Baffinland Iron Mines Corporation
Baffinland ᐅᔾᕋᓐᓂᐊᕐᕕᒃ ᑯᐊᐳᕇᓴᓐ

Mary River Project
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2018 Qikiqtani Inuit Association (QIA) and Nunavut Water Board (NWB) Annual Report for Operations
2018 ᕿᑭᖅᑕᓂ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ (QIA) ᐊᒻᒪ ᓄᓇᕗᒻᒥ ᐃᒥᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ (NWB) ᐊᕐᕌᒍᑕᒫᑦ ᐅᓂᒃᑳᑦ ᕿᑭᓂᕐᒧᑦ ᐊᒻᒪ ᓄᓇᒥᑦ ᐳᓘᓇᖅᑕᓂᕐᒧᑦ

Water Licence 2AM-MRY-1325 and Commercial Lease Q13C301
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March 31, 2019 / ᒫᑦᓯ 31, 2019

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2018 QIKIQTANI INUIT ASSOCATION (QIA) AND NUNAVUT WATER BOARD (NWB) ANNUAL REPORT FOR OPERATIONS

Rev 0

2019-03-31	0		
		A. Vermeer	C. Murray
Date	**Rev.**	**Prepared By**	**Reviewed and Approved By**

TABLE 0 – REPORT SUBMISSION SUMMARY

Year of Annual Report	2018
Annual Report Submission Date:	March 31, 2019
Name and contact information of the Baffinland representative responsible for the preparation and approval of the Annual Report.	**Christopher Murray** Christopher.murray@baffinland.com T: +1 416 364 8820 x5072 C: +1 647 472 9842
The name and contact information of the Baffinland representative that QIA can contact should it have any questions or comments regarding the Annual Report	**Christopher Murray** Christopher.murray@baffinland.com T: +1 416 364 8820 x5072 C: +1 647 472 9842

2018 QIKIQTANI INUIT ASSOCATION (QIA) AND NUNAVUT WATER BOARD (NWB) ANNUAL REPORT FOR OPERATIONS

EXECUTIVE SUMMARY

This report to the Qikiqtani Inuit Association (QIA) and the Nunavut Water Board (NWB) has been prepared to summarize the 2018 Mary River Project (the Project) activities and monitoring conducted under Baffinland Iron Mines Corporation's (Baffinland) Type 'A' Water Licence - 2AM-MRY1325 – Amendment No. 1 (Type 'A' Water Licence) and the Commercial Lease No. Q13C301 (Commercial Lease) between the QIA and Baffinland. All annual reporting requirements for the Commercial Lease except a summary of exploration and drilling activities conducted in 2018 are included within this report. A separate annual report has been prepared for the QIA and NWB to summarize the 2018 exploration and geotechnical activities conducted within the scope of Baffinland's Type 'B' Water Licence - 2BE-MRY1421 (Type 'B' Water Licence) and Commercial Lease.

During 2018, mining operations at Deposit No. 1 continued to increase and produced a total of 5.6 million tonnes (Mt) of ore, representing a 22 percent (%) increase from the 4.6 Mt of ore produced in 2017. Ore produced by mining operations at the Mary River Mine Site (Mine Site) was transported by ore haul trucks along the Milne Inlet Tote Road (Tote Road) and stockpiled at Milne Port. During the 2018 open-water shipping season (July to October), a total of 5.1 Mt of ore was shipped from the Project's Milne Port to international markets in Europe, the United Kingdom, Taiwan, and Japan. 2018 marine ore shipments involved 71 individual ore carrier vessel transits during the open-water shipping season. Following the open-water shipping season, ore continued to be stockpiled at Milne Port to be shipped to market in 2019.

Mining operations along with development of Project infrastructure continued throughout 2018. A description of the key Project activities executed under the Type 'A' Water Licence and the Commercial Lease are presented below by Project area.

Mine Site

At the Mine Site, key Project activities included:

- Mining of Deposit No. 1 and the crushing and stockpiling of ore at the Mine Site Crusher Facility;
- Extraction of aggregates from the QMR2 Quarry;
- Continued deposition of non-hazardous wastes at the Mine Site Non-Hazardous Waste Landfill Facility (Landfill Facility), including the development of the Landfill Facility's second waste cell (Cell No. 2);
- Continued deposition of waste rock generated by Project operations at the Waste Rock Facility;
- Upgrades to site surface water drainage infrastructure (i.e. culverts) to address sedimentation concerns and improve surface water drainage;
- Continued construction and assembly of the new 800-Person Camp (Sailiivik Camp) and supporting infrastructure;

- Improvements to the Crusher Facility's surface water management infrastructure, including upgrades to the perimeter ditch network and expansion of the Crusher Facility Pond; and,
- Continued implementation of corrective actions in response to the concerns identified at the Waste Rock Facility during 2017, including the successful installation and operation of a dedicated water treatment plant at the Facility to ensure effluent water quality compliance.

Tote Road

Along the Tote Road, key Project activities included:

- The transportation of ore using ore haul trucks from the Mine Site to Milne Port for stockpiling;
- Trucking of fuel and other supplies from Milne Port to the Mine Site to support Project operations and development;
- Continued maintenance of the Tote Road to improve surface water drainage and address safety and operational concerns, including works proposed in the Tote Road Earthworks Execution Plan (TREEP);
- Implementation of a freshet management and monitoring plan, involving the implementation of preventative and corrective measures (i.e. check dams, silt fences, excavating culverts of snow and ice, etc.) to address sedimentation concerns during high flow periods;
- Continued development of the Km 97 Borrow Source to support road maintenance; and,
- The application of calcium chloride and water for dust-suppression purposes.

Milne Port

At Milne Port, key Project activities included:

- Continued stockpiling of ore at the Milne Port Ore Stockpile Facility prior to and following the 2018 open-water shipping season;
- Marine shipment of ore to international markets via the Milne Port shiploader and ore carrier vessels;
- Extraction of aggregates from the Q1 Quarry;
- Installation and/or commissioning of three (3) additional fuel tanks (0.75 ML, 3 ML and 13 ML) at the Milne Port Bulk Fuel Storage Facility;
- Continued constructions of laydowns and associated surface water management infrastructure, to store equipment and supplies required for Project operations and development; and,
- Multiple sealifts, including the backhaul of equipment and waste to Southern Canada and the delivery of fuel, equipment, consumables and materials to support continued Project operations and development.

Waste Rock Facility Management and Corrective Actions

During the summer of 2017, the development of Acid Rock Drainage and Metal Leaching (ARD/ML) at the Mine Site Waste Rock Facility (Waste Rock Facility) in combination with the Waste Rock Facility surface water management pond (Waste Rock Facility Pond) liner becoming compromised resulted in non-compliant effluent discharges at the Waste Rock Facility.

In response to the concerns identified and non-compliant discharges in 2017, Baffinland developed and implemented several immediate corrective actions in 2017 to ensure compliance regarding the management of waste rock and effluent at the Waste Rock Facility. These actions were summarized and provided to regulators in the Project's *2017 QIA and NWB Annual Report for Operations*. During 2018, Baffinland continued to implement corrective actions to address ongoing concerns, including:

- The successful installation and operation of a dedicated water treatment plant at the Waste Rock Facility to ensure effluent water quality compliance under the Metal & Diamond Mining Effluent Regulations (MDMER) and Type 'A' Water Licence during controlled discharges;
- Inspection of the Waste Rock Facility Pond's liner integrity to further investigate the cause of the uncontrolled seepage observed in August 2017;
- Approval from the NWB under Modification No. 8 for the expansion and repair of the Waste Rock Facility Pond;
- Installation of eight (8) thermistor series at varying depths and locations throughout the Waste Rock Facility to characterize the thermal conditions of the Facility. Thermistor data will be used to inform future waste rock and ARD/ML management practices as well as water quality modelling at the Waste Rock Facility.
- Continued optimization of the Project's near term waste rock depositional and management strategies, detailed in the Interim Waste Rock Management Plans developed by Golder Associates and provided to regulators on March 31 and December 31, 2018.
- Development of a MDMER Emergency Response Plan to: clarify roles & responsibilities; clarify emergency spill response procedures; and outline the controls in place to ensure effluent water quality compliance at the Project under MDMER.

Baffinland continues to remain committed to addressing the identified concerns and maintaining compliance in the management of waste rock and effluent at the Waste Rock Facility. Industry best practices and procedures planned for the Waste Rock Facility to maintain compliance are detailed in the Project's most recent revisions of the Interim Waste Rock Management Plan (Golder, March 31, 2019; Appendix E.5), MDMER Emergency Response Plan and Fresh Water Supply, Sewage and Wastewater Management Plan. Key corrective actions planned for 2019 include the expansion and repair of the Waste Rock Facility Pond and additional waste rock studies to further optimize the Project's waste rock and ARD/ML management strategies.

Key Modifications to Project Infrastructure

During 2018, Baffinland continued to develop the Project and submitted several modification applications to the NWB, under Section G of the Type 'A' Water Licence, to upgrade and improve Project infrastructure at Milne Port and the Mine Site. Approved modifications implemented at the Project in 2018 included:

- Modification No. 2 - Increasing the fuel capacity at the Milne Port Bulk Fuel Storage Facility by installing and/or commissioning three (3) additional fuel tanks;
- Modification No. 4 - Continued construction of the new 800-Person Camp (Sailiivik Camp) and supporting infrastructure at the Mine Site;
- Modification No. 5 – Expansion of the Crusher Facility Pond at the Mine Site to ensure adequate runoff storage capacity following the Facility's 2017 footprint expansion;
- Modification No. 7 – Installation and operation of a dedicated water treatment plant at the Waste Rock Facility to ensure effluent water quality effluent during controlled discharges;
- Modification No. 9 – Expansion of the Milne Port Ore Stockpile Facility's surface water management infrastructure, including new ponds and ditching; and,
- Modification No. 10 – Expansion of the Landfill Facility and construction of a treated sewage effluent pipeline to service the new 800-Person Camp (Sailiivik Camp).

Additionally, during 2018 Baffinland received approval under Modification No. 8 to expand the Waste Rock Facility, including the expansion and repair of the Waste Rock Facility Pond and perimeter ditches. Works associated with Modification No. 8 are planned to be implemented in 2019.

Spills

During 2018, thirty-six (36) spills were reported to the Northwest Territories-Nunavut (NT-NU) Spill Line, NWB, CIRNAC and QIA by the Project, including twenty-three (23) sewage/greywater spills, four (4) sediment releases and nine (9) spills involving other operational effluents and materials. Overall, this represented a frequency decrease of 25 percent when compared to the frequency of reportable spills in 2017. Baffinland continued to investigate the basic causes of all spills that occurred on site in 2018 so that effective long-term corrective actions could be implemented to reduce the frequency of spills at Project sites.

Water Use and Freshwater Monitoring

Under the authorization of the Type 'A' Water Licence, freshwater was withdrawn during 2018 to sustain three (3) key activities at the Project: potable water supply (domestic), dust suppression, and other industrial purposes. During 2018, total daily water volume withdrawal limits, stipulated in the Type 'A' Water Licence, for domestic, industrial and dust suppression purposes were not exceeded at approved Project water sources, with the exception of three (3) dust suppression water sources along the Tote Road during the summer months.

Throughout 2018, Baffinland continued to implement the Surveillance Network Program (SNP) outlined in Schedule I of the Type 'A' Water Licence, analyzing effluents (i.e. treated sewage, treated oily stormwater) discharged to the receiving environment and monitoring surface water quality within specific

Project areas (i.e. surface water runoff downstream of Project areas). Based on a review of 2018 SNP results reported to the NWB, CIRNAC and the QIA, exceedances of applicable discharge criteria in 2018 involved mainly surface water runoff and effluents with elevated total suspended solids (TSS) levels. In each case, appropriate control measures were implemented to restore TSS levels below applicable discharge criteria. Baffinland continues to assess and implement the appropriate corrective and mitigation measures to address ongoing sedimentation concerns at the Project.

In addition to the SNP, ongoing environmental monitoring and effects studies, including the Project's Aquatic Effects Monitoring Plan (AEMP), were conducted during 2018 in accordance with the commitments made in the ERP, and the Final Environmental Impact Statement (FEIS) approved under the Project Certificate.

Community Consultations and Engagement

Throughout 2018, Baffinland continued to consult with the North Baffin communities and organizations, regarding construction activities at site, operations and the 2018 shipping season, progress regarding employment from the North Baffin communities, environmental monitoring activities and results, and future phases of the Project. Baffinland remains committed to meaningful engagement with stakeholders potentially affected by the Project, applicable regulatory agencies, and the general public.

Summary of Plans for 2019

The 2019 Work Plan was prepared and provided by Baffinland to relevant parties on November 1, 2018 as required under Section 6.1 of the Commercial Lease and under Part J, Item 3 of the Type 'A' Water Licence, for the purposes of an Annual Security Review for activities undertaken on an annual basis.

The 2019 Work Plan described the planned development and operation of the mine, ore crushing and land transportation, stockpiling and marine shipment of ore, and the continued development and construction of infrastructure required at Milne Port, the Tote Road, and the Mine Site. To continue to upgrade and improve Project infrastructure, Baffinland plans on submitting a 2019 Work Plan Addendum in mid-2019.

The Project's Phase 2 Expansion Proposal continues to proceed through the review and approvals process facilitated by the NIRB and NWB.

Project environmental monitoring programs prescribed by the Project Certificate, water licences, authorizations, management plans and environmental effects monitoring plans will continue through 2019.

2018 ᕿᑭᖅᑕᓂ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᓐᓄᑦ (QIA) ᐊᒻᒪᓗ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ (NWB) ᐊᕐᕌᒍᑕᒫᖅᓯᐅᑦ ᐅᓂᒃᑳᖓ ᐊᐅᓚᑕᖏᓐᓄᑦ

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ᐅᓇ ᐅᓂᒃᑳᓕᐊᖑᔪᖅ ᕿᑭᖅᑕᓂ ᐃᓄᐃᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᓐᓄᑦ (QIA) ᐊᒻᒪᓗ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ (NWB) ᐸᕐᓈᕆᔭᐅᓯᒪᔪᖅ ᐅᒃᓃᑲᕆᔭᖃᕋᓱᒃᓱᑎᒃ ᐊᕐᕌᒎᑦ 2018 ᕿᓂᖅᓴᕐᓂᖏᓐᓄᑦ ᓄᓇᐅᓪᓗ ᖃᓄᐃᑦᑑᓂᖓᓄᑦ ᐱᓕᕆᐋᖏᑦ ᐊᑐᖅᓯᒪᔭᑦ ᐊᑖᒍᑦ ᐹᕝᕚᓛᑦ ᓴᕠᔭᒃᓴᓕᕆᔨᑦ ᐅᔭᕋᖕᓂᐊᖅᑎᑦ ᑎᒥᕐᑯᑖ (ᐹᕝᕚᓛᑦ) ᐃᓕᕐᑯᓯᓕᒃ 'A' ᐃᒥᒻᒧᑦ ᓚᐃᓴᓐᓯ 2AM-MRY1325 - ᐋᖅᑭᒋᐊᕈᑖ 1 (ᐃᓕᕐᑯᓯᓕᒃ 'A' ᐃᒥᒻᒧᑦ ᓚᐃᓴᓐᓯ) ᐊᒻᒪᓗ ᑮᓇᐅᔭᓕᐅᕋᓱᐊᕈᑦ ᐊᑐᖅᑐᐊᕈᑎᖓ Q13C301 (ᑮᓇᐅᔭᓕᐅᕋᓱᐊᕈᑦ ᐊᑐᖅᑐᐊᕈᑦ) ᐊᑯᓂᐊᒍᑦ ᕿᑭᖅᑕᓂᒃᑯᑦ ᐊᒻᒪᓗ ᐹᕝᕚᓛᑦ ᓄᓘᔾᖏᓂ ᐱᓕᕆᔭᐅᔪᒧᑦ. ᐊᑐᓂᖓᔪᒥᒃ ᐊᕐᕌᒍᑕᒫᖅᓯᐅᑎᑦ ᐅᓂᒃᑳᑦ ᐸᕐᓈᕆᔭᐅᓯᒪᔫᑦ ᕿᑭᖅᑕᓂᒃᑯᓐᓄ ᐃᒪᓕᕆᔨᒃᑯᑦ ᑎᒥᖓᓄᒡᓗ ᐅᓂᒃᑳᖃᖅᑐᑦ 2018 ᐱᓕᕆᔭᐅᔪᒧᑦ ᐱᓕᕆᐋᖏᓐᓄᑦ ᖃᐅᔨᓵᖑᔭᕆᐊᓖᒡᓗ ᐊᑖᒍᑦ ᐹᕝᕚᓛᒃᑯᑦ ᐃᓕᕐᑯᓯᓕᒃ 'B' ᐃᒥᒻᒧᑦ ᓚᐃᓴᓐᓯ 2BE-MRY1421 – (ᐃᓕᕐᑯᓯᓕᒃ 'B' ᐃᒥᒻᒧᑦ ᓚᐃᓴᓐᓯ) ᐊᑖᒍᑦ ᑮᓇᐅᔭᓕᐅᕋᓱᐊᖅᑐᑦ ᐊᑐᖅᑐᐊᕈᑖᒍᑦ.

