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October 22, 2020

W2015L2-0001

Kofi Boa-Antwi
Diavik Diamond Mines (2012) Inc.
P.O Box 2498
Suite 300, 5201-50th Avenue
Yellowknife, NT X1A 2P8

Dear Kofi Boa-Antwi,

Re: Request to update Surveillance Network Program station 1645-33

The Wek'èezhii Land and Water Board (WLWB) met on October 22, 2020 and considered Diavik Diamond Mines (2012) Inc.'s (DDMI's) request to decrease the frequency of groundwater monitoring at Surveillance Network Program station 1645-33 from once every week to once every month. As detailed in the attached Reasons for Decision, the Board has decided to approve DDMI's request to the monitoring frequency at SNP station 1645-33.

Sincerely,

A handwritten signature in blue ink, appearing to read "Joseph Mackenzie".

Joseph Mackenzie
Chair, Wek'èezhii Land and Water Board

Copied: DDMI Distribution List



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Reasons for Decision

Reference/File Number:	W2015L2-0001 (Type "A" Water Licence)
Licensee:	Diavik Diamond Mines (2012) Inc. (DDMI)
Subject:	Request to change the groundwater monitoring frequency at SNP station 1645-33

Decision from the Wek'èezhìi Land and Water Board Meeting of October 22, 2020

1.0 Decision

On October 22, 2020, the Wek'èezhìi Land and Water Board (WLWB or the Board) considered Diavik Diamond Mines (2012) Inc.'s request to change Part E of the Surveillance Network Program (SNP) of DDMI's Type A Water Licence (W2015L2-0001). Specifically, DDMI requested to decrease the frequency of groundwater monitoring at SNP station 1645-33 from once every week to once every month.¹ In consideration of the submission, reviewer comments, and proponent responses, the Board has decided to approve DDMI's request to change the groundwater flow monitoring frequency at SNP station 1645-33 from weekly to monthly.

2.0 Background

The Surveillance Network Program (SNP) is required by Part B, Condition 9 of DDMI's Water Licence W2015L2-001 (the Licence).² Part B, Condition 10 of the Licence states that the SNP may be updated at the Board's discretion. Currently, the SNP annexed to the Licence requires DDMI to monitor groundwater flow weekly and sample groundwater monthly at SNP station 1645-33. The rationale for this station is "to

¹ See WLWB Online Registry for See WLWB Online Registry for [Diavik - SNP Update Request - 1645-33 - Jul 23 20](#)

² See WLWB Online Registry for [Diavik - Water Licence - Schedule 1, Schedule 6 and SNP Updates - Jun 13 18.pdf](#)

monitor water down gradient of the Bulk Fuel Storage”.³ On July 23, 2020, DDMI submitted a request (the Request) to reduce the groundwater flow monitoring frequency to monthly to align with the monthly sampling requirement at the station.⁴ In the Request, DDMI states that from 2011 to present, only one groundwater sample has been collected at 1645-33 because the well has either had insufficient amounts of groundwater to sample, has been completely dry, or has been frozen. DDMI also stated that “a monthly monitoring frequency that aligns with the monthly sampling frequency at SNP station 1645-33 would allow for the efficient use of human/other resources and enable continued and effective sampling and monitoring of the SNP”.

The Request was distributed for public review on September 2, 2020. Reviewers were asked to provide comments by September 23, 2020. The Government of the Northwest Territories - Department of Environment and Natural Resources - Environmental Assessment and Monitoring Section (GNWT-ENR-EAM), and the North Slave Metis Alliance (NSMA) provided comments; Environment and Climate Change Canada and Fisheries and Oceans Canada indicated they had no recommendations at this time. Board staff submitted a question. Proponent responses were submitted by the deadline of September 30, 2020. Reviewer comments and recommendations, as well as proponent responses, are available on the WLWB online registry.⁵

3.0 **Reasons for Decision**

In consideration of the Request, and reviewer comments and proponent responses submitted during the public review period, ***the Board decided to approve*** DDMI’s request for to change the monitoring frequency of groundwater flow from weekly to once per month. The reasons for this decision include the following:

- **Groundwater monitoring since 2011 has only resulted in one sample collection:** In the Request, DDMI stated that since 2011 the well has been dry or frozen for all monitoring events except one in 2017. In response to reviewer comments, DDMI indicated that the well is in an area of continuous permafrost and only a thin active layer is unfrozen for a short period each year (response to NSMA comment 1 and WLWB staff comment 1). Therefore, due to the permafrost, it is unlikely that groundwater flow will change at this station. The Board believes that monthly monitoring for groundwater is sufficient at this station since it has been continuously frozen or dry.
- **Continuous permafrost in the area reduces the likelihood of groundwater flow in any other area south of the Tank Farm:** DDMI was asked if the groundwater flow would be the same in another well south of the Tank Farm (NSMA comment 1; WLWB staff comment 1). In response, DDMI explained that the current SNP station location was chosen based on the direction of the

³ See WLWB Online Registry for [Licence W2015L2-0001](#).

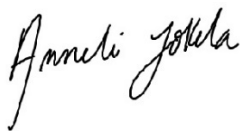
⁴ See WLWB Online Registry for See WLWB Online Registry for [Diavik - SNP Update Request - 1645-33 - Jul 23 20](#)

⁵ See WLWB Online Registry for See WLWB Online Registry for [Diavik - SNP Update Request - 1645-33 - Review Summary and Attachments - Oct 15 20.pdf](#)

groundwater flow from the Tank Farm but that the area south of the Tank Farm is in continuous permafrost. DDMI stated that moving the well to another location south of the Tank Farm would yield the same results (i.e., low groundwater flow). Therefore, the Board believes that adding a well in a different location is not required at this time.

- DDMI has measures in place to monitor for leaks from the Tank Farm: As per the Licence, the rationale for SNP station 1645-33 is to monitor water down gradient of the Bulk Fuel Storage. NSMA requested that DDMI reduce the monitoring to twice monthly instead of once monthly “with the view that potential hydrocarbon leaks are not missed” (NSMA comment 1). DDMI indicated that the Tank Farm is lined, bermed, and inspected regularly for leaks and compromises to the liner (response to NSMA comment 1 and WLWB staff comment 1). While the Board agrees that SNP station 1645-33 could help provide information on fuel leaks from the Tank Farm, the method DDMI uses to monitor for hydrocarbon leaks is through regular inspections of the Tank Farm, not through the SNP station. If leaks or spills were detected in the future, DDMI stated that SNP station 1645-33 would be “the ideal location to monitor for hydrocarbons moving through the active layer”. Therefore, since the groundwater well has been consistently dry and the SNP station is not intended as a leak detection measure, the Board believes that twice monthly monitoring is not necessary at this time.
- There were no additional concerns from Parties on the reduction of groundwater monitoring: While, as described above, NSMA recommended groundwater monitoring be conducted every two weeks, GNWT-ENR-EAM stated it did not have any concerns with the reduction in monitoring, and no other reviewers commented on the reduction. GNWT-ENR-EAM recommended that the groundwater monitoring frequency be reduced to monthly as DDMI proposed (GNWT-ENR-EAM comment 1). GNWT-ENR-EAM did indicate that if future sample results detect hydrocarbons, then monitoring would need to be re-evaluated (GNWT-ENR comment 2). DDMI agreed with GNWT-ENR. The Board also agrees that there would likely be additional monitoring and sampling required if a spill or leak were detected.

Signed the 22nd day of October 2020, on behalf of the Wek’èzhìi Land and Water Board



Witness



Joe Mackenzie
Chair, Wek’èzhìi Land and Water Board