



NWB Tools

Assol Kubeisnova &lt;assol.kubeisnova@nwb-oen.ca&gt;

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**RE: Additional Monitoring Requirements**

1 message

**Connor Devereaux** <Connor.Devereaux@baffinland.com>

Fri, May 14, 2021 at 2:28 PM

To: "Mesher, Jonathan (AADNC/AANDC)" &lt;jonathan.mesher@canada.ca&gt;

Cc: "Hack, Justin (AADNC/AANDC)" &lt;justin.hack@canada.ca&gt;, "Pasalic, Omer (AADNC/AANDC)"

&lt;omer.pasalic@canada.ca&gt;, Assol Kubeisnova &lt;assol.kubeisnova@nwb-oen.ca&gt;, Karén Kharatyan

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&lt;Timothy.Sewell@baffinland.com&gt;, Shawn Stevens &lt;Shawn.Stevens@baffinland.com&gt;, Kendra Button

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&lt;lou.kamermans@baffinland.com&gt;

Hi Jon,

Thank you for your response and clarification. We appreciate your understanding of the current issues at site and reduced staff levels due to the COVID outbreak and associated precautions. We will continue to keep you updated on any developments regarding Baffinland's ability to execute the monitoring under the licence, while ensuring the health and safety of our team.

Baffinland understands from your email that you are satisfied with our response to Condition 1 and Condition 3 from your initial email, but that there remains a concern regarding Condition 2, and this remains the only condition that CIRNAC is requiring Baffinland to adhere to. Baffinland is committed to ensuring the highest quality of data collection during all seasons, including freshet, and implements a rigorous Surface Water Sampling Program Quality Assurance and Quality Control Plan (BAF-PH1-830-P16-0001). This plan is implemented to ensure that samples collected are representative of actual site conditions at the time of sampling, irrespective of meteorological conditions. Limiting sampling to specific site conditions, as the additional monitoring requirements in Condition 2 would do, will significantly impact data quality and representativeness of site conditions, and limit the ability of Baffinland to utilize this data for future trend analysis in support of adaptive management measures implementation. Introduction of sampling bias into the dataset will significantly reduce the statistical power of any evaluation of the data set in the future. During the freshet period, waterways are highly dynamic and may have significant temporal variation. Baffinland's current method of sampling based on a set schedule, established well in advance, ensures that the samples are inherently random and account for a wide range of temporal variation within the system. In addition, the nature of the bias that would be introduced is not well defined, further limiting the validity and utility of the data in future analyses. Sampling during the highest temperatures for the week may over-represent water quality samples taken during the periods of greatest flow, or they may under-represent these samples as they omit periods of rainfall and days with significant sunshine/solar radiation. It is preferable then to sample across all meteorological conditions to eliminate the potential sampling bias.

In order to preserve the surface water dataset for the Mary River Project and mitigate intentional sampling bias into the analysis of surface water, Baffinland will proceed with the scheduled surface water monitoring as planned. Please advise if a follow up call is warranted and we can discuss this in further detail at your convenience. Baffinland can also share the sampling schedule with the inspector, and we welcome input on the monitoring programs implemented for the Project.

Regards,

**Connor Devereaux | Environmental Superintendent**

Mary River Mine Site

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**From:** Mesher, Jonathan (AADNC/AANDC) <[jonathan.mesher@canada.ca](mailto:jonathan.mesher@canada.ca)>  
**Sent:** Monday, May 10, 2021 9:58 AM  
**To:** Connor Devereaux <[Connor.Devereaux@baffinland.com](mailto:Connor.Devereaux@baffinland.com)>; Didham, Curtis (EC) <[curtis.didham@canada.ca](mailto:curtis.didham@canada.ca)>  
**Cc:** Hack, Justin (AADNC/AANDC) <[justin.hack@canada.ca](mailto:justin.hack@canada.ca)>; Pasalic, Omer (AADNC/AANDC) <[omer.pasalic@canada.ca](mailto:omer.pasalic@canada.ca)>; Assol Kubeisinova <[assol.kubeisinova@nwb-oen.ca](mailto:assol.kubeisinova@nwb-oen.ca)>; Karén Kharatyan <[karen.kharatyan@nwb-oen.ca](mailto:karen.kharatyan@nwb-oen.ca)>; Campbell, Bridget (AADNC/AANDC) <[bridget.campbell@canada.ca](mailto:bridget.campbell@canada.ca)>; Chris Spencer <[CSpencer@qia.ca](mailto:CSpencer@qia.ca)>; Timothy Ray Sewell <[Timothy.Sewell@baffinland.com](mailto:Timothy.Sewell@baffinland.com)>; Shawn Stevens <[Shawn.Stevens@baffinland.com](mailto:Shawn.Stevens@baffinland.com)>; Kendra Button <[Kendra.Button@baffinland.com](mailto:Kendra.Button@baffinland.com)>; Christopher Murray <[christopher.murray@baffinland.com](mailto:christopher.murray@baffinland.com)>  
**Subject:** [EXTERNAL]RE: Additional Monitoring Requirements