ᐊᕐᕌᒍᖓᒍᑦ 2018, ᐅᔭᕋᖕᓂᐊᖅᑐᑦ ᐱᓕᕆᐋᖏᑦ ᑕᐸᑲᓂ ᓴᕠᔭᒃᓴᐅᑉ ᑲᑎᖅᓱᖓ 1 ᐊᖏᓕᕙᓪᓕᐊᖏᓐᓇᖅᑐᖅ ᓴᖅᑮᓪᓗᑕ ᐃᓱᖃᖅᑐᒥᒃ 5.6 ᒥᓕᐋᓐ ᑕᓐᓃᑦ (Mt) ᓴᕠᔭᒃᓴᕐᒥᑦ, ᑭᒡᒐᖅᑐᐃᔪᖅ ᑖᓐᓇ 22 ᐳᓴᓐᑎᒥᒃ (%) ᐊᖏᓕᒋᐊᕈᑖᑕ ᑖᔅᓯᒪᙵᑦ 4.6 Mt ᓴᕠᔭᒃᓴᒥᒃ ᐅᔭᕋᖕᓂᐊᖅᑕᑦᑎᓐᓂᒃ ᐃᓗᐊᓂ 2017. ᓴᕠᔭᒃᓴᖅ ᐅᔭᕋᖕᓂᐊᖅᑐᓄᑦ ᓴᖅᑭᑕᐅᕙᓪᓕᐊᔪᖅ ᓄᓘᔾᑉ ᐅᔭᕋᖕᓂᐊᕝᕕᖓᓂ (ᐅᔭᕋᖕᓂᐊᕝᕕᖓ) ᐊᓯᐃᑏᒃ ᐅᓯᑲᖅᑕᖅᑕᐅᓪᓗᓂ ᓄᓇᓯᐅᑎᔾᔪᐊᓄᑦ ᕿᙳᐊᓄᐊᕆᐊᖅ ᐅᓯᑲᖅᑕᐅᑦ ᐊᖅᑯᑖ ᐊᑐᖅᓱᒍ (ᐅᓯᑲᖅᑕᐅᑦ ᐊᖅᑯᑖ) ᑐᖅᑯᖅᑕᐅᕙᒃᓱᓂ ᕿᙳᐊᑕ ᑐᓚᒃᑕᕝᕕᖓᓄᑦ. ᐃᓗᐊᒍᑦ ᐊᕐᕌᒍᖓᑕ 2018 ᓯᑯᖃᖏᓐᓂᐅᑉ–ᐃᒪᐅᑎᓪᓗᒍ ᐅᒥᐊᔾᔪᐊᒃᑯᑦ ᐅᓯᑲᖅᑕᐃᕕᖓᑕ (ᔪᓚᐆ ᑎᑭᓪᓗᒍ ᐊᒃᑐᕙ), ᑲᑎᓕᒫᖅᑐᑦ 5.1 ᒥᓕᐋᓐ ᑕᓐᓃᑦ ᓴᕠᔭᒃᓴᖅ ᐅᓯᔭᐅᓪᓗᑎᒃ ᐅᒥᐊᔾᔪᐊᒃᑯᑦ ᕿᙳᐊᑕ ᑐᓚᒃᑕᕝᕕᖓᓂ ᓄᓇᔾᔪᐊᑉ ᓂᐅᕕᕋᕝᕕᖏᓐᓄᑦ ᔫᕈᐱᒥ, ᐃᖕᓚᓐᑯᓐᓄᑦ, ᑕᐃᕙᓐ ᐊᒻᒪᑦᑕᐅᖅ ᔭᐹᓐᒧᑦ. ᐊᕐᕌᒍᐊᑕ 2018 ᑕᑎᐅᒻᒥ ᐅᒥᐊᔾᔪᐊᑦ ᐅᓯᑲᖅᑕᖅᑕᖏᑦ ᐃᓚᖃᖅᓱᑎᒃ 71–ᓂᒃ ᐅᒥᐊᔾᔪᐊᑦ ᐅᓯᑲᖅᑕᐅᑏᑦ ᓴᕠᔭᒃᓴᓄᑦ ᐃᑳᖅᐸᒃᓱᑎᒃ ᑕᑎᐅᑉ ᐊᑭᐊᓄᑦ ᓯᑯᖄᖏᓐᓂᐊᓂ. ᒪᓕᒃᓱᒍ ᑖᓐᓇ ᐊᐅᔾᔾᑯᑦ ᐅᓯᑲᖅᑕᐃᓂᕗᑦ, ᓴᕠᔭᒃᓴᖅ ᑐᖅᑯᖅᑕᐅᕙᓪᓕᐊᖏᓐᓇᓕᕆᕗᖅ ᐅᒥᐊᔾᔪᐊᒃᑯᑦ ᐅᓯᔭᐅᓖᒻᒥᒐᒥ ᐊᐅᔾᔫᑦ 2019.

ᐅᔭᕋᖕᓂᐊᖅᑐᑦ ᐊᐅᓚᑕᖏᑦ ᐱᖃᓯᐅᑎᓪᓗᒍ ᓴᓇᔭᐅᕙᓪᓕᐊᓂᖏᑦ ᐅᔭᕋᖕᓂᐊᖅᑐᑦ ᐱᕐᑯᑎᔾᔪᐊᖏᑦ ᑲᔪᓯᓚᐅᖅᑐᖅ ᐃᓗᐊᓂ 2018. ᐅᓂᒃᑲᓕᐅᕗᖅ ᐊᑐᓃᑦ ᐅᔭᕋᖕᓂᐊᖅᑐᑦ ᐊᐅᓚᑕᖏᑦ ᐱᓕᕆᐋᖃᓂᕗᑦ ᐃᓕᕐᑯᓯᓕᒃ 'A' ᐃᒥᒻᒧᑦ ᓚᐃᓴᓐᓯ ᐊᒻᒪᓗ ᑮᓇᐅᔭᓕᐅᕋᓱᐊᕈᑦ ᐊᑐᖅᑐᐊᕈᑎᖓᓄᑦ ᐅᓂᒃᑲᓕᐅᕗᑦ ᐊᒡᒍᖅᓯᒪᓪᓗᒋᑦ ᓴᓇᐅᔭᓂᓕᔫᑕ ᓄᓇᖏᒍᑦ.

<u>ᓄᓘᔾᑉ ᐅᔭᕋᖕᓂᐊᕝᕕᖓ</u>

ᐅᔭᕋᖕᓂᐊᕝᕕᓪᓚᑦᑖᒥᑦ, ᐊᑐᕌᖑᔪᑦ ᐅᔭᕋᖕᓂᐊᖅᑐᑦ ᐱᓕᕆᔭᖏᑦ ᐅᑯᓂᖓ ᐃᓚᖃᖅᓱᑎᒃ:

- ᐅᔭᕋᖕᓂᐊᖅᓱᒍ ᓴᕠᔭᒃᓴᐅᑉ ᑲᑎᖅᓱᖓ 1 ᓯᖃᓕᔭᐅᓂᖓᓗ ᑐᖅᑯᖅᑕᐅᕙᓪᓕᐊᓂᖓᓗ ᓴᕠᔭᒃᓴᖅ ᑕᐃᑲᓂ ᐅᔭᕋᖕᓂᐊᕝᕕᐅᑉ ᓯᖃᓕᕚᐊᑕ ᐃᒡᓗᔾᔪᐊᖓᓂ;
- ᐲᔭᖅᑕᐅᓂᖏᑦ ᓯᖃᓕᒐᑦ ᑐᐊᐸᐅᔭᑦ ᑖᔅᓯᒪᙵᑦ QMR2 ᑐᐊᐸᓕᐅᕝᕕᒃ;
- ᑲᔪᓯᔪᖅ ᐃᓕᐅᕋᐃᕙᓪᓕᐊᓂᖏᑕ ᐅᓗᕆᐋᓈᖏᑦᑐᑦ ᐅᔭᕋᑐᐃᓐᓇᖏᓂᒃ ᐅᔭᕋᖕᓂᐊᕝᕕᐅᑉ ᐅᓗᕆᐋᓇᖏᑦᑐᑦ ᐊᑐᔾᔫᖏᑦᑐᑦ ᑐᖅᑯᐃᕝᕕᖓ (ᑐᖅᑯᐃᕝᕕᖓ), ᐱᖃᓯᐅᑎᔪᖅ ᓴᓇᔭᐅᕙᓪᓕᐊᓂᖓ ᑐᖅᑯᐃᕝᕕᖓᑕ ᑭᖑᓪᓕᐅᑉ ᐃᒋᑦᑎᕕᒃᓴᕆᔾᔭ (ᑐᖅᑯᐃᕝᕕᒃ 2);
- ᑲᔪᓰᓐᓇᖅᑐᒥᒃ ᐃᓕᐅᖅᑲᐃᕙᓪᓕᐊᓂᖏᑦ ᐅᔭᕋᑐᐃᓐᓇᕐᓂᒃ ᓴᕠᔭᒃᓴᖓᓄᑦ ᑎᑭᓐᓇᓱᒃᓱᑎᒃ ᑕᐃᑲᓂ ᑐᖅᑯᐃᕝᕕᖓᑕ ᐃᓂᖓᓂ;
- ᓄᑖᕈᕆᐊᖅᑕᐅᓂᖏᑦ ᓄᓇᖏᑕ ᐃᒪᐃᔭᖅᐸᓪᓕᐊᓂᖏᓐᓄᑦ ᐱᕐᑯᑎᔾᔪᐊᑦ (ᓱᓪᓗ, ᑯᒡᕖᑦ) ᑲᒪᒋᔭᖃᕋᓱᒃᓱᑎᒃ ᓱᕈᐃᔪᒥᒃ ᑰᑕᐅᕙᓪᓕᐊᔪᑦ ᐃᓱᒪᓘᑕᐅᓂᑯᑦ ᐱᐅᓯᕚᓪᓕᕋᓱᒃᓱᒍᓗ ᐃᒪᐃᔭᖅᐸᓪᓕᐊᓂᕆᓪᓗ;
- ᑲᔪᓰᓐᓇᖅᑐᒥᒃ ᓴᓇᕙᓪᓕᐊᓗᑕ ᑲᑎᖅᓱᐊᖑᓗᓂᓗ ᓄᑖᖅ 800-ᐃᓄᖃᕈᓐᓇᖅᑐᖅ ᑕᓪᓕᕝᕕᐊ (ᓴᐃᓕᕝᕕᒃ) ᑖᒃᑯᐊᓗ ᑐᙵᕝᕕᒋᔭᖏᑦ ᐱᖁᑎᔾᔪᐊᕆᔭᑦ;
- ᐱᐅᓯᒋᐊᕆᔭᐅᓂᖓ ᓯᖃᓕᕆᕝᕕᐅᑉ ᐃᒡᓗᖁᑖᑕ ᐊᕙᑖᓂ ᐃᒪᐃᔭᕈᑎᒋᓖᖏᑦ, ᐱᖃᓯᐅᑎᔪᑦ ᐱᐅᓯᒋᐊᖅᑕᐅᓂᖏᑦ ᐊᕙᑖᑕ ᐃᓗᑦᑐᖅᓯᒪᔪᖅ ᑲᑎᙵᔪᖅ ᐊᖏᓕᒋᐊᕆᓂᖓᓪᓗ ᓯᖃᓕᕆᕝᕕᐅᑉ ᐃᒪᖅᑐᒐᒃᓴᑕ ᐃᒪᖅᓱᖓ; ᐊᒻᒪᓗ

- ᑲᔪᕐᓈᓇᖅᑐᒥᒃ ᐊᑐᓕᖅᑎᑦᑎᓂᕖᑦ ᐱᐅᓯᕆᐋᕈᑎᓂᒃ ᒪᓕᒃᑯᕆᑦ ᐃᓱᒫᓘᑕᐅᔪᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ ᑐᕌᖓᓪᓗᑎᒃ ᐅᔭᕋᑐᐃᓐᓇᕐᒧᑦ ᑐᖅᑯᐃᕝᕕᐅᑉ ᒥᒃᓵᓄᑦ ᐋᕐᕌᒍᐊᓂ 2017, ᐃᓚᖃᖅᑐᓂ ᑲᔪᓯᑎᐊᖅᑐᒥᒃ ᐃᓕᓯᓚᐅᓐᓂᑦᑕ ᐊᐅᓚᑦᑎᓪᓂᑦᑕᓗ ᑐᕌᖓᓪᓚᕆᒃᑐᒥᒃ ᑭᓈᑐᓕᕆᕝᕕᖕᒥᑦ ᐅᔭᕋᓐᓂᐊᕝᕕᖕᒥ ᒪᓕᒋᐊᖃᓐᓂᕖᑦ ᐃᒥᑦᑎᐊᕙᐅᓂᐊ ᑯᕕᔭᐅᓂᐊᖅᑐᖅ ᐱᕐᑯᔭᓄᑦ ᒪᓕᑦᑎᐊᕐᑯᓪᓗᒍ.

ᐅᓯᒃᑲᖅᑕᐅᑦ ᐊᖅᑯᑖ

ᐃᓱᖓᓄᓕᒫᖅ ᐅᓯᒃᑲᖅᑕᐅᑦ ᐊᖅᑯᑖᑕ, ᐊᑐᕈᑦ ᐅᔭᕋᓐᓂᐊᖅᑐᓄᑦ ᐱᓕᕆᐊᑦ ᐃᓚᖃᖅᑐᑦ:

- ᐅᓯᒃᑲᖅᑕᖅᑕᐅᓂᖓ ᓴᕕᑦᔭᒃᓴᖅ ᐊᑐᖅᑯᑎᒃ ᓴᕕᑦᔭᒃᓴᓂᒃ ᐅᓯᒃᑲᖅᑕᐅᑎᑦ ᓄᓇᓯᐅᑎᖏᓂᒃ ᑕᕝᕙᖓᑦ ᓄᓘᔾ ᐅᔭᕋᓐᓂᐊᕝᕕᖓᓂ ᕿᒨᒧᐊᑕ ᑐᓚᒃᑕᕝᕕᖓᓄᖅ ᑐᖅᑯᖅᑕᐅᕙᓪᓕᐊᓪᓗᓂ;
- ᐅᓯᒃᑲᖅᑕᐅᓂᖏᑦ ᐅᖅᓱᐋᓗᒃᓴᑦ ᐊᓯᖏᓪᓗ ᐊᑐᖅᑕᐅᖑᓲᑦ ᑕᑲᓐᓂᓚᑦ ᕿᒨᒧᐊᑕ ᑐᓚᒃᑕᕝᕕᖓᓂ ᓄᓘᔾ ᐅᔭᕋᓐᓂᐊᕝᕕᖓᓄᑦ ᐃᑲᔪᐃᔪᑦ ᐅᔭᕋᓐᓂᐊᖅᑐᑦ ᐊᐅᓚᑕᖏᓂᒃ ᐱᕙᓪᓕᐊᔭᖏᓂᒡᓗ;
- ᑲᔪᕐᓈᓇᖅᑐᒥᒃ ᐸᖅᑭᔮᒃᑕᐅᓂᖓ ᐅᓯᒃᑲᖅᑕᐅᑦ ᐊᖅᑯᑖ ᐱᐅᓯᕆᐊᕋᓱᒡᒍᒍ ᖀᖓᒍᑦ ᐃᒪᐃᔭᓲᖑᓂᐊ ᓵᙵᓗᕆᓪᓗ ᐅᓗᕆᐋᓇᐅᑎᓲ ᐊᐅᓚᑕᖓᓄᓪᓗ ᐃᓱᒫᓘᑎᕆᔭᖏᑦ, ᐱᖃᓯᐅᑎᔪᑦ ᓴᓇᔭᐅᔪᓃᑦ ᐅᒃᑑᑎᕆᔭᐅᓯᒪᔪᑦ ᐃᓗᐊᓂ ᐅᓯᒃᑲᖅᑕᐅᑦ ᐊᖅᑯᑖ ᓄᓇᓕᕆᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔫᓭᓄᑦ ᐸᕐᓇᐅᑖᒍᑦ (TREEP);
- ᐊᑐᓕᖅᑎᑦᑎᓂᖅ ᐃᒥᑦᑎᐊᕙᐅᑉ ᐊᐅᓚᑕᐅᓂᖓᓄᑦ ᐅᔾᔨᖅᓵᕆᔭᐅᓂᖓᑕᓗ ᐸᕐᓇᐅᑖᒍᑦ, ᐃᓚᖃᖅᑐᖅ ᐊᑐᓐᓂᕐᒥᒃ ᐊᑐᖅᑎᑕᐅᓗᑎᒃ ᓄᖅᑲᖓᔅᓯᑎᒃᓴᑦ ᐱᐅᓯᕆᐊᕆᔅᓯᑏᓗ ᐊᐅᓚᑕᐅᓲᑦ (ᓲᓗ, ᓯᒥᕐᒥᒪᔅᓯᑏᑦ ᖃᐅᔾᔮᕆᓗᕆᑦ, ᐃᓱᑭᑖᑕ ᐊᑯᖅᓯᔅᓯᑎᖏᑦ, ᑑᒡᕕᖏᑦ ᓯᒥᔾᔭᐃᖅᐸᒃᑯᕆᑦ ᐊᐳᑎᖓ ᓂᓚᖓᓗ, ᐊᓯᖏᓪᓗ) ᓵᙵᔭᖅᑲᓯᓪᓗᑕ ᑰᕙᕐᔪᐊᖅᑎᓪᓗᒍ ᓯᐅᖅᑭᓴᑦᑐᒥᒃ ᐃᓱᒫᓘᑕᐅᓯᒪᔪᓂᒃ;
- ᑲᔪᕐᓈᓇᖅᑐᒥᒃ ᓴᓇᔭᐅᖏᓈᓪᓗᓂ ᑭᓛᒥᑕ 97 ᓯᐅᖅᑭᓇᕝᕕᒃ ᐃᑲᔪᐃᖃᑕᐅᓗᓂ ᐊᖅᑯᓯᕆᓂᒧᑦ ᐱᓕᕆᑦᑎᓈᓂᒃ; ᐊᒻᒪᓗ,
- ᐊᑑᑎᔭᐅᓂᖓ ᑕᕆᐅᖅ ᐃᒥᓪᓗ ᐳᕓᓗᐊᖅᑕᐃᓕᒪᑎᑦᑎᓂᒧᑦ ᐱᔾᔪᑎᖃᖅᑕ ᐊᖅᑯᑖᒧᑦ.

