfn.ca; adrian.paradis@cannor.gc.ca; Alexandra.Hood@debeersgroup.com; Amanda_Gonari@golder.com; arnoldenge@gmail.com; Carolc.lands@gmail.com; Charity_Beres@golder.com; Charlene_Coe@gov.nt.ca; chief.lkdfn@gmail.com; david.alexander@cannor.gc.ca; ec.ea.nwt.ec@canada.ca; fisheriesprotection@dfo-mpo.gc.ca; fortsmithmetiscouncil@northwestel.net; frmcenvironment@northwestel.net; ginger.gibson@thefirelightgroup.com; gnwt_ea@gov.nt.ca; gracemackenzie@tlicho.com; ima@dkfn.ca; lqbal_Arshad@gov.nt.ca; jhood@fortsmith.ca; joe_heron@gov.nt.ca; john_faithful@golder.com; Jon_Posynick@gov.nt.ca; Jen_Potten; katie_rozestraten@gov.nt.ca; Kierney_Leach; land@wpfn.ca; landsnresources@katlodeeche.com; Laura.Watkinson@dfo-mpo.gc.ca; lauraduncan@tlicho.com; Lindsay_Armer@gov.nt.ca; mdentremont@lgl.com; Melanie.Murphy@wscn.nt.ca; melissa.pinto@canada.ca; MichaelBirlea@tlicho.com; nicole.goodman@nsma.net; NTCard@aandc.gc.ca; pat_knutson@gov.nt.ca; patrick_clancy@gov.nt.ca; Paul.Green@gov.nt.ca; Peter_Fast@gov.nt.ca; president.nwtmn@northwestel.net; raygriffith1@gmail.com; rcc.nwtmn@northwestel.net; Shannon_Allerston; Sarah_Elsasser; shin.shiga@nsma.net; Tracy_Covey@gov.nt.ca; tyannasteinwand@tlicho.com; umar.hasany@cannor.gc.ca; veronique.damours-gauthier@dfo-mpo.gc.ca; adrian.paradis@cannor.gc.ca; Andrew.Williams@debeersgroup.com; Angela_Love; apower@ykdene.com; chief.srfn@northwestel.net; Erik.Madsen@debeersgroup.com; esangris@ykdene.com; executivedirector@miningnorth.com; fieldworker.frmc53@northwestel.net; francois.larouche@dfo-mpo.gc.ca; frmc@northwestel.net; frmcenvironment@northwestel.net; Glen_Mackay@gov.nt.ca; hrcm@northwestel.net; jblack@ykdene.com; joe_heron@gov.nt.ca; johnny_lennie@gov.nt.ca; katie_rozestraten@gov.nt.ca; kserben@golder.com; lands@denenation.com; Laura.Watkinson@dfo-mpo.gc.ca; laurie_mcgregor@gov.nt.ca; lkdfnlands@gmail.com; loretta.ransom@canada.ca; Nathen_Richea@gov.nt.ca; nicole.goodman@nsma.net; Olivia_Lee@gov.nt.ca; Patrick.Kramers@debeersgroup.com; Permits; preliminaryscreening@reviewboard.ca; Rick_Walbourne@gov.nt.ca; Robert_Jenkins@gov.nt.ca; Sarah_McLean@debeersgroup.com; Scott_Stewart@gov.nt.ca; screeningofficer@eastarm.com; seanrichardson@tlicho.com; Sarah_Elsasser; Tara_Naugler@gov.nt.ca; umar.hasany@cannor.gc.ca
Cc: [Permits](#)
Subject: MV2005C0032 MV2005L2-0015 - De Beers Gahcho Kue - Closure Criteria Workshop Meeting Notes - Jan 5-18
Date: January 5, 2018 9:23:53 AM
Attachments: [GK Closure Criteria Meeting Notes - Jan5 -18.pdf](#)

Good morning,

Please see attached for the final meeting notes from the Gahcho Kue Mine ICRP closure criteria workshop that was held on December 14, 2017. The meeting notes are meant to provide a general summary of the meeting. Discussions are paraphrased and summarized, and not reproduced verbatim. If you have any questions, please feel free to contact me.

Have a great weekend!

Jacqueline



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