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Good Morning Mr. Devereaux,

Thank you for the email. I understand that Baffinland is going through some difficult times, but we want to ensure that the intent of the License is being followed and we are thus requiring you follow additional monitoring requirements to ensure that BIMC is adhering to the license conditions, especially where there have been major concerns in the past.

In response to your email, Part F: item 27 of the license refers to ALL contact water and surface runoff from the site drainage and surface water management systems where flow may directly or indirectly enter a body of water. Should the licensee (Baffinland) require clarification on any terms and conditions of your license, we would recommend reaching out to the Nunavut Water Board.

To our understanding, the samples required under Part F, Item 27 may take two day to collect; therefore, we are suggesting that the licensee collect the samples starting on the warmest day of the week as suggested in the additional monitoring requirements and continuing into the day after. In order to limit any skewed data we will only require the licensee to adhere to condition 2 of the additional monitoring requirement, which states; "The licensee shall review the weekly weather report on Sunday prior to conducting weekly samples of contact water as described in Part F, Item 27 of the licence 2AM-MRY1325 and conduct the samples on the warmest day of that week." I would like to clarify that these additional monitoring requirements are only required until June 30, 2021, unless otherwise directed.

While we do understand the health challenges currently facing the licensee and their ongoing efforts to meet the terms and conditions of the license, at this time we must ask for additional monitoring requirements in order to have a broader look at the water quality on site. The water quality on site should be compliant with the water license regardless of time and meteorological conditions and we want to ensure this is the case.

If you have any questions or concerns please contact me with the information undersigned.

Regards,

Jonathan Mesher

Resource Management Officer, Nunavut Region

Crown Indigenous Relations and Northern Affairs Canada – CIRNAC

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**From:** Connor Devereaux <[Connor.Devereaux@baffinland.com](mailto:Connor.Devereaux@baffinland.com)>

**Sent:** Sunday, May 2, 2021 10:03 PM

**To:** Mesher, Jonathan (AADNC/AANDC) <[jonathan.mesher@canada.ca](mailto:jonathan.mesher@canada.ca)>; Didham, Curtis (EC) <[curtis.didham@canada.ca](mailto:curtis.didham@canada.ca)>

**Cc:** Hack, Justin (AADNC/AANDC) <[justin.hack@canada.ca](mailto:justin.hack@canada.ca)>; Pasalic, Omer (AADNC/AANDC) <[omer.pasalic@canada.ca](mailto:omer.pasalic@canada.ca)>; Assol Kubeisinova <[assol.kubeisinova@nwb-oen.ca](mailto:assol.kubeisinova@nwb-oen.ca)>; Karén Kharatyan <[karen.kharatyan@nwb-oen.ca](mailto:karen.kharatyan@nwb-oen.ca)>; Campbell, Bridget (AADNC/AANDC) <[bridget.campbell@canada.ca](mailto:bridget.campbell@canada.ca)>; Chris Spencer <[CSpencer@qia.ca](mailto:CSpencer@qia.ca)>; Timothy Ray Sewell <[Timothy.Sewell@baffinland.com](mailto:Timothy.Sewell@baffinland.com)>; Shawn Stevens <[Shawn.Stevens@baffinland.com](mailto:Shawn.Stevens@baffinland.com)>; Kendra Button <[Kendra.Button@baffinland.com](mailto:Kendra.Button@baffinland.com)>; Christopher Murray <[christopher.murray@baffinland.com](mailto:christopher.murray@baffinland.com)>

**Subject:** RE: Additional Monitoring Requirements

Hi all,

The site is currently experiencing a Covid-19 outbreak which is impacting staff and resources for ongoing freshet management and monitoring. At this time, a number of strict health and safety measures are in place to reduce the likelihood of further spread of the Covid-19 virus and its variants. This remains a priority for Baffinland to maintain the safety of all employees at the Mary River Project and we continue to work closely with Nunavut Public Health. We will provide further information in the upcoming days as this situation develops.