ᕿᙵᒍᐊᑕ ᑐᓚᒃᑕᕝᕕᖓ

At ᕿᙵᒍᐊᑕ ᑐᓚᒃᑕᕝᕕᖓ, ᐊᑐᕇᑦ ᐱᓕᕆᐋᖑᓚᐅᖅᑐᑦ ᐅᔭᕋᓐᓂᐊᖅᑐᓄᑦ ᐃᓚᖃᖅᑐᑎᒃ:

- ᑲᔪᕐᓈᓇᖅᑐᒥᒃ ᑐᖅᑯᐃᕙᓪᓕᐊᓂᖅ ᓴᕕᑦᔭᒃᓴᒥᒃ ᕿᙵᒍᐊᑕ ᑐᓚᒃᑕᕝᕕᖓᑕ ᓴᕕᑦᔭᒃᓴᓄᑦ ᑐᖅᑯᐃᕝᕙᕝᕕᐊᓄᑦ ᓯᕗᓂᐊᒍᑦ ᑭᖑᓂᐊᒍᓪᓗ ᐋᕐᕌᒍᑉ 2018 ᐊᐅᔭᒃᑯᑦ ᐅᒥᐊᔾᔪᐊᒃᑯᑦ ᐅᓯᒃᑕᐃᖃᑦᑕᓐᓂᖓᑕ;
- ᑕᕆᐅᒃᑯᑦ ᐅᓯᔭᐅᓂᖓ ᓴᕕᑦᔭᒃᓴᖅ ᓄᓇᔾᔪᐊᒻᒥ ᓂᐅᕙᕋᕝᕕᖕᒋᓐᓄᑦ ᐊᖅᑯᑎᒋᓪᓗᒍ ᑖᓐᓇ ᕿᙵᒍᐊᑕ ᑐᓚᒃᑕᕝᕕᖓ ᐅᒥᐊᔾᔪᐊᒧᑦ ᐅᓯᓕᖅᓱᑎᖓ ᓴᕕᑦᔭᒃᓴᒥᓪᓗ ᐅᓯᒃᑕᐃᓱᑦ ᐅᒥᐊᔾᔪᐊᖏᑦ;
- ᐲᔭᐃᕙᓪᓕᐊᓂᖏᑦ ᓯᖃᓕᔭᐅᓯᒪᔪᓂᒃ ᑖᔅᓯᒪᙵᑦ Q1 ᑐᐊᐸᒃᑕᕝᕕᖓᓂ;
- ᐃᓕᔭᐅᓂᖏᑦ ᐊᒻᒪ/ᐅᕝᕙᓗ ᐊᑐᓕᖅᑎᑕᐅᓂᖏᑦ ᐱᖓᓱᑦ (3) ᖃᒃᑳᓂᐊᒍᑦ ᐅᖅᓱᐋᓗᖃᐅᑏᑦ ᖃᑦᑕᐅᔭᔅᓯᐊᖏᑦ (0.75 ᒥᓕᐊᓐ ᓖᑕ, 3 ᒥᓕᐊᓐ ᓖᑕ ᐊᒻᒪ 13 ᒥᓕᐊᓐ ᓖᑕ) ᕿᙵᒍᐊᑕ ᑐᓚᒃᑕᕝᕕᖓᓂ ᐅᖅᓱᐋᓗᖃᕝᕕᒡᔪᐊᑉ ᖃᑦᑕᐅᔭᔅᓯᐊᕋᓗᖃᕝᕕᖓᓂ;
- ᑲᔪᕐᓈᓇᖅᑐᒥᒃ ᓴᓇᔭᐅᕙᓪᓕᐊᓗᑎᒃ ᐃᓂᓕᐊᖑᓲᑦ ᓄᓇᐃᑦ ᖃᖓᒍᓪᓗ ᐃᒪᐃᔭᖅᑕᐅᔾᔪᑎᒃᓴᖏᓄᑦ ᐊᐅᓚᑦᑎᔾᔪᑎᖏᑦ ᐊᑐᖅᑕᐅᔫᒃᓴᑦ, ᐱᕐᑎᓄᑦ ᐊᑐᖅᑕᐅᔫᒃᓴᓄᓗ ᑐᖅᑯᐃᕝᕕᐅᔫᒃᓴᒧᑦ ᐅᔭᕋᓐᓂᐊᖅᑐᑦ ᐊᐅᓚᑕᖏᓄᑦ ᐱᕙᓪᓕᐊᔭᖏᓪᓗ; ᐊᒻᒪᓗ
- ᐅᓄᖅᑐᒃ ᐅᒥᐊᔾᔪᐊᒃᑯᑦ ᓂᐅᕋᐃᕙᖕᒐᑕ, ᐃᓚᖃᖅᑐᓂ ᐅᓯᔭᐅᓂᖏᑦ ᐊᑐᕇᖅᓯᒪᔪᑦ ᐃᒋᑕᐅᔫᒃᓴᓗ ᖃᓗᓈᑦ ᓄᓇᖓᓄᑦ ᑲᓇᑕᒥ ᐅᓯᔭᐅᓂᖏᓗ ᐅᖅᓱᐋᓗᒃᓴᑦ, ᐊᑐᖅᑕᐅᔫᒃᓴᑦ, ᖃᐅᑕᒫᑦ ᐊᑐᓲᑦ ᐱᕐᑯᑎᒋᔭᐅᓲᓗ ᐃᑲᔪᖅᑐᑦ ᐊᐅᓚᑕᐅᔪᓂᒃ ᑲᔪᕐᓈᓇᖅᑐᒥᒃ ᐅᔭᕋᓐᓂᐊᕝᕕᖕᒥ ᐱᕙᓪᓕᐊᔭᖏᓪᓗ.

ᐅᔭᕋᑐᐃᓐᓇᑦ ᐱᓕᕆᔭᐅᕝᕕᖓ ᑲᒪᔨᖏᑦ ᐋᖅᑮᓇᓱᐊᕈᑎᒃᓴᖏᓪᓗ

ᐊᐅᔮᒍᑦ ᐋᕐᕌᒍᑉ 2017, ᓴᖅᑭᑦᑐᖃᓂᖓᓄᑦ ᓄᖑᓴᐃᔭᑦᑐᖅ ᐅᔭᕋᑦ ᑰᒃᕕᒃᓵ ᓴᕕᑦᔭᒃᓴᓗ ᐃᓱᐋᕿᕙᓪᓕᐊᔪᖅ (ARD/ML) ᑕᐅᕙᓂ ᓄᓘᔾ ᐅᔭᕋᓐᓂᐊᕝᕕᖓ ᐅᔭᕋᑐᐃᓐᓇᑦ ᑐᖅᑯᐃᕝᕕᖓ (ᐅᔭᕋᑐᐃᓐᓇᑦ ᑐᖅᑯᐃᕝᕕᖓ) ᑲᑐᔾᔨᖃᑎᖃᖅᑐᑎᒃ ᑖᔅᓱᒪ ᐅᔭᕋᑐᐃᓐᓇᑦ ᑐᖅᑯᐃᕝᕕᖓᑕ ᐃᒪᓕᕆᓂᒧᑦ ᑲᒪᔨᔭᐅᔪᑎᖏᓄᑦ ᑕᓯᕐᔪᖓᓂᒃ (ᐅᔭᕋᑐᐃᓐᓇᑦ ᑐᖅᑯᐃᕝᕕᖓᑕ ᑕᓯᕐᔪᖓ) ᐃᑭᐊᖅᑲᖓ ᐱᐅᔪᓐᓃᓚᐅᓐᓂᖓᓄᑦ ᓴᖅᑮᓗᓂ ᒪᓕᖕᒋᑦᑐᒥᒃ ᑭᓈᑐᖕᒥᒃ ᑯᕕᓯᑲᑕᖕᓂᒥᒃ ᑕᐃᑲᓂ ᐅᔭᕋᑐᐃᓐᓇᑦ ᑐᖅᑯᐃᕝᕕᖓᓂ.

ᑭᒡᒍᑎᒋᓪᓗᒍ ᐃᓱᒪᓘᑎᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᔪᑦ ᐊᒻᒪᓗ ᒪᓕᑦᑎᐊᕐᓂᖅᓯᓂᑦ ᑯᕙᔭᕚᓃᑦ ᐊᕿᒍᐊᓂ 2017, ᐸᑴᓖᓐᑦ ᓴᖅᑮᓪᓗᑎᒃ ᐊᑐᓕᖅᑎᑦᑎᓪᓗᑎᒡᓗ ᖃᔅᓯᒐᓛᓂᒃ ᐊᑑᑎᑲᐅᑎᒋᔪᑦ ᐊᖅᑮᒋᐊᕈᑎᒃᓴᑦ ᐊᕿᒍᐊᓂ 2017 ᒪᓕᑦᑎᐊᕋᓱᓐᓂᖅ ᐱᔾᔪᑎᒋᓪᓗᒍ ᑲᒪᒋᔭᖃᓂᖏᓄᑦ ᐅᔭᕋᑐᐃᓇᐅᔪᓂᒃ ᐊᒻᒪᓗ ᐃᒪᕐᓗᕈᓗᖏᑦ ᓴᖅᑭᑦᑐᖅ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᕝᕕᖕᓂ. ᑖᒃᑯᐊ ᐱᓕᕆᓃᑦ ᐅᓂᒃᑳᓇᔭᐅᓪᓗᑎᒃ ᓴᖅᑭᑕᐅᓪᓗᑎᒡᓗ ᐱᕐᑯᔭᖅᑎᒍᑦ ᐊᖏᖅᑎᐅᔪᓄᑦ ᐃᓗᐊᒍᑦ ᐅᔭᕐᓂᐊᕝᕕᐅᑉ *2017 ᕿᑭᖅᑕᓂ ᓄᓇᕗᒻᒥ ᐃᒪᓕᕆᔨᖏᑕ ᑲᑎᒪᔨᖏᓄᑦ ᐊᕿᒍᑕᒫᖅᓯᐅᑦ ᐅᓂᒃᑳᖅ ᐊᐅᓚᑕᐅᔪᓄᑦ*. ᐊᕿᒍᐊᒍᑦ 2018, ᐸᑴᓖᓐᑦ ᑲᔪᓰᓇᖅᑐᒥᒃ ᐊᑐᓕᖅᑎᑦᑎᕙᓪᓕᐊᓪᓗᑎᒃ ᐊᖅᑮᒋᐊᕈᑎᒃᓴᓂᒃ ᐱᓕᕆᓂᓐᓂᒃ ᓵᖓᔭᖃᕋᓱᒃᖢᑎᒃ ᐃᓱᒪᓘᑎᐅᖏᓐᓇᖅᑐᓂᒃ, ᐃᓚᖃᖅᖢᑎᒃ ᒪᑐᓂᖓ:

