December 10, 2020



Mr. Mosha Cote Research Liaison Nunavut Research Institute Iqaluit, NU, Canada, XOA 0H0

RE: 2020 Summary Annual Report for Scientific Research Licence 02 065 20R-M; Scientific Research Licence Renewal Request for 2021 Monitoring Programs

Dear Mr. Cote,

Baffinland Iron Mines Corporation (Baffinland) was issued Scientific Research Licence 02 065 20R-M (the Licence) on July 29, 2020 by the Nunavut Research Institute (NRI). The Licence, along with other permits and approvals, allowed Baffinland to conduct select monitoring programs for the Mary River Project (the Project) in 2020 as prescribed by Project Certificate No. 005 – Amendment 3 and Type "A" Water Licence No. 2AM-MRY1325 – Amendment 1. Baffinland requests the renewal of this multi-year licence to continue monitoring programs in 2021.

In 2020, the following monitoring was conducted under the Licence for the Project. Baffinland plans to conduct similar monitoring programs in 2021.

Freshwater Environment Monitoring

Baffinland continued to implement a freshwater monitoring program to assess potential mine-related effects on water quality, phytoplankton, sediment quality, benthic invertebrate communities, and fish populations. A summary of the activities conducted includes:

- Water quality was monitored at several stream and lake stations including several reference areas, the Camp Lake tributaries, Camp Lake, Sheardown tributaries, Sheardown Lake, the Mary River, and the north and south basins of Mary Lake.
- Sediment quality sampling was conducted at each study lake for physical and chemical characterization, with supplementary characterization of physical sediment properties to support the benthic invertebrate community analysis.
- Sediment traps were deployed in Sheardown Lake NW to monitor annual sediment deposition rates and characterize sediment density.
- Flows and water levels were monitored in several rivers and streams near Project sites by means of instream pressure transducers and periodic discharge measurements.
- Fish surveys included the non-lethal collection of Arctic char from nearshore lake habitats and from littoral/profundal habitat at each of Camp, Sheardown NW, Sheardown SE, Mary, and Reference lakes.

Marine Environment Monitoring

In 2020, Baffinland conducted the following marine environment monitoring programs:

• Marine Mammal Aerial Survey Program

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- Aerial surveys included early shoulder season and open water surveys.
- Bruce Head Shore-based Monitoring Program
 - Daily marine mammal surveying was conducted from August to September 2020. Data on narwhal group composition and behaviour was also conducted in addition to drone surveys.
- Ship-based Observer Program
 - Marine mammal species including narwhal, bowhead whales, ringed seals, bearded seals and harp seals are typically monitored through the ship-based observer program. The data is submitted to the Canadian Wildlife Service and Environment and Climate Change Canada; however, due to COVID-19 this program was not conducted in 2020, but is expected to resume for the 2021 season.
 - An incidental marine mammal sightings pilot program was initiated in 2020 as an alternative in collaboration with the Marine Mammal Observation Network with a select group of vessels contracted by Baffinland.
- Underwater Acoustic Monitoring Program
 - JASCO Applied Sciences deployed and retrieved one Autonomous Multichannel Acoustic Recorder in Milne Inlet along Baffinland's Northern Shipping Route, and retrieved two recorders deployed in 2019.
- Marine Monitoring Program
 - Water and Sediment Sampling
 - Vertical water quality profiling was conducted (conductivity, temperature, depth, dissolved oxygen etc.) and sediment quality were monitored in Milne Inlet to assess potential environmental effects.
 - o Ballast Water Sampling
 - Ballast water from ore carrier vessels was monitored for salinity and temperature to confirm vessels had conducted a ballast water exchange in the North Atlantic Ocean prior to entering into Milne Inlet.
 - Fish Sampling
 - Collected fish were identified for species and for length/weight before being released.
 - Non-native Species Monitoring
 - Non-native species monitoring at Milne Port included vertical and horizontal oblique zooplankton tows, benthic infaunal sampling and underwater video surveys for epifauna and macroflora.
 - o Marine Fish Habitat Offset Monitoring
 - ROV based underwater video surveys of coarse substrate habitat were conducted around the existing ore dock, natural and artificial collection baskets were also utilized to assess production of benthic invertabrates and fish larva.
 - Diving surveys were conducted around the ore and freight docks for habitat offset monitoring and compared to reference locations.
 - Physical oceanography monitoring
 - Sea level and storm surges were monitored at Milne Port using a tidal gauge.
 - Oceanographic moorings were monitored to collect data on water level, speed, and direction throughout the water column.

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Terrestrial Environment Monitoring

In 2020, Baffinland conducted the following terrestrial environment monitoring programs:

- Dustfall Monitoring
 - Dustfall was measured at established stations along the Tote Road and near Project sites to monitor dust deposition rates at various distances from the Project.
- Vegetation Monitoring
 - Vegetation abundance monitoring, soil base metals and exotic invasive monitoring was conducted.
 - Maintenance of re-vegetation test plots to support closure and reclamation research. Revegetation surveys will resume in 2021, with new test plots to be established.
- Mammal and Wildlife Monitoring
 - Helicopter overflight monitoring, height of land caribou surveys, and the Zone of Influence Noise Monitoring Pilot Study which monitors potential project-related impacts on cairbou and wildlife distribution commenced in 2020.
 - Snow bank height surveys and snowtrack surveys were conducted in 2020.
- Bird Monitoring
 - Raptor occupancy and productivity surveys and active migratory bird nest surveys were conducted to determine avian distance and nest occupancy.

Noise, Air Quality and Climate Monitoring

- Several weather stations continued to be operated at Project sites. Monitored parameters included, precipitation (rain), temperature, wind speed, wind direction, solar radiation, barometric pressure and humidity.
- Air quality (SOx, NOx) and noise levels were monitored throughout the year at Project sites.

Annual reports for the 2020 monitoring programs listed above will be posted to Baffinland's Document Portal by March 31, 2021. Monitoring requirements and objectives for the various monitoring programs are discussed in Baffinland's suite of environmental management and monitoring plans available on Baffinland's Document Portal. Baffinland's Document Portal can be accessed on Baffinland's corporate website using the following URL: <u>https://www.baffinland.com/media-centre/document-portal/</u>

We trust that this 2020 monitoring summary in combination with the annual reports to be posted to Baffinland's Document Portal meet the NRI's annual reporting requirements under the Licence and request the renewal of Baffinland's existing multi-year licence in order to continue monitoring programs in 2021.

As the COVID-19 global pandemic remains a significant issue in late 2020 and is anticipated to extend into 2021, Baffinland will continue to put the health and safety of our staff, contractors and all Nunavummiut first and foremost when executing these programs. Baffinland and its contractors will continue to abide by all Nunavut Public Health regulations and guidance. Programs executed in 2020 and planned for 2021 are completed by Baffinland site staff, or contractors travelling directly to the mine site by private chartered aircraft and not through any Nunavut community. While local community members have historically participated in research activities and monitoring programs, Nunavummiut were unable to

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travel to the Mary River Project in 2020. While it is not anticipated at this time that these restrictions will be lifted in the near future, Baffinland looks forward to welcoming Nunavut based employees back to Site and the resumption of community participation in scientific monitoring programs, when it is deemed safe to do so.

Please do not hesitate to contact the undersigned should you have any questions or comments.

Regards,

Christopher Murray, Environmental & Regulatory Compliance Manager

Cc: Megan Lord-Hoyle, Lou Kamermans, Tim Sewell, Shawn Stevens, Connor Devereaux, Aaron MacDonell, Alison MacArthur, Amanda McKenzie (Baffinland)