

Reviewer Comments and Proponent Responses

Project: Diavik

Board: Wek'eezhi Land and Water Board

Organization: Diavik Diamond Mines (2012) Inc.

No	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response
Wek' eezhii Renewable Resources Board - Mrs. Randi Jennings				
1	Diavik - Mineral Exploration - Drilling Additives Request (W2017C0002)	The WRRB have no comments at this time.	The WRRB have no recommendations at this time.	RTX thanks the WRRB for reviewing our request.
No	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response
Tlicho Lands Protection Department - Jessica Pacunayen				
1	Preventing Impact to Environment	Conditions 35 and 36 of the Permit states that "the Permittee may deposit Drilling Waste that does not contain Toxic Material in a sump or natural depression" and "the permittee shall remove all drilling waste containing Toxic Material to an approved disposal facility". TG would like to prevent impacts to the environment as much as possible but note that some of the proposed additives/lubricants may have the potential to impact to the environment (e.g., Chevron Delo ELC Advanced Antifreeze/Coolant, Chevron Del Grease EP, Kopr-Kote, and others depending on their concentrations).	(1) Can DDMI please confirm if and which of the proposed additives/lubricants will be considered Toxic Materials and be disposed of at an approved facility? If none, please provide rationale. (2) Has DDMI considered the use of any alternatives/substitutes? If not, please provide rationale.	1) Proposed additives #5 - #9, #11, #12, and #14 are considered Toxic Materials based on the information contained within the provided SDS sheets. DDMI has included those that the SDS is "inconclusive" on ecological information, and not those that just state that they are hazardous. RTX will recycle all circulated waters. Cuttings are separated via a SRU (centrifuge), and recirculated waters collected in totes at hole completion. Recycled water and cuttings will either be pumped to a LUP compliant land based sump or flown back to Diavik for disposal at a third party waste management facility. 2) The extensive list of drilling additives submitted is to allow for alternatives to be utilized during the drill program. As answered in question 1), not all of the substances are considered hazardous and best efforts will be used to utilize those first.
No	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response
Fisheries and Oceans Canada (DFO) - Christopher Shapka				
1		DFO do not have any comments at this time.		RTX thanks DFO for reviewing our request.
No	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response
GNWT-ENR - EAM (Environmental Assessment and Monitoring) - GNWT ENR				

1	ENR	No Comment		RTX thanks ENR for reviewing our request.
No	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response
WLWB - Marie-Eve Cyr				
1	Cover Letter - drilling additives	In the submission, DDMI has requested fourteen additional drilling additives be approved for use. While DDMI provided the SDS sheets for the additives, which contain information on ecological toxicity, DDMI did not comment on the potential for environmental impacts from the use of these additives.	(1) Please comment on potential environmental impacts, if any, from using the requested additives. (2) If any potential impacts are identified, can DDMI explain what mitigations are available to address them.	Both questions will be answered together. The additives submitted are those that are directly utilized during the drilling operations (diamond rig and reverse circulation [RC]). Note that the RC operations use very little additives and those they use are #2 and #13 which are not hazardous. In the case of diamond drilling, those operations are done in a controlled method to ensure they do not spread beyond the drillhole and then to a centrifuge (for diamond rig operations). All material from the diamond drill operations is in a closed circuit with disposal of its waste brought back to DDMI i.e., such waste will be flown back to Diavik and temporarily stored at the Waste Transfer Facility prior to final disposal at a third party waste management facility.
2	Cover Letter - drilling additives	In the submission, DDMI has requested fourteen additional drilling additives be approved for use. This is substantially more than in the previous requests for additional drilling additives (four for the 2021 drilling program and four for the 2020 summer drilling program).	(1) Please provide some information to explain the greater number of additives requested. (2) Does DDMI anticipate the need for further requests to include additional drilling additives in the future?	1) DDMI submitted a larger number of additives this year to ensure success of the program based on current knowledge of ground conditions at identified drill targets. Hence, the requested drilling additives will allow for diversity of additives that can be used to successfully execute the drilling program. The drilling environment, and the material being drilled (i.e. kimberlite), is challenging and flexibility is needed in those substances. 2) DDMI does anticipate the possibility for additional additives in future, depending on results and on-the-ground information from the planned winter drilling program. As noted above, all drilling waste, which would include circulated water and any of the listed additives, will be pumped into a land-based sump at least 100m away from the high water mark of a nearby water body as per the Land Use Permit conditions or shipped to the Diavik site for final disposal at a third party waste management facility. The size of the land-based sumps will be of sufficient dimensions to