Jon,

Please see Baffinland's response below in red. Abnormal temperatures have resulted in the melt occurring earlier and we have dispatched personnel to monitor and collect samples as per the below and attached monitoring plan.

The Additional Monitoring requirements being imposed area as follows;

1. The licensee shall conduct daily samples at CLSP-OUT, CLT-OUT, SDLT-OUT and LDFG-OUT for the effluent quality limits listed in Table 11 of the water licence 2AM-MRY1325 during Freshet. The daily samples shall start imminently once the water starts flowing through the listed sampling locations.

Response: Baffinland will conduct daily samples at CLSP-OUT, CLT-OUT, SDLT-OUT and LDFG-OUT. In addition to adhering to the Inspectors Direction, this is consistent with the freshet monitoring program Baffinland has prepared and implemented annually and shared with CIRNAC on May 13, 2020. Additional details of this program are also presented in the annual Freshet 2020 Monitoring Report as an appendix to the 2020 QIA-NWB Type A Water Licence Annual Report for Operations. Baffinland will sample the above referenced locations as per the attached 2021 Freshet Monitoring Plan.

The Freshet Monitoring Program has proven effective for characterizing water quality and identifying exceedances of the water licence limits for maximum TSS in grab samples and maximum average monthly TSS. This program is executed simultaneous to various other monitoring programs required under Baffinland's water licenses, Project Certificate No.5, IIBA and Commercial Lease with the Qikiqtani Inuit Association and various federal and territorial regulations. With these other monitoring demands being met during the same time frame, the frequency outlined in the Freshet Monitoring Program allows for continuous monitoring of the water quality at the tributary outfall locations, while also continuing to monitor other aspects of the aquatic and terrestrial environment around site. The current approach captures daily TSS monitoring at the very beginning of Freshet; immediately once water starts flowing through the four (4) identified outfall locations, which is when there is the highest potential for sediment loading to the receiving environment. This daily sampling frequency occurs until there have been seven (7) consecutive sample events with compliant TSS results. At that point, the water quality in the water body has stabilized and returned to compliant conditions, and is subsequently monitored and sampled weekly to ensure there are no further sedimentation events.

2. The licensee shall review the weekly weather report on Sunday prior to conducting weekly samples of contact water as described in Part F, Item 27 of the licence 2AM-MRY1325 and conduct the samples on the warmest day of that week.

Response: Can CIRNAC provide clarification as to which sampling locations described in the water licence this refers to? Baffinland schedules water quality monitoring dates weeks in advance, in consideration of resources, outgoing flight schedules, availability of ground shipping in southern Canada, and operating hours of third party analytical laboratories. These constraints affect whether samples are collected safely and efficiently and delivered to analytical laboratories in a timely manner to avoid laboratory hold time exceedances. Weather conditions at the Project site and in southern Canada have potential to delay the logistical process resulting in lab hold time exceedances, in which case sampling dates are immediately rescheduled. Due to limitations in the reliability of weather forecasts for northern Baffin Island and the tendency for weather conditions to change significantly over the course of a day, it is challenging to predict when weather conditions at the Project site will delay a sampling event or an outgoing flight.

Baffinland believes the inspectors direction to collect on the warmest day of a given week is intended to ensure that samples are collected under "worst case" conditions. Baffinland acknowledges that scheduled collection will result in samples that may not always be collected during the absolute "worst case" conditions. However, this also ensures that samples are not collected under "best case" conditions, and mitigates any potential for selective sampling. Rather samples are collected based on a set frequency, and schedule, to ensure that representative samples are collected on an on-going basis. It should be noted that highest flows/snowmelt are not exclusively driven by temperature; duration of sunshine and frequency/intensity of rainfall also play important factors in determining the degree of snow melt and corresponding volume of streamflow during freshet. Limiting collection of samples to specific sets of meteorological conditions may result in a dataset that is skewed and not representative of actual site conditions.

Due to the logistical constraints faced by Baffinland, and the likelihood of collecting data that is not representative of actual site conditions, Baffinland will continue to schedule weekly water quality monitoring in advance, irrespective of forecasted or current weather conditions at Site.