- ᑲᔪᓯᑦᑎᐊᖅᑐᖅ ᐃᓕᐅᖅᑲᖅᑕᐅᓂᖓ ᐊᐅᓚᑕᐅᓂᖓᓗ ᑐᕌᖓᓪᓚᕆᒃᑐᒥᒃ ᐃᒥᒻᒧᑦ ᓴᓗᒻᒪᖅᓴᐃᔾᔪᑎᒥᒃ ᑕᐅᕙᓂ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᕝᕕᖕᓂ ᑯᕙᕚᓪᓕᐊᔪ ᐃᒪᖅ ᐱᐅᓂᖓ ᒪᓕᒋᐊᓕᑦ ᓇᓪᓕᖅᓯᒪᓇᓱᒃᑯᒋᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᐃᓗᐊᒍᑦ ᓴᕙᕋᔭᒨᑦ ᐊᒻᒪ ᐃᒐᓗᕙᐅᔭᓄᑦ ᐅᔭᕐᓂᐊᖅᑐᑦ ᑯᕕᓲᕐᒥᓄᑦ ᒪᓕᒐᕋᓛᓇᔭᕐᒥᑦ (MDMER) ᐊᒻᒪᓗ ᐃᓕᖅᑯᓯᓕᒃ ‘A’ ᐃᒥᒻᒧᑦ ᓚᐃᓴᓐᓯᐅᑉ ᑲᒪᒋᔭᖃᓕᕚᖓᒥᒃ ᐃᒪᐃᔭᐃᓂᒻᒥᒃ;
- ᕿᒥᕐᕈᔭᐅᑦᑕᓐᓂᖓ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᕝᕕᖓᑕ ᑕᓱᕐᓗᖓᑕ ᐃᑭᐊᖅᑲᖓ ᐱᐅᒐᓗᐊᕐᒪᖖᑕ ᑭᖑᓂᐊᒍᑦ ᖃᐅᔾᕴᓇᒃᑳᓂᖅᓗᒍ ᐃᒻᒥᒃᑯᑦ ᐃᓯᐊᕿᓕᖅᑐᕕᓂᖅ ᖃᐅᔾᔭᐅᓂᑯ ᐋᒡᒐᓯ 2017;
- ᐊᖏᖅᑕᐅᓂᕗᑦ ᑎᒥᖓᓄᑦ NWB ᐊᑖᒍᑦ ᐊᓯᔾᔨᐅᑎᔪᖅ ᓇᐃᓭᐅᑎᓕᒃ 8 ᐊᖏᓕᒋᐊᕆᓂᒻᒧᑦ ᐊᖅᑮᔭᖃᓂᒻᒥᒃ ᑖᔅᓯᒥᖓ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᕝᕕᖓᑕ ᑕᓱᕐᓗᖓᓂᒃ;
- ᐃᓕᓯᐅᕋᐃᓂᖅ ᑎᓭᒪᐅᔪᖅᑐᓂᒃ (8) ᐆᓇᔪᖕᓂᖓᓄᑦ ᖃᐅᔾᓴᐅᑏᑦ ᐊᔾᔨᕆᖏᑦᑐᓂᒃ ᐃᑎᓂᖃᖅᑐᒃᑯᑦ ᐃᓂᖃᓪᓗᑎᒃ ᐊᔾᔨᕆᖏᑦᑐᓂᒃ ᓇᐅᑯᕈᓘᔭᖅ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᕝᕕᖓᒍᑦ ᓇᓗᓇᐃᕋᓱᒡᓗᒍ ᖃᓄᑎᒋ ᐆᓇᔪᒃᑎᒋᔾᔪᖕᒪᖕᒑᑦ ᑕᓐᓇ ᑐᖅᑯᐃᕝᕕᒋᔭᕗᑦ. ᐆᓇᔪᖕᓂᖓᓄᑦ ᓇᓗᓇᐃᕆᔪᑦ ᐊᑐᖅᑕᐅᕙᔭᖅᑐᑦ ᓯᕗᓂᒃᑯᑦ ᐅᔭᕋᑐᐃᓇᕐᓂᒃ ᑲᒪᔨᓄᑦ ᐊᒻᒪᑦᑕᐅᖅ ᓄᖅᑲᖓᑎᑦᑎᓇᓱᐊᕈᑏᑦ ARD/ML ᐱᐅᔪᓃᓂᕆᔭᑦᑐᓂᒃ ᑲᒪᒋᔭᖃᐅᓯᑦᑎᒍᑦ ᐊᒻᒪᑦᑕᐅᖅ ᐃᒥᑦᑎᐊᕙᖓ ᓇᒧᙵᐅᓂᐊᓂᒃ ᖃᓇᓴᐅᔭᒃᑯᑦ ᑕᐅᑐᙱᐊᓇᔭᖃᕈᓇᖅᓯᓗᑕ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᕝᕕᖓᓂ.
- ᑲᔪᓰᓇᖅᑐᒥᒃ ᐱᐅᓯᕆᐋᕆᓇᓐᓂᓪᒥᒃ ᐅᔭᕐᓂᐊᖅᑐᑦ ᖃᓂᑦᑐᒃᑯᑦ ᐊᕿᒍᒃᑯᑦ ᐅᔭᕋᑐᐃᓇᕐᓂᒃ ᐃᓕᖅᑲᐅᓂᖏᑦ ᑲᒪᒋᔭᖃᓂᖓᓄᓪᓗ ᐊᑐᕋᔫᑎᒋᔭᖏᑦ, ᐃᓗᓕᖏᑦ ᑎᑎᕋᐅᓯᐅᓯᒪᔪᑦ ᐃᓗᐊᓂ ᐊᑯᓂᐊᒍᑦ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᔭᐅᕝᕕᖏᓄᑦ ᑲᒪᒋᔭᐅᓂᐊᓄᑦ ᐸᕐᓇᐅᑎᑦ ᓴᓇᔭᐅᓂᑯᑦ ᒐᐅᓪᑐ ᐃᓚᒌᖏᓪᓗ ᐊᒻᒪᓗ ᐊᑐᐃᓐᓇᕈᖅᑕᐅᓯᒪᔪᑦ ᐱᕐᑯᔭᒃᑯᑦ ᐊᖏᖅᑎᐅᔪᓄᑦ ᒫᔾᔨ 31 ᐊᒻᒪᓗ ᑎᓯᒻᐸ 31, 2018.
- ᓴᓇᔭᐅᕙᓪᓕᐊᓂᖓ ᐅᔭᕐᓂᐊᖅᑐᑦ MDMER ᑐᐊᕕᕐᓇᖅᑐᒃᑯᑦ ᑲᒪᒋᔾᔪᑖᓄᑦ ᐸᕐᓇᐅᑖ ᐅᑯᓄᖓ: ᓇᓗᓇᐃᓪᓗᒋᑦ ᑭᒃᑯᑦ ᑲᒪᓂᖏᑕ ᐱᓕᕆᐋᒃᓴᕆᔭᕆᓪᓗ; ᑐᑭᓯᓇᖅᓯᑎᑦᑎᐊᓪᓗᒋᑦ ᑐᐊᕕᕐᓇᖅᑐᒃᑯᑦ ᑯᕙᔪᒧᑦ ᐊᑐᖅᑕᐅᔪᒃᓴᑦ ᐊᖅᑰᓴᕆᐊᓕᖏᑦ; ᐊᒻᒪᓗ ᐊᕙᓗᓕᐅᓪᓗᒋᑦ ᑲᒪᒋᔭᐅᔾᔪᑎᒃᓴᖏᑦ ᐃᓂᓪᓚᖓᔪᑦ ᑲᒪᒋᔭᖃᓂᒧᑦ ᐃᒥᑦᑎᐊᕙᐅᖏᑦᑐᑦ ᓴᓗᒻᒪᖅᑕᐅᓯᒪᓂᖏᓄᑦ ᒪᓕᒋᐊᖃᓂᕗᑦ ᐊᑖᒍᑦ ᑖᔅᓱᒪ ᐸᕐᓇᐅᑎᐆᑉ MDMER.

ᐸᑴᓖᓐᑦ ᑲᔪᓰᓇᖅᐳᖅ ᐊᒃᓱᕈᐋᖅᑳᖅᖢᑎᒡᓗ ᓵᖓᔭᖃᓂᓕᒫᒃ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓄᑦ ᐃᓱᒪᓘᑎᒋᔭᓄᑦ ᑲᒪᒋᔭᖃᓂᓕᒫᓪᓗ ᒪᓕᑦᑎᐊᕆᓂᓕᒥᒃ ᐊᑐᕐᑯᔭᐅᓯᒪᔪᓄᑦ ᑲᒪᒋᔭᖃᐅᓯᕐᒥᓄᑦ ᐅᔭᕋᑐᐃᓇᐃᑦ ᐃᒥᑦᑎᐊᕙᐅᙱᑦᑐᓪᓗ ᐃᓗᐊᓂ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᕝᕕᖓᓂ. ᐅᔭᕐᓂᐊᖅᑐᓂᒃ ᐱᐅᓿᑦ ᐊᑐᖅᑕᐅᓲᑦ ᐊᖅᑰᓴᒐᓴᐅᓲᓗ ᐸᕐᓈᓴᐅᓯᒪᔭᑦ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᕝᕕᖓᓄᑦ ᒪᓕᑦᑎᐊᖏᓐᓇᕈᒪᓪᓗᑕ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓂᒃ ᐅᔭᕐᓂᐊᖅᑐᑦ ᑭᖑᓪᓕᖅᐹᒥᒃ ᐋᖅᑭᐊᓇᓯᒪᔭᕐᑕ ᐃᓗᐊᒍᑦ ᐊᑯᓂᐊᒍᑦ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᔭᐅᕝᕕᖏᓄᑦ ᑲᒪᒋᔭᐅᓂᐊᓄᑦ ᐸᕐᓇᐅᑖ (ᒐᐅᓪᑐ, ᒫᔾᔨ 31, 2019; ᐅᐃᒍᓇᒃ E.5), MDMER ᑐᐊᕕᕐᓇᖅᑐᒃᑯᑦ ᑲᒪᒋᔾᔪᑖᓄᑦ ᐸᕐᓇᐅᑖ ᐊᒻᒪ ᐃᒥᑎᐊᕙᖕᒥᒃ ᐃᒥᖅᑕᕝᕙᖃᓂᖅ, ᑭᓈᓗᐃᑦ ᑯᕙᔭᐅᓲᓗ ᐃᒪᖏᓄᑦ ᑲᒪᒋᔭᖃᕈᑖ ᐸᕐᓇᐅᑎᖓ. ᐊᑐᕐᖑᔪᑦ ᐊᖅᑮᒋᐊᕆᔾᔪᑎᑦ ᐱᓕᕆᔭᐅᔪᒃᓴᑦ ᐸᕐᓈᕆᔭᐅᓯᒪᔪᑦ ᐊᕿᒍᖓᓄᑦ 2019 ᐃᓚᖃᖅᑐᑦ ᐊᖏᓕᒋᐊᖅᑕᐅᓂᐊ ᐊᒻᒪᓗ ᐋᖅᑭᒋᐊᖅᑕᐅᓂᖓ ᐃᑭᐊᖅᑲᖓ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᕝᕕᖓᑕ ᑕᓱᕐᓗᖓ ᖃᐅᔾᓵᖅᑳᓂᕐᓂᕗᓪᓗ ᐅᔭᕋᑐᐃᓇᑦ ᑐᖅᑯᐃᕝᕕᖏᓄᑦ ᐱᐅᓯᕆᐋᕋᓱᒃᑐᑎᒍᑦ ᐅᔭᕐᓂᐊᖅᑑᑉ ᐅᔭᕋᑐᐃᓇᕐᓄᑦ ᐊᒻᒪᓗ ARD/ML ᑲᒪᒋᔾᔭᑎᖏᓄᑦ ᐊᑐᕋᓱᐊᖅᑕᖏᓂᒃ.

<u>**ᐊᑐᖨᑦ ᐊᓯᔾᔨᐅᑎᔪᑦ ᐅᔭᕐᓂᐊᖅᑐᑦ ᐱᕐᑯᑎᔾᔪᐊᖏᓄᑦ**</u>

ᐃᓗᐊᓂ 2018, ᐸᑴᓖᓐᑦ ᑲᔪᓰᓇᖅᑐᒥᒃ ᐱᕙᓪᓕᐊᔭᖅᖃᖅᓯᒪᕗᑦ ᐅᔭᕐᓂᐊᕝᕕᖕᒥᒃ ᑐᓐᓂᕆᔭᖅᖃᖅᓯᒪᕗᑦ ᖃᔅᓯᒐᓛᓂᑦ ᐅᒃᑑᑎᓂᒃ ᐊᓯᔾᔨᐅᑎᔪᒪᓂᒻᒧᑦ ᑎᒥᖓᓄᑦ NWB, ᐊᑖᒍᑦ ᐊᒡᒍᖅᓯᒪᓂᐊᑕ ‘G’ ᐃᓕᖅᑯᓯᓕᒃ ‘A’ ᐃᒥᒻᒧᑦ ᓚᐃᓴᓐᓯᐅᑉ, ᓄᑖᕈᐃᓂᖅ ᐊᒻᒪᓗ ᐱᐅᓯᕆᐊᕆᓂᖅ ᐅᔭᕐᓂᐊᕝᕕᐅᑉ ᐱᕐᑯᑎᔾᔪᐊᖏᓂᒃ ᕿᙳᐊᑕ ᑐᓚᒃᑕᕝᕕᖓᓂ ᐊᒻᒪᑦᑕᐅᖅ ᓄᓘᔭᑉ ᐅᔭᕐᓂᐊᕝᕕᖓᓄᑦ. ᐊᖏᖅᑕᐅᓯᒪᔪᑦ ᐊᓯᔾᔨᐅᑎᔫᒃᓴᑦ ᐊᑐᓕᖅᑎᑕᐅᓯᒪᔪᑦ ᐅᔭᕐᓂᐊᕝᕕᖕᒥ ᐊᕿᒍᐊᓂ 2018 ᐃᓚᖃᖅᑐᑦ:

- ᐊᓯᔾᔨᐅᑎᔪᖅ ᓇᐃᓴᐅᑎᓕᒃ 2 - ᐊᖏᓕᒋᐊᕆᓂᖅ ᐅᖅᓱᐋᓗᒥᒃ ᑐᖅᑯᐃᕝᕙᓂᒃ ᕿᓐᖑᐊᑕ ᑐᓚᒃᑕᕝᕙᐊᑕ ᐅᖅᓱᐋᓗᒃᑯᕙᐊ ᖃᑦᑕᐅᔾᔪᐊᒃᑯᕙᖓᑦ ᐃᓕᓯᓪᓗᑎᒃ ᐊᒻᒪ/ᐅᕝᕙᓗ ᐱᔭᕇᖅᓯᓪᓗᑎᒃ ᐊᑐᓕᖅᖢᑎᒃ ᐱᖓᓱᓂᒃ (3) ᖃᑦᑕᐅᔭᓂᒃ;
- ᐊᓯᔾᔨᐅᑎᔪᖅ ᓇᐃᓴᐅᑎᓕᒃ 4 - ᑲᔪᓰᓐᓇᖅᑐᒥᒃ ᓴᓇᔭᐅᓂᖓ ᓄᑖᖅ 800-ᐃᓂᓕᒃ ᑕᖕᒫᕝᕙᖓ (ᓴᐃᓕᕝᕙᒃ ᑕᖕᒫᕝᕙᖓ) ᐊᒻᒪᓗ ᐃᑲᔪᐋᔾᔪᑎᖏᑦ ᐱᖁᑎᔾᔪᐊᑦ ᓄᓘᔮᑉ ᐅᔭᕋᖕᓂᐊᕝᕙᖓᓂ;
- ᐊᓯᔾᔨᐅᑎᔪᖅ ᓇᐃᓴᐅᑎᓕᒃ 5 – ᐊᖏᓕᒋᐊᕆᓂᖓ ᓯᖃᓕᕆᕝᕙᐅᑉ ᐃᓗᕐᑯᑖᑕ ᑕᓯᕐᓗᖓ ᓄᓘᔮᑉ ᐅᔭᕋᖕᓂᐊᕝᕙᖓᑕ ᑲᒪᒋᔭᐅᓂᐊᕆᓂᑦ ᓈᒻᒪᒃᑐᒥᒃ ᒪᕐᑯᖑᒧᑦ ᑰᕚᖅᑐᓂᒃ ᓇᔪᖅᑕᖃᕈᓇᕐᑯᓪᓗᒍ ᑕᓯᖓ ᒪᓕᒃᑲᒍ ᐊᖏᓕᒋᐊᓂᕐᓂᕆᔭ 2017 ᓄᓇᖏᑕ ᐊᑐᖅᑕᖏᑦ;
- ᐊᓯᔾᔨᐅᑎᔪᖅ ᓇᐃᓴᐅᑎᓕᒃ 7 – ᐃᓕᔭᐅᓂᖓ ᐊᑐᓕᖅᑎᑕᐅᓂᖓᓗ ᑐᕌᖓᓪᓚᕆᒃᑐᒥᒃ ᐃᒥᒻᒥᒃ ᓴᓗᒻᒪᖅᓴᐃᕝᕙᒃ ᐱᓕᕆᕝᕙᖓ ᐅᔭᕋᑐᐃᓐᓇᑦ ᑐᖅᑯᐃᕝᕙᖓᓂ ᑖᓐᓇ ᐃᒥᕐᓘᑎᐅᓕᖅᑐᖅ ᓴᓗᒻᒪᖅᑕᐅᕐᑯᓪᓗᒍ ᓯᕗᓂᐊᒍᑦ ᐃᒪᐃᔭᐃᔪᑦ ᑯᕙᓯᑎᑕᐅᓚᐅᖅᑎᓐᓇᒋᑦ;
- ᐊᓯᔾᔨᐅᑎᔪᖅ ᓇᐃᓴᐅᑎᓕᒃ 9 – ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᖓ ᕿᓐᖑᐊᑕ ᑐᓚᒃᑕᕝᕙᖓᑕ ᓴᕙᕋᔭᒃᓴᒧᑦ ᑐᖅᑯᐃᕝᕙᖓᑕ ᐃᓂᐊᓂᒃ ᐃᒥᓕᕇᓐᖏᓄᑦ ᑲᒪᒋᔭᐅᔾᔪᑎᒃᓴᖏᑕ ᐱᖁᑎᔾᔪᐊᖏᑦ, ᐱᖃᓯᐅᑎᔪᑦ ᓄᑖᑦ ᑕᓯᕐᓗᐃᑦ ᐊᒻᒪᓗ ᐊᕙᓗᐊᒍᑦ ᐃᑎᖅᓴᓕᐅᕆᓂᖅ; ᐊᒻᒪᓗ
- ᐊᓯᔾᔨᐅᑎᔪᖅ ᓇᐃᓴᐅᑎᓕᒃ 10 – ᐊᖏᓪᓕᒋᐊᖅᑕᐅᓂᖓ ᐊᒃᑕᕝᕙᒋᔭᖓ ᐊᒃᑕᑯᖃᕝᕙᖓ ᐊᒻᒪᓗ ᓴᓇᔭᐅᓂᖓ ᓴᓗᒻᒪᖅᓴᐅᑦ ᑭᓈᓗᖃᐅᑎᖏᓄᑦ ᓱᓪᓗᑯᑖᒃᑯᑦ ᐱᔨᑦᑎᖅᑕᐅᓂᖓᓄᑦ ᑖᔅᓱᒪ ᓄᑖᖅ 800-ᐃᓂᓕᒃ ᑕᖕᒫᕝᕙᖓ (ᓴᐃᓕᕝᕙᒃ ᑕᖕᒫᕝᕙᖓ).

ᖄᒃᑲᓐᓂᐊᒍᑦ, ᐃᓗᐊᒍᑦ 2018 ᐹᕙᓐᓈᓐᑦ ᐊᖏᖅᑕᐅᒋᓪᓗᑎᒃ ᐱᔪᒪᔭᖏᑦ ᐊᑖᒍᑦ ᐊᓯᔾᔨᐅᑎᔪᖅ ᓇᐃᓴᐅᑎᓕᒃ 8 ᐊᖏᓕᒋᐊᓂᕐᓂᖅ ᐅᔭᕋᑐᐃᓐᓇᑦ ᑐᖅᑯᐃᕝᕙᖓᓂᑦ, ᐱᖃᓯᐅᑎᔪᖅ ᐊᖏᓕᒋᐊᓂᕐᓂᖓ ᐋᖅᑭᒋᐊᖅᑕᐅᓂᖓᑕᓗ ᐅᔭᕋᑐᐃᓐᓇᑦ ᑐᖅᑯᐃᕝᕙᖓᑕ ᑕᓯᕐᓗᖓ ᐊᕙᑖᒍᓪᓗ ᐃᑎᖅᓴᓕᐊᖑᓯᒪᔪᑦ. ᓴᓇᔭᐅᕙᓪᓕᐊᔪᑦ ᐊᒃᑐᓃᑦ ᐊᓯᔾᔨᐅᑎᔪᖅ ᓇᐃᓴᐅᑎᓕᒃ 8 ᐱᔭᕇᖅᑕᐅᓂᖏᑦ ᐸᕐᓈᕆᔭᐅᓯᒪᕗᑦ ᐃᓗᐊᓄᑦ 2019.