				<p>accommodate/contain the volume of drill waste to be generated at each drill site. Periodic monitoring of decommissioned land-based sumps will occur to ensure that containment is maintained. A Spill Contingency Plan is in place which includes spill kits at all drill sites with all drill contractors knowledgeable of spill kit contents and usage. A clear process for managing any spills or releases of fluids is outlined which includes internal and external reporting of spill amounts and measures to be taken to contain and clean up the area impacted by the spill. The removal of drill waste is in line with DDMI Waste Management procedures, specifically the proper separation/segregation, containment and disposal at applicable onsite waste management facilities. RTX is in close contact and communication with members of DDMI Site Services and Environment personnel. Based on the proposed measures to manage spills and contain/manage drilling waste, including additives, the potential for adverse impacts to the external receiving environment is considered to be low.</p>
No	Topic	Reviewer Comment	Reviewer Recommendation	Proponent Response
Diavik Diamond Mines (2012) Inc. - Kyla Gray				
1		RTX Cover Letter Attached	N/A	

Record of Recipients

Board: Wek'eezhi Land and Water Board

Project: Diavik Diavik - Mineral Exploration - Drilling Additives Request (W2017C0002)

File(s): W2017C0002

Proponent: Diavik Diamond Mines (2012) Inc.

Item Description:

Diavik Diamond Mines (2012) Inc. (DDMI) submitted a request on November 4th, 2021 to use drilling additives not currently authorized for use as required by Permit W2017C0002, Part C, Condition 32. The Permit states that "The Permittee shall not use any Drilling Fluids, muds, or additives that were not identified in the complete application, unless the MSDs are provided to the Board and Inspector and usage of the chemical(s) is authorized in writing by the Board". DDMI is proposing to use drilling additives during the winter 2022 Drill Program that were not identified in the complete application and the previous Additional Drilling Additives Requests and, therefore, require Board approval for their use.

Using the Online Review System (ORS), reviewers are invited to submit comments and recommendations on the documents linked below by the review comment deadline specified. Reviewers may also wish to consider providing an overarching recommendation regarding whether the Board should approve the submission, to provide context for the comments and recommendations and assist the Board with its decision. If reviewers seek clarification on the submission, they are encouraged to correspond directly with the Applicant prior to submitting comments and recommendations.

All documents that have been uploaded to this review are also available on our public Registry. If you have any questions or comments about the ORS or this review, please contact Board staff identified below.

Comments Due Date: November 25, 2021

Response Due Date: December 2, 2021

Documents:

<http://registry.mvlwb.ca/Documents/W2017C0002/W2017C0002%20-%20Diavik%20%E2%80%93%20Additional%20Drilling%20Additives%20Request%20%E2%80%93%20Nov%2021.pdf>

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Mason Mantla, Chair
Wek'èezhìi Land and Water Board
PO Box 32
Wekweètì, NT X1A 3S3
Canada

2 December 2021

Dear Mr. Mantla:

Subject: RTX Response to Reviewer Comments on RTX Drilling Additives Request

Diavik Diamond Mines (2012) Inc. (DDMI) is pleased to submit, on behalf Rio Tinto Exploration Canada Inc. (RTX), the response to Reviewer comments on the RTX Drilling Additive Request submitted to the Wek'èezhìi Land and Water Board (WLWB or Board) on November 4, 2021. RTX's response to Reviewer comments have been uploaded to the Board's Online Review System.

If you have any questions regarding the attached submission, please contact the undersigned or Kyla Gray (kyla.gray@riotinto.com).

Yours sincerely,



Kofi Boa-Antwi
Superintendent, Environment

cc: Kassandra DeFrancis, WLWB
Anneli Jokela, WLWB



November 25, 2021

Anneli Jokela
Regulatory Manager
Wek'eezhii Land and Water Board
#1-4905 48th St.
Yellowknife, NT X1A 3S3

Dear Anneli Jokela,

Request for Comment: Diavik Diamond Mines-Mineral Exploration-Drilling Additives Request (W2017C0002)

The Department of Environment and Natural Resources, Government of the Northwest Territories has reviewed the report at reference based on its mandated responsibilities under the *Waters Act, the Species at Risk (NWT) Act and the Wildlife Act* and has no comments or recommendations for the consideration of the Board at this time.

Should you have any questions or concerns, please do not hesitate to contact Erin Goose, Environmental Regulatory Analyst at (867) 767-9233 Ext: 53099 or email gnwt_ea@gov.nt.ca.

Sincerely,

Erin Goose
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Environmental Assessment and Monitoring Section
Environmental Stewardship and Climate Change Division
Department of Environment and Natural Resources
Government of the Northwest Territories