3. The licensee shall conduct all contact water samples as described in Part F, Item 27 of the licence 2AM-MRY1325 between 1100hrs and 1500hrs and provide photographic evidence of the time it was taken.

Response: Can CIRNAC provide clarification as to what samples described in the water licence this refers to? Baffinland is committed to collecting grab samples at locations CLSP-OUT, CLT-OUT, SDLT-OUT and LDFG-OUT and capturing photos of the four (4) identified freshet outfall monitoring stations between 1100hrs and 1500hrs.

Please do not hesitate to contact the undersigned if you require additional information or have any questions or concerns.

Regards,

**Connor Devereaux | Environmental Superintendent**

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**From:** Mesher, Jonathan (AADNC/AANDC) <[jonathan.mesher@canada.ca](mailto:jonathan.mesher@canada.ca)>  
**Sent:** Tuesday, April 20, 2021 2:15 PM  
**To:** Christopher Murray <[christopher.murray@baffinland.com](mailto:christopher.murray@baffinland.com)>; Connor Devereaux <[Connor.Devereaux@baffinland.com](mailto:Connor.Devereaux@baffinland.com)>  
**Cc:** Hack, Justin (AADNC/AANDC) <[justin.hack@canada.ca](mailto:justin.hack@canada.ca)>; Pasalic, Omer (AADNC/AANDC) <[omer.pasalic@canada.ca](mailto:omer.pasalic@canada.ca)>; Assol Kubeisinova <[assol.kubeisinova@nwb-oen.ca](mailto:assol.kubeisinova@nwb-oen.ca)>; Karén Kharatyan <[karen.kharatyan@nwb-oen.ca](mailto:karen.kharatyan@nwb-oen.ca)>; Campbell, Bridget (AADNC/AANDC) <[bridget.campbell@canada.ca](mailto:bridget.campbell@canada.ca)>; Chris Spencer <[CSpencer@qia.ca](mailto:CSpencer@qia.ca)>; Didham, Curtis (EC) <[curtis.didham@canada.ca](mailto:curtis.didham@canada.ca)>  
**Subject:** [EXTERNAL]Additional Monitoring Requirements

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Hello Christopher Murray,

Due to the concerns regarding TSS and water quality at Mary River and Milne Inlet sites, I am requiring that BIMC follow additional monitoring requirements effective April 20, 2021. The ability to impose additional monitoring requirements comes from, PART I, Item 26, of the license 2AM-MRY1325 which states that; "An Inspector may impose additional monitoring requirements."

The weekly samples referred to in the additional monitoring requirements comes from PART F, Item 27 of the water licence 2AM-MRY1325 which states; "All Contact Water and surface runoff from the site Drainage and Surface Water Management Systems where flow may directly or

indirectly enter a water body, shall be sampled Weekly during the Operations Phase of the Project and must not exceed the following Effluent quality limits:"

Table 11: Effluent quality limits for Contact Water during the Operations Phase of the Mary River Project

<b>Parameter</b>	<b>Maximum Average Concentration (mg/L)</b>	<b>Maximum Concentration of Any Grab Sample (mg/L)</b>
Total Suspended Solids	15	30
Oil and Grease	No Visible Sheen	No Visible Sheen
pH	Between 6.0 and 9.5	Between 6.0 and 9.5

The Additional Monitoring requirements being imposed area as follows;

1. The licensee shall conduct daily samples at CLSP-OUT, CLT-OUT, SDLT-OUT and LDFG-OUT for the effluent quality limits listed in Table 11 of the water licence 2AM-MRY1325 during Freshet. The daily samples shall start imminently once the water starts flowing through the listed sampling locations.
2. The licensee shall review the weekly weather report on Sunday prior to conducting weekly samples of contact water as described in Part F, Item 27 of the licence 2AM-MRY1325 and conduct the samples on the warmest day of that week.
3. The licensee shall conduct all contact water samples as described in Part F, Item 27 of the licence 2AM-MRY1325 between 1100hrs and 1500hrs and provide photographic evidence of the time it was taken.

If you have any questions, comments or concerns regarding this email, please contact me with the contact information below.

Regards,

Jonathan Mesher

Resource Managment Officer, Nunavut Region

Crown Indigenous Relations and Northern Affairs Canada – CIRNAC

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