ᑯᕙᔪᕙᓃᑦ

ᐃᓗᐊᓂ 2018, ᐊᕙᑏᑦ, ᖁᓖᑦ ᐊᕝᕙᓂᓖᓪᓗ (36) ᑯᕙᔪᑦ ᐅᖃᐅᓯᐆᓚᐅᖅᑐᑦ ᑖᔅᓯᒧᖓ ᓄᓇᑦᓯᐊᖅ–ᓄᓇᕗᑦ (NT-NU) ᑯᕙᔪᓄᑦ ᐅᖄᓚᕝᕙᐊᓄᑦ, NWB, CIRNAC ᐊᒻᒪᓗ QIA ᐅᔭᕋᖕᓂᐊᖅᑐᓄᑦ, ᐱᖃᓯᐅᑎᓪᓗᒋᑦ ᐊᕙᑏᑦ–ᐱᖓᓱᓪᓗ (23) ᑭᓈᓗᒃ/ᐅᐊᓴᐅᑎᓖᑦ ᑯᕙᔪᑦ, ᑎᓴᒪᑦ (4) ᓯᐅᖅᑭᓯᒪᔪᒥᒃ ᑯᕙᔪᖃᓂᖏᑦ ᐊᒻᒪᓗᑦ ᖁᓕᐅᙱᑦᑐᑦ (9) ᑯᕙᔪᑦ ᐊᓯᖏᓄᑦ ᐊᐅᓚᑕᐅᔪᒥᒃ ᐊᑐᖅᑕᐅᓲᓂᒃ ᑯᕙᔭᐅᔪᓂᒃ ᐃᒥᕆᔭᐅᓲᓂᓪᓗ. ᑕᑯᔭᐃᓐᓇᕆᓪᓗᒋᑦ, ᑖᓐᓇ ᓴᖅᐆᔭᖅᖢᑐᖅ ᑕᑯᒃᓴᕈᓚᔪᓐᓂᖏᑕ ᑲᑕᒋᐊᓐᓂᖓᑕ 25 ᐳᓴᓐᑎᒥᒃ ᓴᓂᕋᒍᑦ ᓴᖅᑭᓐᓂᕆᖃᑦᑕᓚᐅᖅᑕᖏᑕ ᐅᖃᐅᓯᐅᔭᕆᐊᖃᕉᑦ ᑯᕙᔭᐅᔪᑦ ᐊᕐᕌᒍᐊᒍᑦ 2017. ᐹᕙᓐᓈᓐᑦ ᑲᔪᓰᓐᓇᖅᑐᒥᒃ ᖃᐅᔨᓴᖅᑐᑦ ᐱᔾᔪᑎᒋᔭᐅᔪᕙᓂᕐᓄᑦ ᑕᒪᐃᓐᓄᑦ ᑯᕙᔭᕙᓂᐅᔪᓄᑦ ᖃᓄᐃᑦᑐᖃᓂᕙᓂᐋᑕᓗ ᓄᓇᖏᓐᓂᒃ 2018 ᐊᕐᕌᒍᖓᓂ ᐋᑐᑎᖃᑦᑎᐊᖅᑐᑦ ᐊᕐᕌᒍᒐᓴᓄᑦ ᐊᖅᑮᒋᐊᕈᑎᒃᓴᑦ ᐱᓕᕆᓂᕗᑦ ᐊᑐᓕᖅᑎᑕᐅᔪᓐᓇᕐᑯᓪᓗᒋᑦ ᑯᕙᔭᐅᖃᑦᑕᓐᓂᖏᑦ ᐊᖅᐸᓯᒋᐊᕈᓐᓇᕐᑯᓪᓗᒋᑦ ᑕᒪᐃᓐᓂᒃ ᐅᔭᕋᖕᓂᐊᕝᕙᐅᑉ ᐊᑐᖅᑕᖏᓂᒃ.

ᐃᒥᒻᒥᒃ ᐊᑐᖃᑦᑕᓐᓂᕗᑦ ᐃᒥᑦᑎᐊᕙᖏᓪᓗ ᖃᐅᔨᓴᖃᑦᑕᓐᓂᖅ

ᐊᑖᒍᑦ ᐱᔪᓇᖅᑎᑕᐅᓂᖏᑦᑐᑦ ᑖᔅᓯᒪ ᐃᓕᖁᓯᓕᒃ 'A' ᐃᒻᒧᑦ ᓚᐃᓴᓐᓯᐅᑉ, ᐃᒥᑦᑎᐊᕙᖏᒃ ᐃᒥᖅᑕᖃᑦᑕᓚᐅᖅᑐᑦ ᐊᕐᕋᒍᐊᒍᑦ 2018 ᑲᔪᓯᑦᑏᓇᕋᓱᒃᑯᑕ ᐱᖓᓱᓂᒃ (3) ᐊᑐᕐᖑᔪᑦ ᐱᓕᕆᓃᑦ ᐅᔭᕋᖕᓂᐊᕝᕙᖏᑦ: ᐃᒥᑦᑎᐊᕙᒃ ᐊᑐᖅᑕᐅᔫᒃᓴᖅ (ᐃᓄᖏᓄᑦ), ᐳᔩᖅᑕᐃᓕᒪᔾᔪᑎᒧᑦ, ᐊᓯᖏᓄᓪᓗ ᐅᔭᕋᖕᓂᐊᖅᑐ ᓴᓇᔭᐅᔪᓄᑦ ᐱᔾᔪᑎᖏᓄᑦ. ᐊᕐᕌᒍᐊᓂ 2018, ᑲᑎᓕᒫᖅᓱᑎᒃ ᖃᐅᑕᒫᑦ ᐃᒥᕐᒥᒃ ᐃᒥᖅᑕᖅᑕᖏᑦ, ᑭᓪᓕᖅᑎᑕᐅᔪᑦ ᐃᓕᖁᓯᓕᒃ 'A' ᐃᒻᒧᑦ ᓚᐃᓴᓐᓯᒧᑦ, ᐃᓄᖏᓄᑦ, ᓴᓇᔪᓕᕆᓂᖏᓄᑦ ᐳᔩᖅᑕᐃᓕᒪᔾᔪᑎᓄᓪᓗ ᐅᖓᑕᒌᔾᔨᔭᐅᓚᐅᙱᑦᑐᑦ ᐊᖏᖅᑕᐅᓯᒪᔪᓂᒃ ᐅᔭᕋᖕᓂᐊᖅᑐᑦ ᐃᒥᖅᑕᕝᕙᒋᓂᖏᓐᓂᒃ, ᐱᖃᓯᐅᑎᓯᒪᖏᑦᑐᑐᐊᑦ ᐱᖓᔪᑦ ᐃᒥᕐᒥᒃ ᐱᕙᐅᖃᑦᑕᖅᑐᑦ ᐊᖅᑯᒧᑦ ᐳᔩᔭᐃᒃᑯᑎᒃᓴᒥᒃ ᐃᒻᒪᐃᕙᐅᖃᑦᑕᖅᑐᑦ ᐊᖅᑯᑎᐅᑉ ᐅᓯᑲᖅᑕᕐᕙᐅᑉ ᖃᓂᒌᔭᓂᑦ ᐊᐅᔭᐅᑎᓪᓗᒍ.

ᐃᓗᐊᒍᑦ 2018, ᐹᕙᓐᓈᓐᑦ ᑲᔪᓰᓐᓇᖅᑐᒥᒃ ᐊᑐᓕᖅᑎᑦᑎᓯᒪᕗᑦ ᐅᔾᔨᖅᓱᖑᔪᑦ ᐊᒃᑐᐊᖃᑎᒌᒃᑐᑦ ᑕᑯᒃᓴᐅᑎᑕᖅ (SNP) ᐅᓂᒃᑲᐅᓯᖅ ᐃᓗᐊᒍᑦ ᐃᓚᒌᔭᑕ I ᐃᓗᐊᓂ ᐃᓕᖁᓯᓕᒃ 'A' ᐃᒻᒧᑦ ᓚᐃᓴᓐᓯᐅᑉ, ᕿᒥᕐᕈᔭᐅᓂᖏᑦ ᑯᕙᔭᐅᔫᑦ (ᔫᓪᓗ, ᓴᓗᒻᒪᒐᑦ ᑭᓈᓗᐃᑦ, ᓴᓗᒻᒪᒐᑦ ᑭᓂᖅᑐᖃᖅᑐᖅ ᒪᕐᑯᒃᑐᒧᑦ ᐃᒪᙳᖅᑐᑦ) ᑯᕙᔫᖑᔪᑦ ᓄᓇᐃᓐᓇᕐᒧᑦ ᐊᕙᑖᑕ ᐅᔭᕋᖕᓂᐊᕝᕙᐅᑉ ᐊᒻᒪᓗ ᖃᐅᔨᓴᖃᓂᖅ ᓄᓇᐅᑉ ᖄᖓᓂ ᐃᒪᐅᑉ ᐱᐅᓂᕆᔭ ᑎᒃᑯᐊᖅᑕᐅᓯᒪᔪᒃᑯᑦ ᐅᔭᕋᖕᓂᐊᕝᕙᐅᑉ ᓄᓇᖏᓐᓂᒃ (ᔫᓪᓗ, ᑯᒃᑕᐅᔫᑉ ᐊᑎᖓᖓᒍᑦ ᐅᔭᕋᖕᓂᐊᖅᑐᑦ ᓄᓇᖏᑕ). ᒪᓕᒃᑲᒋᑦ ᕿᒥᕐᕈᔭᐅᓂᕆᔭ 2018 SNP ᑕᑯᒃᓴᕈᖅᑕᖏᑦ ᐅᓂᒃᑳᑎᔭᐅᓯᒪᔪᑦ ᑎᒥᖏᓐᓄᑦ NWB, CIRNAC ᐊᒻᒪᓗ ᕿᑭᖅᑕᓂᒃᑯᑦ, ᖃᖐᔭᖃᕐᓂᖏᑦ ᐋᑐᑎᔪᓄᑦ ᑯᕙᔭᐅᔪᑦ ᑭᓪᓕᓕᐊᖑᔪᓄᑦ ᐊᕐᕌᒍᐊᓂ 2018 ᐱᑕᖃᓗᐊᖅᑕᖅᐳᑦ ᓄᓇᐅᑉ ᖃᖓᓂ ᒪᕐᑯᓕᕐᒪᑦ ᑰᓚᐃᒃᑕᐅᔪᓄᑦ ᐊᒻᒪᑦᑕᐅᖅ

ᓴᓗᒻᒪᖅᓴᕐᑦ ᖁᑦᑎᓗᐊᖅᑐᒥᒃ ᐱᑕᖃᖅᑐᑦ ᐃᑭᐊᖅᓯᐅᖅᑐᑦ ᐃᓗᐃᑦᑑᔪᑦ TSS ᓇᐃᓴᐅᑎᙱᑦ. ᐊᑐᓂ ᓴᖅᑭᑎᖅᑐᓂᒃ, ᓈᒻᒪᒃᑐᓂᒃ ᓄᖅᑲᙵᔾᔪᑎᒃᓴᙱᓄᑦ ᐱᓕᕆᐋᓂᒃ ᐊᑐᓕᖅᑎᑦᑎᓪᓗᑕ ᐅᑎᖅᑎᑦᑎᓂᒻᒧᑦ ᓈᒻᒪᑦᓯᐅᔪᑦ ᐃᑭᐊᖅᓯᐅᔫᑦ TSS ᐅᓄᕐᓂᙱᑦ ᐊᑖᓄᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔫᑉ ᑭᒡᓕᕆᔭᙱᓄᑦ. ᑎᒥᖓ ᐹᕝᕚᓛᑦ ᑲᔪᓯᓂᖃᖅᑐᑦ ᕿᒥᕐᕈᐃᓂᒻᒥᒃ ᐊᑐᓕᖅᑎᑦᑎᓂᒻᒥᒡᓗ ᐋᑎᖃᓚᖑᔪᓄᑦ ᐱᐅᓯᕆᐊᓇᔾᔪᑎᒃᓴᓄᑦ ᐊᒻᒪᓗ ᒥᑭᓕᕆᓂᒻᒧᑦ ᐱᓕᕆᐋᒃᓴᙱᑦ ᓵᙳᔾᔪᑎᔪᑦ ᑲᔪᓰᓇᖅᑐᒥᒃ ᓯᐅᖅᑭᕆᓂᒻᒧᑦ ᐃᓱᒫᓘᑕᐅᔪᑦ ᐅᔾᔨᖕᓂᐊᖅᑐᓂᒃ.

ᕿᒃᑲᓂᐊᓄᑦ ᖃᐅᔨᓴᕈᑎᑦᑕ SNP, ᑲᔪᓯᓇᖅᑐᒥᒃ ᐊᕙᑎᑦᑎᓂᒃ ᖃᐅᔨᓴᐃᔾᔪᑎᕗᑦ ᐊᒃᑐᐃᕙᓪᓕᐊᔭᓄᓪᓗ ᖃᐅᔨᓴᐃᔾᔪᑎᕗᑦ, ᐱᖃᓯᐅᑎᓪᓗᒍ ᐅᔾᔨᕆᓂᐊᖅᑐᑦ ᐃᒪᒻᒧᑦ ᐊᒃᑐᐃᓂᖃᓃᑦ ᖃᐅᔨᓵᙱᓂᙱᓄᑦ ᐸᕐᓇᐅᑖᒍᑦ (AEMP), ᐱᓕᕆᔭᐅᑲᑕᒃᑯᑎᒃ ᐃᓗᐊᒍᑦ 2018 ᒪᓕᒃᑯᑎᒍᑦ ᐊᑐᓂᐊᕐᓂᕋᖅᑕᕗᑦ ᑕᕝᕙᓂ ᐅᓂᒃᑳᓕᐊᒥᒃ ERP, ᐊᒻᒪᑦᑕᐅᖅ ᑭᙳᓕᖅᐹᖅ ᐊᕙᑎᓕᓇᓂᒻᒧᑦ ᐊᒃᑐᖅᑕᐅᓂᐊᑕ ᐅᓂᒃᑳᓕᐊᑦ (FEIS) ᐊᙱᖅᑕᐅᓯᒪᔪᖅ ᐅᔾᔨᕆᓂᐊᕈᑖᓄᑦ ᐱᔪᓇᐅᑖᑕ ᐸᐃᑉᐹᑉ.

<u>**ᓄᓇᓕᓐᓂ ᑐᓴᕐᓯᐊᕐᓂᖅ ᐃᓚᐅᑎᑦᑎᓂᓪᓗ**</u>

ᐃᓗᐊᒍᑦ 2018, ᐹᕝᕚᓛᑦ ᑲᔪᓰᓇᖅᑐᒥᒃ ᑐᓴᕐᓯᐊᓚᐅᖅᑐᑦ ᕿᑭᖅᑖᓘᑉ ᐅᐊᙵᙳᓂ ᓄᓇᓕᐅᔪᓂᒃ ᑎᒥᐅᔪᓂᒡᓗ, ᐱᔾᔪᑎᓖᑦ ᓴᓇᔭᐅᕙᓪᓕᐊᔪᑦ ᐱᓕᕆᔭᐅᓂᙱᑕ ᓄᓇᙱᒍᑦ, ᐊᐅᓚᑕᐅᔪᓄᑦ ᐊᒻᒪᑦᑕᐅᖅ ᐊᕐᕌᒍᐊᑕ 2018 ᐅᒥᐊᔾᔪᐊᒃᑯᑦ ᐅᓯᒃᖅᑕᐃᓂᖓ, ᐊᐅᓚᔾᔭᒋᐊᕈᑎᑦ ᐱᓪᓗᕆᑦ ᐃᖅᑲᓇᐃᔭᖅᑎᒃᓴᓄᑦ ᓄᓇᓕᒋᔭᐅᔪᓂᒃ ᐅᐊᙳᓂ, ᐊᕙᑎᒧᑦ ᖃᐅᔨᓴᐃᓃᑦ ᐱᓕᕆᓂᕆᔭᕗᑦ ᑖᒃᑯᐊᓗ ᓴᖅᑭᑎᖅᓯᒪᔪᑦ, ᐊᒻᒪᑦᑕᐅᖅ ᓯᕗᓂᑦᑎᒍᑦ ᓴᓇᐅᒪᓂᒃᓴᙱᑦ ᐅᔾᔨᕆᓂᐊᕝᕕᐅᑉ. ᐹᕝᕚᓛᑦ ᐊᒃᓱᕈᐋᖃᐃᓇᖅᑐᑦ ᐋᑎᓕᙱᒃ ᐃᓚᐅᑎᑦᑎᓂᒻᒥᒃ ᐃᓚᖃᖃᑕᐅᔪᓄᑦ ᐊᒃᑐᖅᑕᐅᑐᐃᓇᓇᐊᓖᑦ ᐅᔾᔨᕆᓂᐊᖅᑐᓄᑦ, ᐊᒃᑐᐊᓂᖃᖅᑐᑦ ᐱᖁᔭᒃᑯᑦ ᐊᙱᖅᑎᓄᑦ, ᐊᒻᒪᓗ ᑭᒃᑯᓕᒫᙳᔪᓄᑦ ᑲᓇᑕᒥ.

<u>**ᐸᕐᓇᙳᔪᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐊᕐᕌᒍᒧᑦ 2019**</u>

ᑖᓐᓇ 2019 ᐸᕐᓈᖑᔪᖅ ᓴᓇᔭᒃᓴᓄᑦ ᐱᓕᕆᐋᖑᓚᐅᖅᑐᖅ ᐊᑐᐃᓐᓇᕈᖅᑕᐅᓪᓗᓂᓗ ᑎᒥᐊᓄᑦ ᐹᕝᕚᓛᑦ ᑎᒍᒥᐊᖃᑕᐅᔪᓄᑦ ᐊᑎᓕᐅᕆᓯᒪᔪᓄᑦ ᓄᕙᒻᐸ 1, 2018 ᐊᑐᕐᑯᔭᐅᓯᒪᓂᐊ ᒪᓕᒃᑯᒍ ᑎᑎᕋᖅᓯᒪᓂᐊ 6.1 ᑖᔅᓯᒪ ᑮᓇᐅᔭᓕᐅᕋᓯᐊᖅᑐᑦ ᐊᑐᖅᑐᐊᕈᑖ ᐊᒻᒪᓗ ᐊᑖᒍᑦ ᐃᓚᖓᑕ J, ᐃᓗᓕᓇᔮ 3 ᐃᓕᕐᑯᓯᓕᒃ ‘A’ ᐃᒥᒻᒧᑦ ᓚᐃᓴᓐᓯᐅᑉ, ᐱᔾᔪᑎᖃᖅᑯᑎᒃ ᐊᕐᕋᒍᑕᒫᖅ ᐊᑭᓕᐅᑎᒃᓴᖅ ᓴᓂᕐᕙᕆᐋᓕᙵᓄᑦ ᕿᒥᕐᕈᔭᐅᓂᖓ ᐱᓕᕆᐋᒃᓴᙱᓄᑦ ᐊᕐᕋᒍᑕᒫᖅ ᑲᒪᒋᔨᓇᔭᙱᑕ.

ᑖᓐᓇ 2019 ᐸᕐᓈᖑᔪᖅ ᓴᓇᔭᒃᓴᓄᑦ ᐅᓂᒃᑳᓇᔭᖅᑲᖅᑐᖅ ᐸᕐᓈᓇᔭᓄᑦ ᐱᕙᓪᓕᐊᔪᒃᓴᓄᑦ ᐊᐅᓚᑕᐅᓂᖓᑕᓗ ᐅᔾᔨᕆᓂᐊᕐᕕᐅᑉ, ᓴᕿᑦᔭᒃᓴᖅ ᓯᖃᓕᔭᐅᓂᖓ ᐊᒻᒪᓗ ᓄᓇᒃᑯᑦ ᐅᓯᔭᐅᓂᖓ, ᑐᖅᑯᖅᑕᐅᕙᓪᓕᐊᓂᖓ ᑕᕆᐅᒃᑯᓪᓗ ᐅᓯᔭᐅᓕᕐᓂᖓ ᐅᒥᐊᔾᔪᐊᓄᑦ ᓴᕿᑦᔭᒃᓴᖅ, ᑖᓐᓇᓗ ᑲᔪᓰᓇᖅᑐᒥᒃ ᐱᕙᓪᓕᐊᓂᖓ ᓴᓇᔭᐅᕙᓪᓕᐊᓂᙱᑕᓗ ᐱᖁᑎᔾᔪᐊᑦ ᐊᑐᕆᐊᓕᕗᑦ ᖄᙳᐊᑕ ᑐᓚᒃᑕᕝᕕᖓᓂ, ᐅᓯᒃᖅᑕᐅᑦ ᐊᖅᑯᑖᒍᑦ, ᐊᒻᒪᓗ ᓄᓘᔮᑉ ᐅᔾᔨᕆᓂᐊᕝᕕᖓᓂ. ᑲᔪᓰᓇᕈᒪᓕᓪᓗᑕ ᐱᐅᓯᕆᐊᕆᓂᒻᒥᒃ ᓄᑖᕈᐃᓂᒻᒥᒡᓗ ᐅᔾᔨᕆᓂᐊᕝᕕᐅᑉ ᐱᖁᑎᔾᔪᐊᙱᓐᓂᒃ, ᑎᒥᖓ ᐹᕝᕚᓛᑦ ᐱᓕᕆᐊᖃᖅᑐᖅ ᑐᓐᓂᖅᓴᐃᓂᒻᒥᒃ 2019 ᐸᕐᓈᖑᔪᖅ ᓴᓇᔭᒃᓴᓄᑦ ᐅᐃᒍᔭᒃᓵᓂᒃ ᕿᑎᙵᒍᑦ -2019.

ᐅᔾᔨᕆᓂᐊᕝᕕᐅᑉ ᓴᓇᐅᒪᓂᐊ 2 ᐊᙱᕆᓕᕆᐊᕆᔾᔪᑦ ᐅᒃᑑᑎᖓ ᑲᔪᓯᕙᓪᓕᐊᕋᔮᖅᑯᓂ ᕿᒥᕐᕈᔭᐅᔾᔪᓯᙱᒍᑦ ᐊᙱᖅᑕᐅᓇᓲᑎᙱᑕᓗ ᐊᐅᓚᓂᕆᓲᙱᒍᑦ ᑲᒪᒋᔭᐅᓪᓗᑎᒃ ᑎᒥᒋᔭᙱᓐᓄᑦ NIRB ᐊᒻᒪᑦᑕᐅᖅ NWB.

ᐅᔾᔨᕆᓂᐊᕝᕕᐅᑉ ᐊᕙᑖᒍᑦ ᖃᐅᔮᓵᖃᓐᓂᙱᑦ ᐱᓕᕆᔭᕆᐊᖃᖅᑕᕗᑦ ᑎᓕᐅᕆᔾᔪᑕᐅᓯᒪᔪᑦ ᐅᔾᔨᕆᓂᐊᕈᑎᐅᑉ ᐸᐃᑉᐹᙳᒍᑦ, ᐃᒥᒻᒧᑦ ᓚᐃᓴᓐᓯᙱᒍᑦ, ᐊᙱᖅᑕᐅᓯᒪᔾᔪᑎᑦᑎᒍᑦ, ᐊᐅᓚᑦᑎᓂᒻᒧᑦ ᐸᕐᓈᐅᑎᙱᒍᑦ ᐊᒻᒪᓗ ᐊᕙᑎᒧᑦ ᐊᒃᑐᐃᓂᒻᒧᑦ ᖃᐅᔨᓴᐃᔾᔪᑎᙱᑦ ᑲᔪᓰᓇᕐᓂᐊᖅᑯᑎᒃ ᐊᕐᕌᒍᓕᒫᖓᒍᑦ 2019.

RAPPORT ANNUEL DES OPÉRATIONS DE LA QUIKIQTANI INUIT ASSOCIATION (QIA) ET DE L'OFFICE DES EAUX DU NUNAVUT (OEN) 2018

RÉSUMÉ EXÉCUTIF

Le présent rapport relatif à la Qikiqtani Inuit Association (QIA) et à l'Office des eaux du Nunavut (OEN) a été préparé pour résumer les activités et la surveillance associées au projet Mary River 2018 (le projet) en vertu du permis d'utilisation des eaux de type « A » de la Baffinland Iron Mines Corporation (Baffinland), numéro 2 AM-MRY1325 – Modification n° 1 (permis d'utilisation des eaux de type « A ») et bail commercial n° Q13C301 (bail commercial) entre la QIA et Baffinland. Toutes les exigences en matière de rapports annuels pour le bail commercial, à l'exception d'un résumé des activités d'exploration et de forage menées en 2018, sont incluses dans ce rapport. Un rapport annuel distinct a été préparé pour la QIA et l'OEN afin de résumer les activités d'exploration et géotechniques menées en 2018 dans le cadre du permis d'utilisation des eaux de type « B » de Baffinland, numéro 2BE-MRY1421 (permis d'utilisation des eaux de type « B ») et de bail commercial.

En 2018, les activités minières sur le gisement n° 1 ont continué d'augmenter et ont produit un total de 5,6 millions de tonnes (Mt) de minerai, ce qui représente une augmentation de 22 % par rapport aux 4,6 Mt de minerai produits en 2017. Le minerai produit par les activités minières au site minier de Mary River (site minier) a été transporté par camions de transport de minerai le long du chemin Tote de Milne Inlet (chemin Tote) et stocké au port de Milne. Au cours de la saison de navigation en eau libre 2018 (juillet à octobre), un total de 5,1 Mt de minerai a été expédié du port de Milne dans le cadre du projet vers les marchés internationaux d'Europe, du Royaume-Uni, de Taiwan et du Japon. Les envois maritimes de minerai en 2018 impliquaient 71 transbordements individuels de navire-transporteur de minerai pendant la saison de navigation en eau libre. Après la saison de navigation en eau libre, le minerai a continué d'être stocké au port de Milne pour être expédié sur le marché en 2019.

Les opérations minières et le développement des infrastructures du projet se sont poursuivis tout au long de 2018. Une description des principales activités de projet exécutées en vertu du permis d'utilisation des eaux de type « A » et du bail commercial sont présentés ci-dessous par zone de projet.

Site minier

Sur le site minier, les principales activités du projet ont été les suivantes :

- l'exploitation du gisement n° 1 et le concassage et le stockage du minerai à l'installation de concassage de la mine;
- l'extraction d'agrégats de la carrière QMR2;
- le dépôt maintenu de déchets non dangereux dans l'installation d'enfouissement des déchets non dangereux du site de la mine (installation d'enfouissement), y compris le développement de la deuxième cellule d'installation d'enfouissement des déchets (cellule n° 2);
- le dépôt maintenu des roches stériles générées par les opérations du projet à l'installation de traitement des roches stériles;

- l'amélioration des infrastructures de drainage des eaux de surface du site (c.-à-d. des ponceaux) afin de résoudre les problèmes de sédimentation et d'améliorer le drainage des eaux de surface;
- la poursuite de la construction et du montage du nouveau camp de 800 personnes (camp Sailiivik) et infrastructures de soutien;
- l'amélioration des infrastructures de gestion des eaux de surface de l'installation du concasseur, y compris des améliorations au réseau de fossés périphériques et à l'agrandissement du bassin de l'installation de concassage; et
- la mise en œuvre maintenue de mesures correctives en réponse aux préoccupations identifiées à l'installation de traitement des roches stériles en 2017, y compris l'installation et l'exploitation réussies d'une installation de traitement des eaux dédiée à l'installation pour garantir la conformité de la qualité de l'eau des effluents.

Chemin Tote

Le long du chemin Tote, les principales activités du projet comprenaient :

- le transport du minerai à l'aide de camions de transport du minerai du site minier au port de Milne pour le stockage;
- le transport par camion du carburant et des autres fournitures du port de Milne au site minier pour soutenir les opérations et le développement du projet;
- l'entretien continu du chemin Tote pour améliorer le drainage des eaux de surface et répondre aux préoccupations opérationnelles et de sécurité, y compris les travaux proposés dans le plan d'exécution des travaux de terrassement du chemin Tote (TREEP);
- la mise en œuvre d'un plan de gestion et de surveillance des crues, impliquant la mise en œuvre de mesures préventives et correctives (c.-à-d. barrages de contrôle, barrières anti-érosion, excavations de ponceaux de neige et de glace, etc.) afin de résoudre les problèmes de sédimentation pendant les périodes de fort débit;
- la poursuite du développement de la source d'emprunt au Km 97 pour l'entretien des routes; et
- l'application de chlorure de calcium et d'eau à des fins de suppression de la poussière.

Port de Milne

Au port de Milne, les principales activités du projet comprenaient :

- le stockage maintenu du minerai à l'installation de stockage de minerai de Port de Milne avant et après la saison d'expédition en eau libre 2018;
- l'expédition de minerai par voie maritime vers les marchés internationaux par l'entremise du chargeur de navires et des navires transporteurs de minerai du port de Milne;
- l'extraction d'agrégats de la carrière Q1;
- l'installation et/ou mise en service de trois (3) réservoirs de carburant supplémentaires (0,75 ML, 3 ML et 13 ML) à l'installation de stockage de carburant en vrac du port de Milne;

- la poursuite des travaux de construction des dépôts et des infrastructures de gestion des eaux de surface associées, destinés à stocker l'équipement et les fournitures nécessaires au fonctionnement et au développement du projet; et
- l'exécution de plusieurs transports maritimes, y compris le retour des équipements et des déchets dans le sud du Canada et la livraison de carburant, d'équipements, de consommables et de matériaux pour soutenir les opérations et le développement continus du projet.

Gestion des installations de traitement des roches stériles et mesures correctives

Au cours de l'été 2017, l'apparition de drainage des roches acides et de lixiviation des métaux (DRA/LM) à l'installation de traitement des roches stériles (installation de traitement des roches stériles) de la mine, associé au défaut du revêtement du bassin de gestion des eaux de surface de l'installation de traitement des roches stériles (bassin de l'installation de traitement des roches stériles) ont entraîné la décharge de rejets d'effluents non conformes à l'installation de traitement des roches stériles.

En réponse aux préoccupations identifiées et l'occurrence de rejets non conformes en 2017, Baffinland a élaboré et mis en œuvre plusieurs mesures correctives immédiates en 2017 pour assurer la conformité en ce qui concerne la gestion des roches stériles et des effluents à l'installation de traitement des roches stériles. Ces mesures ont été résumées et fournies aux régulateurs dans le *rapport annuel 2017 de la QIA et de l'OEN sur les opérations*. En 2018, Baffinland a continué de mettre en œuvre des mesures correctives pour répondre aux préoccupations actuelles, notamment :

- l'installation et l'exploitation réussies d'une installation de traitement des eaux dédiée à l'installation de traitement des roches stériles afin de garantir la conformité de la qualité de l'eau des effluents en vertu du Règlement sur les effluents des mines de métaux et des mines de diamants (REMMMD) et du permis de type « A » sur les rejets contrôlés;
- l'inspection de l'intégrité du revêtement du bassin de roches stériles de l'installation de traitement des roches stériles afin d'étudier plus avant la cause des infiltrations non contrôlées observées en août 2017;
- l'approbation de l'OEN en vertu de la modification n° 8 pour l'agrandissement et la réparation du bassin de l'installation de traitement des roches stériles;
- l'installation de huit (8) séries de thermistances à profondeurs et emplacement variables à travers l'installation de traitement des roches stériles pour caractériser les conditions thermiques de l'installation. Les données de thermistance seront utilisées pour éclairer les futures pratiques de gestion des roches stériles et du DRA/LM, ainsi que pour la modélisation de la qualité de l'eau de l'installation de traitement des roches stériles;
- l'optimisation continue des stratégies de dépôt et de gestion des roches stériles à court terme du projet, décrites en détail dans les plans provisoires de gestion des roches stériles élaborés par Golder Associates et communiqués aux organismes de réglementation les 31 mars et 31 décembre 2018;

- le développement d'un plan d'intervention d'urgence REMMMD pour clarifier les rôles et les responsabilités; clarifier les procédures d'intervention d'urgence en cas de déversement; et décrire les contrôles en place pour assurer la conformité de la qualité de l'eau des effluents au projet en vertu du REMMMD.

Baffinland continue de s'engager à répondre aux préoccupations identifiées et à maintenir la conformité dans la gestion des roches stériles et des effluents à l'installation de traitement des roches stériles. Les meilleures pratiques et procédures de l'industrie prévues pour que les installations de traitement des roches stériles soient toujours conformes sont décrites dans les dernières révisions du Plan de gestion provisoire des roches stériles (Golder, 31 mars 2019; Annexe E.5), du Plan d'intervention en cas d'urgence et de l'eau douce du REMMMD, du Plan d'approvisionnement en eau douce et de gestion des eaux d'égout et des eaux usées. Les principales mesures correctives prévues pour 2019 comprennent l'agrandissement et la réparation du bassin de l'installation des roches stériles et des études supplémentaires sur les roches stériles afin d'optimiser les stratégies de gestion des roches stériles et du DRA/LM du projet.

