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Joseph Mackenzie, Chair  
Wek'èezhìi Land and Water Board  
PO Box 32  
Wekweèti, NT X1A 3S3  
Canada

23 July 2020

Dear Mr. Mackenzie,

**Subject: DDMI Request for an Update to the Surveillance Network Program to Reduce the Monitoring Frequency at Station 1645-33**

Diavik Diamond Mines (2012) Inc. (DDMI) kindly requests that the Wek'èezhìi Land and Water Board update the Surveillance Network Program (SNP) in Annex 1 of the Diavik Mine Water Licence (W2015L2-0001). This requested update to the SNP is for a change to the monitoring frequency of groundwater flow at SNP station 1645-33 from once every 7 days to once every calendar month to align with the monthly sampling requirement at the station.

SNP station 1645-33 is a groundwater well located south of the Main Tank Farm nearest to the Bulk Fuel Storage. The site is checked weekly for groundwater flow and sampled monthly for the following suite of parameters as outlined in W2015L2-0001: total ammonia, field parameters, ICP-MS metal scan (total), major ions, pH, total petroleum hydrocarbons (TPH), and PHC (F1-F4). This station was established to monitor and sample the water down gradient of the Bulk Fuel Storage. From 2011 to present, only 1 weekly inspection event in 2017 resulted in sample collection at SNP station 1645-33 as the sampling well has consistently had insufficient amounts of sample water for analysis or has been completely dry (**see attached figures**). Freezing of the well also contributed to impedences to sampling at the station during colder weeks. No hydrocarbons were detected in the sample collected in 2017.

DDMI is of the opinion that, from an environmental risk-management perspective and based on the supporting information presented in this submission, a monthly monitoring frequency (replacing the current weekly monitoring requirement) 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.

DDMI thanks the Board in advance for considering our request. Please do not hesitate to contact Kofi Boa-Antwi (867 447 3001 or [kofi.boa-antwi@riotinto.com](mailto:kofi.boa-antwi@riotinto.com)), or the undersigned if you have any questions related to this submission.

Yours sincerely,



Sean Sinclair  
Principal Advisor, Environment and Closure Readiness

cc: Anneli Jokela, WLWB  
Kassandra DeFrancis, WLWB

Attachments:

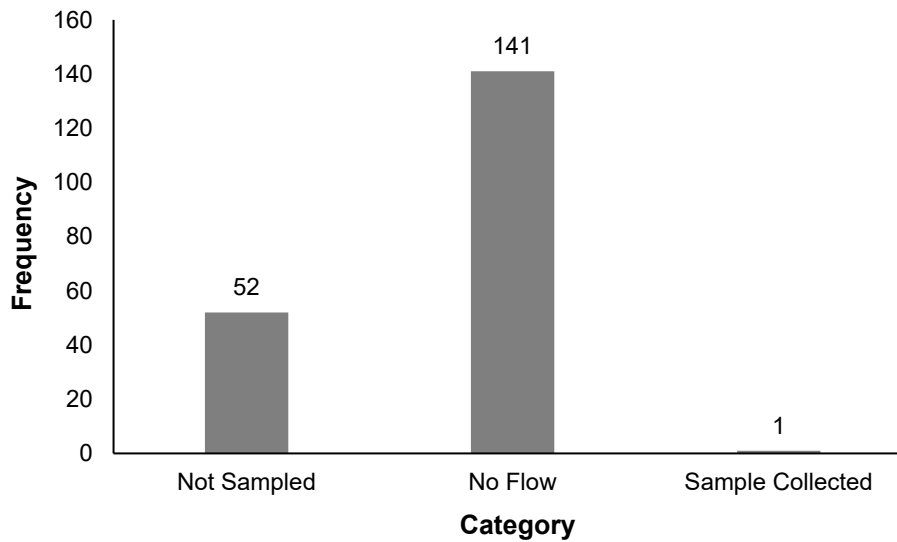
- Current and Proposed Terms for Surveillance Network Program (SNP) Station 1645-33 (Active).
- SNP Station 1645-33 sampling frequency attempts and outcome by category.
- SNP Station 1645-33 sampling timeline from 2011 to 2019.

**Current Terms: Surveillance Network Program (SNP) Station 1645-33 (Active)**

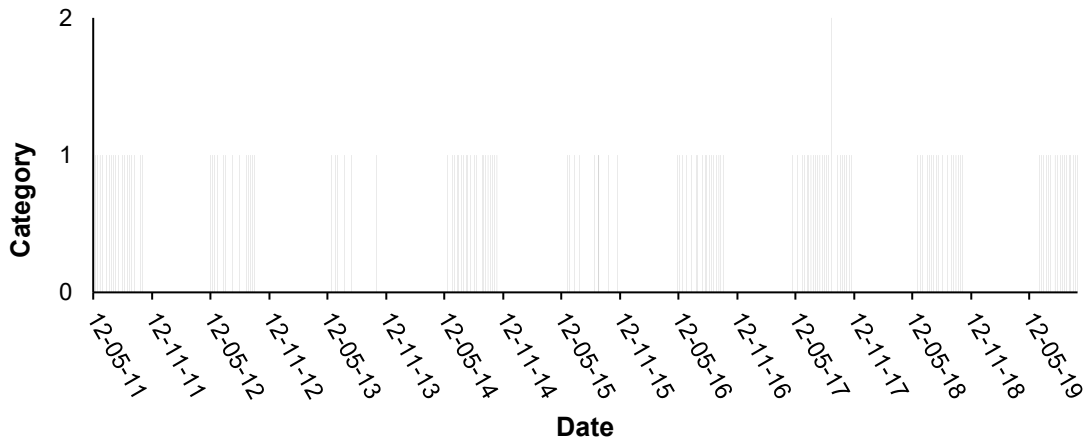
Description:	Groundwater nearest to Bulk Fuel Storage
Location:	South of Main Tank Farm
Sampling Frequency:	Checked weekly for Groundwater flow and sampled monthly
Sampling Parameters:	Total Ammonia, Field Parameters, ICP-MS Metal Scan (Total), Major Ions, pH, Total Petroleum Hydrocarbons (TPH), PHC (F1-F4)
Rationale for Station:	To monitor water down gradient of Bulk Fuel Storage

**Proposed Terms: Surveillance Network Program (SNP) Station 1645-33 (Active)**

Description:	Groundwater nearest to Bulk Fuel Storage
Location:	South of Main Tank Farm
Sampling Frequency:	Checked <b>monthly</b> for Groundwater flow and sampled monthly
Sampling Parameters:	Total Ammonia, Field Parameters, ICP-MS Metal Scan (Total), Major Ions, pH, Total Petroleum Hydrocarbons (TPH), PHC (F1-F4)
Rationale for Station:	To monitor water down gradient of Bulk Fuel Storage



**Figure 1** SNP Station 1645-33 sampling frequency attempts and outcome by category. The “No Flow” category includes times where sampling was not possible due to impedences such as a dry or frozen well with no water flow or not enough sample water for collection. The “Not Sampled” category indicates times where monitoring/sampling was not possible due to logistics/resource deployment challenges.



**Figure 2** SNP Station 1645-33 sampling timeline from 2011 to 2019 demonstrating outcome of sampling attempts by category where 0 = Not Sampled, 1 = No Flow, and 2 = Sample collected. The “Not Sampled” category indicates times where monitoring/sampling was not possible due to logistics/resource deployment challenges. The “No Flow” category includes times where sampling was not possible due to impedences such as a dry or frozen well with no water flow or not enough sample water available for collection.