Principales modifications apportées à l'infrastructure du projet

En 2018, Baffinland a continué de développer le projet et a soumis plusieurs demandes de modification à l'OEN, en vertu de la section G du permis d'utilisation des eaux de type « A », afin de mettre à niveau et d'améliorer l'infrastructure du projet au port de Milne et sur le site minier. Les modifications approuvées mises en œuvre sur le projet en 2018 comprennent :

- Modification n° 2 – Augmentation de la capacité de carburant à l'installation de stockage de carburant en vrac du port de Milne en installant et/ou en mettant en service trois (3) réservoirs de carburant supplémentaires;
- Modification n° 4 – Poursuite de la construction du nouveau camp de 800 personnes (camp Sailiivik) et de l'infrastructure de soutien sur le site minier;
- Modification n° 5 – Agrandissement du bassin du bassin de l'installation de concassage sur le site minier afin de garantir une capacité de stockage suffisante pour l'écoulement des eaux à la suite de l'expansion de l'empreinte de l'installation en 2017;
- Modification n° 7 – Installation et exploitation d'une installation de traitement des eaux dédiée à l'installation de traitement des roches stériles afin de garantir la qualité de l'eau des effluents pendant les rejets contrôlés;
- Modification n° 9 – Agrandissement de l'infrastructure de gestion des eaux de surface de l'installation de stockage de minerai du port de Milne, y compris de nouveaux bassins et fossés; et
- Modification n° 10 – Agrandissement du site d'enfouissement et construction d'un pipeline d'eaux usées traitées pour desservir le nouveau camp de 800 personnes (camp Sailiivik).

En outre, en 2018, en vertu de la modification n° 8, Baffinland a reçu l'approbation d'agrandir l'installation de traitement des roches stériles, y compris d'agrandir et de réparer le bassin de l'installation de traitement des roches stériles et de creuser des fossés périphériques. Les travaux associés à la modification n° 8 devraient être mis en œuvre en 2019.

Déversements

En 2018, trente-six (36) déversements ont été signalés à la ligne de signalement des déversements des Territoires du Nord-Ouest et du Nunavut (TNO-NU), à l'OEN, au RCAANC et à la QIA par le projet, y compris vingt-trois (23) déversements d'eaux usées et d'eaux grises, quatre (4) rejets de sédiments et neuf (9) déversements impliquant d'autres effluents et matériaux opérationnels. Dans l'ensemble, cela représentait une diminution de la fréquence de 25 % par rapport à la fréquence des déversements à signaler en 2017. Baffinland a poursuivi ses recherches sur les causes fondamentales de tous les déversements survenus sur site survenus en 2018 afin de mettre en œuvre des mesures correctives efficaces à long terme et ainsi réduire la fréquence des déversements sur les sites du projet.

Utilisation de l'eau et surveillance de l'eau douce

En vertu de l'autorisation du Permis d'utilisation des eaux de type « A », de l'eau douce a été prélevée au cours de 2018 pour soutenir trois (3) activités clés du Projet : l'approvisionnement en eau potable (domestique), la suppression de la poussière et divers usages (industriels). En 2018, les limites quotidiennes totales de retrait de volume d'eau stipulées dans le Permis d'utilisation des eaux de type « A » à des fins domestiques, industrielles et de suppression de la poussière n'ont pas été dépassées dans les sources d'eau approuvées dans le cadre du projet, à l'exception de trois (3) sources d'eau pour la suppression de la poussière se trouvant le long du chemin Tote pendant les mois d'été.

Tout au long de 2018, Baffinland a poursuivi la mise en œuvre du programme de réseau de surveillance (PRS) décrit dans l'annexe I du permis d'utilisation de l'eau de type « A », analysant les effluents (c.-à-d. eaux usées traitées, eaux pluviales traitées) rejetés dans l'environnement récepteur et surveillant la qualité de l'eau de surface dans des zones spécifiques du projet (c.-à-d. ruissellement des eaux de surface en aval des zones du projet). D'après un examen des résultats du PNS de 2018 communiqués à l'OEN, au RCAANC et à la QIA, les dépassements des critères de rejet applicables en 2018 concernaient principalement les eaux de ruissellement et les effluents présentant des niveaux de TSS élevés. Dans chaque cas, des mesures de contrôle appropriées ont été mises en place pour rétablir les niveaux de TSS en dessous des critères de rejet applicables. Baffinland continue d'évaluer et de mettre en œuvre les mesures correctives et d'atténuation appropriées pour répondre aux préoccupations continuelles en matière de sédimentation relatives au projet.

Outre le PNS, des études environnementales suivies et des études d'impacts, notamment le plan de suivi des effets sur le milieu aquatique (PSEMA) du projet, ont été menées en 2018 conformément aux engagements souscrits dans l'ERP, et à la déclaration finale d'impacts environnementaux (Énoncé des incidences environnementales (EIE)) approuvée en vertu du certificat de projet.

Consultations et engagement communautaires

Tout au long de 2018, Baffinland a continué de consulter les communautés et organisations du Nord de Baffin concernant les activités de construction sur le site, les opérations et la saison d'expédition 2018, les progrès en matière d'emploi dans les communautés de North Baffin, les activités de surveillance environnementale et leurs résultats et les phases futures du projet. Baffinland souhaite demeurer

impliquée et continuer d'avoir un dialogue constructif avec les parties prenantes potentiellement affectées par le projet, les organismes de réglementation concernés et le grand public.

Résumé des plans pour 2019

Le plan de travail de 2019 a été préparé et communiqué par Baffinland aux parties prenantes le 1er novembre 2018, comme l'exigent les dispositions de la section 6.1 du bail commercial et de la partie J, point 3 du permis d'utilisation des eaux de type « A », aux fins d'un examen annuel des garanties pour les activités menées sur une base annuelle.

Le plan de travail de 2019 décrivait le développement et l'exploitation prévus de la mine, le concassage et le transport terrestre du minerai, le stockage et le transport maritime du minerai, ainsi que le développement et la construction des infrastructures nécessaires au port de Milne, au chemin Tote et au site minier. Afin de continuer à améliorer les infrastructures du projet, Baffinland prévoit de soumettre un document complémentaire au plan de travail 2019 vers le milieu de l'année 2019.

La proposition d'expansion de la phase 2 du projet continue de suivre le processus d'examen et d'approbation facilité par la CNER et l'OEN.

Les programmes de surveillance environnementale du projet prescrits par le certificat de projet, les permis d'utilisation des eaux, les autorisations, les plans de gestion et les plans de surveillance des effets sur l'environnement se poursuivront jusqu'en 2019.

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SECTION 1.0 - INTRODUCTION

1.1 PURPOSE AND SCOPE

This report to the Qikiqtani Inuit Association (QIA) and the Nunavut Water Board (NWB) has been prepared to summarize the 2018 Mary River Project (the Project) activities and monitoring conducted under Baffinland Iron Mines Corporation's (Baffinland) Type 'A' Water Licence - 2AM-MRY1325 – Amendment No. 1 (Type 'A' Water Licence) and the Commercial Lease No. Q13C301 (Commercial Lease) between the QIA and Baffinland. All annual reporting requirements for the Commercial Lease, except a summary of the exploration and drilling activities conducted in 2018, are included within this report. A separate annual report has been prepared for the QIA and NWB to summarize the 2018 exploration and geotechnical activities conducted within the scope of Baffinland's Type 'B' Water Licence - 2BE-MRY1421 (Type 'B' Water Licence) and Commercial Lease. Concordance tables referencing where in this report the annual reporting requirements outlined in the Commercial Lease and Type 'A' Water Licence have been met are presented in Appendix A.

The Type 'A' Water Licence includes provisions for sampling programs that involve recording data related to the volume of water extracted for any purpose, testing of effluents (e.g., treated sewage effluents) discharged to the environment, and monitoring water quality within specific Project areas (e.g., surface discharge downstream of Project infrastructure, stormwater from containment structures, etc.). These data are summarized and referenced in the completed NWB Annual Report Forms, included as Appendix B, and are described in greater detail in the subsequent sections.

Figures 1 and 2 present the locations of the key areas associated with the Project where activities in 2018 were undertaken. These areas included Milne Port (Figure 3), the Milne Inlet Tote Road (Tote Road; Figure 4) and the Mary River Mine Site (Mine Site; Figure 5). Accommodations at the Mid-Rail Camp and Steensby Port, as shown in Figures 6 and 7, respectively, remained closed and unoccupied during 2018.

Similarly, the Bruce Head camp, shown in Figure 2, remained unoccupied throughout 2018 and was only visited to install a telemetry station to support marine monitoring studies in Milne Inlet.

1.2 REGULATORY FRAMEWORK

Although the key regulatory and legal documents that relate to this report are the Commercial Lease and the Type 'A' Water Licence, this report is presented in the context of other applicable regulatory authorizations and schedules for the Project. A list of the key regulatory permits, approvals and authorizations that allowed for the work to be completed at the Project in 2018 is presented in Table 1 below.

TABLE 1.0 - CURRENT APPROVALS, PERMITS AND AUTHORIZATIONS - 2018

Permit or Licence No.	Licence Name	Status Update for 2018	Expiry
Nunavut Impact Review Board			
No. 005	Amended Project Certificate	All works and activities have been screened by the Nunavut Impact Review Board (NIRB) and have been considered in the Project Certificate amendments issued by the NIRB in May 2014 (ERP) and October 2018 (Production Increase). A NIRB Annual Report is submitted by March 31st of each year that summarizes the status of the Project relative to the conditions outlined in the Project Certificate.	N/A
Nunavut Water Board			
2AM-MRY1325	Type 'A' Water Licence – Amendment No. 1	In good standing; no amendments were issued by the NWB in 2018.	June 10, 2025
2BE-MRY1421	Type 'B' Water Licence	In good standing; no amendments were issued by the NWB in 2018.	April 16, 2021
Qikiqtani Inuit Association			
Q13C301	Inuit Owned Land Commercial Lease	Compliance with the lease is outlined in the *2018 QIA and NWB Annual Reports* submitted by March 31st of each year.	December 31, 2043
-	Inuit Impact and Benefit Agreement (IIBA)	Compliance with the agreement is outlined in the Annual IIBA Implementation Report submitted by March 31st of each year.	N/A
Crown Land Use Permits and Quarry Permits			
47H16-1-2	Foreshore Area for Milne Port Ore Dock Lease	In good standing; no changes from previous year.	June 30, 2035
N2014Q0016	Tote Road and Borrow Area Land Use Permit	In good standing; no changes from previous year. Planned to be renewed.	June 30, 2019
N2014C0013	Steensby and Milne Land Use Permit	In good standing; no changes from previous year. Planned to be renewed.	June 30, 2019
N2014J0011	Bruce Head Land Use Permit	In good standing; no changes from previous year. Planned to be renewed.	June 30, 2019

Permit or Licence No.	Licence Name	Status Update for 2018	Expiry
Crown Land Use Permits and Quarry Permits cont'd			
N2014X0012	Milne Foreshore Land Use Permit	In good standing; no changes from previous year. Planned to be renewed.	June 30, 2019
Authorizations under the Fisheries Act			
06-HCAA-CA7-0084	Crossings along the Milne Inlet Tote Road Authorization	The authorization remains valid and has been amended over the years. A monitoring report for the water crossings was submitted to DFO on December 31, 2018.	N/A
14-HCAA-00525	Fisheries Authorization – Milne Ore Dock	A monitoring report for the ore dock was submitted to DFO on December 31, 2018.	December 31, 2020
NU-06-0084	Fisheries Authorization – Tote Road	-	N/A
Various Letter of Advice	Project crossings along Tote Road and at quarries, culvert extensions and replacements.	-	N/A
Approvals under the Navigable Waters Protection Act (Transport Canada)			
8200-07-10273, 10267, 10269, 10268, 10274, 10272, 10266, 10271	Construction of Watercourse Crossings (Bridges and Culverts)	In good standing, no changes from previous year.	Until complete
Licence under the Explosives Act			
F76068	Division 1 Factor Licence	Held by explosives contractor for the Project.	N/A

SECTION 2.0 - PROJECT ACTIVITIES, MODIFICATIONS AND INFRASTRUCTURE CHANGES

2.1 SUMMARY OF 2018 PROJECT ACTIVITIES

The Project activities undertaken in 2018 were conducted at Milne Port, the Mine Site and Steensby Port as well as along the Tote Road. The general Project activities conducted during 2018 included the following:

- The continued development and construction of Project infrastructure required at Milne Port and the Mine Site;
- Mining operations at Deposit No. 1, including the crushing, trucking and shipping of ore to international markets;
- At Milne Port, vessels carrying fuel, equipment and supplies for activities at the Mine Site and Milne Port arrived during the open-water season (July to October 2018);
- Material, fuel and supplies required for construction and operational activities were transported from Milne Port to the Mine Site year round via the Tote Road;
- Year-round operation of camp facilities at the Mine Site and Milne Port;
- Operation of the aerodrome at the Mine Site, which supported year round passenger and freight service by aircraft to/from local communities, Iqaluit and Southern Canada;
- Operation of helicopter and fixed wing aircraft to service regional exploration and environmental monitoring studies, and other general Project activities;
- Care and maintenance of the inactive Steensby Port camp;
- Continued progressive reclamation of areas of current and past use;
- Completion of environmental studies and monitoring programs identified in the FEIS, FEIS Addendum and Type 'A' Water Licence;
- Operation of a field camp north of Milne Port to support the 2018 marine monitoring programs focused on documenting narwhal and marine mammal response to shipping activities; and
- Continued engineering and environmental studies to support future phases of the Project (i.e. Phase 2 Expansion).

As required by the Commercial Lease and Type 'A' Water Licence, Baffinland submitted to the NWB, QIA and CIRNAC a 2018 Work Plan (Rev. 0) on November 6, 2017. To address comments and concerns received by Baffinland regarding the 2018 Work Plan, a revised 2018 Work Plan (Rev. 1) was submitted to the NWB, QIA and CIRNAC on January 16, 2018. On June 28, 2018, a 2018 Work Plan Addendum was submitted by Baffinland to the NWB, QIA and CIRNAC to facilitate the implementation of infrastructure upgrades not included in the 2018 Work Plan. Table 2 reconciles the activities, construction and infrastructure changes completed in 2018 to the works proposed in 2018 Work Plan (Rev. 1) and 2018 Work Plan Addendum.

TABLE 2.0 - SUMMARY OF PROJECT ACTIVITIES, MODIFICATIONS AND INFRASTRUCTURE CHANGES - 2018[1]

Item No.	Property Section	Land Use Area	Approximate Location (UTM; NAD83)	Description	Annual Work Plan Comparison	Supporting Documentation
1	Milne Port	Impact Area	LP2 – 17 W 7975900 503775 LP3 – 17 W 7975200 503200 LP4 – 17 W 7975175 503500 LP5 – 17 W 7974900 503400 LP6 – 17 W 7974700 503500 LP7 – 17 W 7974600 503700	2018 Work Plan (Rev. 1) – Item 1 Development of seven (7) laydowns in the Port area totaling 282,000 m^2 to improve the efficiency of material storage and management.	Construction of Laydown LP7 was completed in 2018. Construction of Laydowns LP2, LP3, LP4, LP5 and LP6 along with surface water management structures associated with Laydowns LP2, LP3 and LP5, included in Type 'A' Water Licence Modification No. 7, were initiated in 2018. Construction of these laydowns and associated surface water management infrastructure remained ongoing at the end of 2018. Laydown LP1 proposed in the 2018 Work Plan (Rev. 1) is no longer planned for the Project.	N/A
2	Milne Port	Impact Area	Various locations at Milne Port (Refer to Figure 3)	2018 Work Plan (Rev. 1) – Item 26 Port Site Water Management	Construction of surface water management infrastructure associated with the Milne Port 2018 Surface Water Management Plan, outlined in Type 'A' Water Licence Modification No. 7, was initiated in 2018. Construction remained ongoing at the end of 2018 with completion planned for 2019.	N/A
3	Milne Port	Impact Area	17 W 7976199 503620	2018 Work Plan (Rev. 1) – Item 41 Install 15 ML arctic diesel fuel tank to same design criteria as existing tanks, in existing containment and interconnecting pipelines to existing filling and distribution system.	Construction and commissioning of a 13 ML fuel tank at the Milne Port Bulk Fuel Storage Facility was completed in 2018. Note that the tank capacity was revised from 15 ML to 13 ML during construction activities.	N/A
4	Milne Port	Impact Area	17 W 7976199 503620	2018 Work Plan (Rev. 1) – Item 13 Install 3 ML arctic diesel fuel tank to same design criteria as existing tanks, in existing containment and interconnecting pipelines to existing filling and distribution system.	Construction and commissioning of a 3 ML fuel tank at the Milne Port Bulk Fuel Storage Facility was completed in 2018.	N/A
5	Milne Port	Impact Area	R1 – 17 W 7974015 504036 R2 – 17 W 7973631 504478 R3 – 17 W 7972669 504899	2018 Work Plan (Rev. 1) – Item 14 Development of three laydown areas (R1, R2 and R3) for construction material laydown, equipment maintenance and welding workshops, site offices and containerized spares.	Construction of Laydowns R1 and R2 was completed in 2018. Construction of Laydown R3 is planned for 2019, pending approval from DFO for the construction of a culvert on the access road.	N/A
6	Milne Port	Impact Area	17 W 7976404 503185	2018 Work Plan Addendum – Item 2018 A-5 Construction of a new sedimentation pond at the Ore Stockpile (No. 1) to accommodate expanded footprint of the pad.	Preparatory works, including the mobilization of material and equipment, commenced during 2018 for the planned surface water management pond expansion at the Milne Port Ore Stockpile Facility. Construction of the surface water pond expansion was ongoing at the end of 2018 with completion planned for 2019.	N/A

[1] Items outlined the 2018 Work Plan (Rev. 1) and 2018 Work Plan Addendum that are not included in Table 2.0 were either deferred or cancelled and were not initiated in 2018.

Item No.	Property Section	Land Use Area	Approximate Location (UTM; NAD83)	Description	Annual Work Plan Comparison	Supporting Documentation
7	Milne Port	Impact Area	17 W 7975568 503745	2018 Work Plan (Rev. 1) – Item 16 Management of hydrocarbon impacted soils within the existing landfarm facility.	The Project continued to manage and remediate hydrocarbon impacted soils at the Milne Port Landfarm Facility during 2018.	N/A
8	Milne Port	Impact Area	N/A	2018 Work Plan (Rev. 1) – Item 17 Demobilization of equipment and supplies not required for near term activities as well as current inventory of hazardous waste and other materials by means of sealift from Milne Port. 2018 Work Plan (Rev. 1) – Item 22 Ongoing removal from site, or safe disposal on-site of infrastructure, equipment and supplies no longer required for ongoing construction and operations.	Baffinland continued to dispose of infrastructure, equipment and materials no longer required by the Project by means of onsite disposal (i.e. Mine Site Non-Hazardous Waste Landfill Facility) or shipment offsite via backhaul sealifts from Milne Port.	Refer to Appendices E.1 and E.4 for shipping manifests of wastes, equipment and materials shipped off the Project in 2018. Refer to Section 5.2.3 for additional details on the types and volumes of waste deposited at the Mine Site Landfill Facility during 2018.
9	Tote Road	Impact Area	17 W 7915152 555972	2018 Work Plan (Rev. 1) – Item 19 Continue the development and implementation of a long term multi-year plan to address localized areas of permafrost degradation associated with the current borrow areas, including Km 97.	Minor infilling work and material stockpiling at historical borrow areas at the Km 97 Borrow Source occurred in 2018. Further reclamation works are planned for 2019.	N/A
10	Tote Road	Impact Area	17 W 7935505 526577	2018 Work Plan (Rev. 1) – Item 20 Reclamation of sections of the exploration phase Tote Road no longer in use by means of scarifying and culvert removals. 2018 Work Plan (Rev. 1) – Item 23 Unless otherwise identified within the approved interim Closure and Reclamation Plan, where roads are no longer in use - removal of culvert and open/restore the natural drainage channel. Measures will be taken to minimize erosion and sedimentation.	A historical section of the Tote Road was reclaimed near Km 52 during 2018. Reclamation work involved removal of culvert CV076 and scarifying ground surface along historical road section.	N/A
11	Mine Site	Impact Area	17 W 7913000 561475	2018 Work Plan (Rev. 1) – Item 12 Expansion of Crusher Pad Storage Area to provide increased area for ore, equipment mobility, and extra room for snow storage. Ditch and settling pond to be modified as warranted to address any drainage concerns. 2018 Work Plan (Rev. 1) – Item 39 Construction of crusher pad expansion including access road and water management structures.	Expansion of the Mine Site Crusher Facility Pond was completed in 2018 to accommodate the Crusher Facility's expansion completed in 2017. Expansion of the Crusher Facility Pond was approved under Type 'A' Water Licence Modification No. 5. Minor works and maintenance were completed in 2018 on the Crusher Facility's ditch network to ensure the ditches operated as designed.	Refer to Appendix C.1 for an as built drawing of the expanded Crusher Facility and associated perimeter ditch network.

Item No.	Property Section	Land Use Area	Approximate Location (UTM; NAD83)	Description	Annual Work Plan Comparison	Supporting Documentation
12	Mine Site	Impact Area	17 W 7917115 E562565	2018 Work Plan (Rev. 1) – Item 5 Waste Rock Sedimentation Pond improvements.	Preparatory construction works required to support the Waste Rock Facility Pond improvements planned for 2019 were initiated in 2018. The Waste Rock Facility Pond improvements were approved by the NWB under Type 'A' Water Licence Modification No. 8.	N/A
13	Mine Site	Impact Area	17 W 7913274 560774	2018 Work Plan (Rev. 1) – Item 7 Development of an 11,400 m^2 laydown area adjacent to the 800-Person Camp.	A laydown adjacent to the 800 Person Camp (Sailiivik Camp) was completed in 2018.	N/A
14	Mine Site	Impact Area	17 W 7913188 561554	2018 Work Plan (Rev. 1) – Item 8 Construction of a mine truck shop including two truck bays: a dual purpose wash and lube bay, and a general repair and maintenance bay. Includes concrete floor, overhead crane, and external tool crib, parts storage and HVAC modules. Reinforced concrete building foundation, floor slab and sump(s). 2018 Work Plan Addendum – Item 2018 A-2 Laydown area for Mine Site Truck Shop.	Construction of the pad for the new Mine Site Truck Maintenance Shop was completed in 2018. Construction of the new Mine Site Truck Maintenance Shop was initiated in 2018 and remained ongoing at the end of 2018 with completion planned for 2019.	N/A
15	Mine Site	Impact Area	17 W 7913274 560774 17 W 7913659 560167	2018 Work Plan (Rev. 1) – Item 9 Contractor office, garage and workshop installation on existing laydown pad.	Contractor offices and a workshop were constructed in 2018 on an existing laydown near the 800-Person Camp (Sailiivik Camp) to support construction and operational activities. A concrete batch plant was constructed on an existing laydown across from Ore Haul Truck Laydown, near Quarry Q1, to support construction activities.	N/A
16	Mine Site	Impact Area	17 W 7913274 560774	2018 Work Plan (Rev. 1) – Item 11 Continued installation of 800-person permanent camp inclusive of: potable water treatment, sewage treatment, incinerator, kitchen, dining, locker, recreational and washroom facilities.	Initiated in 2017, construction of the 800-Person Camp (Sailiivik Camp) at the Mine Site continued throughout 2018 and remained ongoing at the end of 2018. Final construction and commissioning of the Camp is planned to be completed in early 2019.	N/A
17	Mine Site	Impact Area	17 W 7916273 563492	2018 Work Plan (Rev. 1) – Item 5 Waste Rock Sedimentation Pond improvements - Installation of a Water Treatment System at the Waste Rock Facility to treat and manage discharge of surface water and expansion of the Waste Rock Facility footprint and associated sedimentation pond capacity.	A dedicated water treatment plant was installed and operated at the Waste Rock Facility during 2018. Installation and operation of the water treatment plant was approved under Type 'A' Water Licence Modification No. 7. Other construction activities at the Waste Rock Facility in 2018 included preparatory construction works required to support the proposed Waste Rock Facility Pond improvements, currently planned for 2019. Proposed Waste Rock Facility improvements were approved by the NWB under Type 'A' Water Licence Modification No. 8.	N/A

Item No.	Property Section	Land Use Area	Approximate Location (UTM; NAD83)	Description	Annual Work Plan Comparison	Supporting Documentation
18	Mine Site	Impact Area	17 W 7912598 560817	2018 Work Plan (Rev. 1) – Item 21 Continued development of the Mine Site landfill and deposition of non-hazardous waste in accordance with the Landfill Maintenance and Operations Manual. 2018 Work Plan Addendum – Item 2018 A-3 Expansion of the Mine Site Landfill Facility.	Baffinland continued to develop and operate the Mine Site Non-Hazardous Waste Landfill Facility (Landfill Facility), including the expansion of the Landfill Facility's limits and the deposition of waste at the Facility's second waste cell (Cell No. 2), approved by the NWB under Type 'A' Water Licence Modification No. 10.	N/A
19	Mine Site	Impact Area	17 W 7913274 560774	2018 Work Plan Addendum – Item 2018 A-4 Effluent discharge line from the 800-Person Camp water treatment plant to the final discharge point.	Construction was initiated on the treated sewage effluent pipeline for the 800-Person Camp (Sailiivik Camp) during 2018. Construction of the pipeline remained ongoing at the end of 2018 with completion and final commissioning planned for 2019.	N/A
20	Project Wide	Impact Area	Various locations at the Mine Site, Milne Port and along the Tote Road.	2018 Work Plan (Rev. 1) – Item 15 Replacement and upgrade of IT infrastructure, including communication towers to allow for better IT system performance.	Upgrades to the Project's communication network was completed in 2018. Construction activities included upgrading and replacing existing communication towers and establishing new communication towers and supporting infrastructure (i.e. laydowns, access roads) at new tower locations.	N/A
21	Project Wide	Impact Area	17 W 7976015 503625	2018 Work Plan (Rev. 1) – Item 18 Discharge and treatment of residual treated sewage effluent stored in PWSP at Mary River Exploration Camp and Milne Port Site.	Compliant effluent discharges from the Milne Port PWSP to Milne Inlet occurred during 2018.	Refer to Sections 5.1.1 and 7.1.2 for additional details on the effluent volumes and water quality monitoring associated with the 2018 Milne Port PWSP discharge to Milne Inlet.

2.2 MODIFICATIONS

2.2.1 Modification Applications Summary

During 2018, Baffinland continued to develop the Project and submitted several modification applications to the NWB, under the Section G of the Type 'A' Water Licence, to upgrade and improve Project infrastructure at Milne Port and the Mine Site. Throughout 2018, Baffinland also received approval from the NWB for several modification applications submitted by Baffinland during 2017. Table 2.1 summarizes the modification applications submitted to date and their current approvals status.

TABLE 2.1 – TYPE 'A' WATER LICENCE MODIFICATIONS SUMMARY AND APPROVALS STATUS

Modification No.[1]	Description of Modification	Approvals Status
1	Expansion of the Mine Site Crusher Facility's footprint to increase ore stockpile capacity.	Approved by the NWB on May 26, 2017 (Motion No. 2017-A1-007).
2	Expansion of the Milne Port Bulk Fuel Storage Facility's fuel capacity by installing three additional fuel tanks (0.75 ML, 3 ML and 15 ML) within the Facility's existing secondary containment berm.	Approval for the construction and installation of the 0.75 ML and 3 ML tanks issued by the NWB on September 14, 2017 (Motion No. 2017-10-02).[2]
3a	Construction of a surface water diversion ditch around the 380-Person Camp pad, as per CIRNAC Inspection Direction issued to Baffinland on June 9, 2017.	Approved by the NWB on September 8, 2017 (Motion No. 2017-10-01).
3b	Construction of a new 380-Person Camp and associated support infrastructure to upgrade and expand accommodations at Milne Port.	Approved by the NWB on January 18, 2019 (Motion No. 2018-A1-024).
4	Construction of a new 800-Person Camp and associated support infrastructure to upgrade and expand accommodations at the Mine Site.	Approved by the NWB on September 20, 2017 (Motion No. 2017-10-03).
5	Expansion of the Mine Site Crusher Facility Pond to accommodate the Facility's previous pad expansion (Modification No. 1).	Approved by the NWB on August 16, 2018 (Motion No. 2018-A1-013).

[2] Regulatory approval for the construction and operation of the 15 ML fuel tank at the Milne Port Bulk Fuel Storage Facility (revised to 13 ML during construction) in 2018 involved the submission of a "Notification of Planned Construction" by Baffinland to the NWB on August 17, 2018, followed by the approval of Baffinland's Production Increase Proposal, submitted to NIRB on April 30, 2018, and subsequently approved by the Minister of Intergovernmental and Northern Affairs and Internal Trade and the Minister of Crown-Indigenous Relations on September 30, 2018.

Modification No.[1]	Description of Modification	Approvals Status
6	Construction of a new 280-Person Camp and associated support infrastructure to upgrade and expand accommodations at Milne Port, install an additional 15 ML fuel tank at the Milne Port Bulk Fuel Storage Facility and implement upgrades to the Tote Road to address road safety and operational concerns.	Not approved by the NWB. Application withdrawn by Baffinland on December 15, 2018.
7	Construction of new infrastructure at the Mine Site and Milne Port, included in the 2018 Work Plan and 2018 Work Plan Addendum, to improve site water management and operational capabilities. Key activities within the application included the Waste Rock Facility Water Treatment Plant, Mine Haul Road upgrades, the addition of new Milne Port laydowns, and new maintenance shops at the Mine Site and Milne Port.	Approved by the NWB on August 10, 2018 (Motion No. 2018-A1-010).
8	Expansion of the Waste Rock Facility to address operational requirements and concerns identified in 2017 regarding the Facility's Pond.	Approved by the NWB on September 12, 2018 (Motion No. 2018-A1- 015).
9	Expansion of the Milne Port Ore Stockpile Facility's footprint and associated surface water management ponds.	Approved by the NWB on September 5, 2018 (Motion No. 2018-A1-014).
10	Upgrades to Mine Site infrastructure, including the installation of a direct effluent discharge line from the new 800-Person Camp (Sailiivik Camp) STP and the expansion of the Landfill Facility.	Approved by the NWB on October 16, 2018 (Motion No. 2018-13- P4-03).

Notes:

[1]As defined by the NWB.

2.2.2 Modifications Implemented

The following subsections outline the construction works completed during 2018 and the current status of the Project's modifications approved by the NWB.

2.2.2.1 Modification No. 1 – Mine Site Crusher Facility Expansion

Expansion of the Mine Site's Crusher Facility's (Crusher Facility) footprint was completed in 2017. An as built drawing for Crusher Facility's expansion was provided to the NWB and other relevant agencies on August 13, 2018. A copy of the as built drawing is provided in Appendix C.1. A complete Construction Summary Report for the expansion of the Crusher Facility's footprint and associated surface water

management pond (Modification No. 5) will be submitted to the NWB and other relevant agencies by July 31, 2019. Submission of the Construction Summary Report is delayed due to constraints and limitations associated with completing final engineering inspection and signoff of the Crusher Facility expansion during frozen conditions.

2.2.2.2 Modification No. 2 – Milne Port Bulk Fuel Storage Facility Expansion

Construction of a 0.75 ML fuel tank was completed in 2017. Construction of a 3 ML fuel tank was completed in 2018. Both tanks were commissioned and put into operation during 2018. A comprehensive Construction Summary Report that documents the construction of the 13 ML, 0.75 ML and 3 ML fuel tanks at the Milne Port Bulk Fuel Storage Facility will be submitted to the NWB and other relevant agencies in 2019.

2.2.2.3 Modification No. 3a – Milne Port Surface Water Diversion

Construction of the surface water diversion was completed by the end of 2017. A Construction Summary Report for construction works was submitted to the NWB and other relevant agencies on January 24, 2018. During 2018, the surface water diversion operated as designed. Modification 3a is considered complete.

2.2.2.4 Modification No. 3b – Milne Port 380-Person Camp

Construction activities completed for Modification No. 3b to date included the construction of the camp's pad and preparatory construction works required to support the camp's planned construction in 2019.

2.2.2.5 Modification No. 4 – Mine Site 800-Person Camp (Sailiivik Camp)

Initiated in 2017, construction of the new 800-Person Camp (Sailiivik Camp) continued throughout 2018. Construction works remaining and planned for 2019 include final commissioning of the camp's facilities and supporting infrastructure. Following final commissioning activities, a Construction Summary Report for relevant facilities regulated under the Type 'A' Water Licence will be submitted to the NWB and other relevant agencies.

2.2.2.6 Modification No. 5 – Mine Site Crusher Facility Pond Expansion

Construction of the Crusher Facility's Pond Expansion was completed in October 2018. A complete Construction Summary Report for the expansion of the Crusher Facility's footprint and associated surface water management pond (Modification No. 5) will be submitted to the NWB and other relevant agencies by July 31, 2019. Submission of the Construction Summary Report is delayed due to constraints and limitations associated with completing final engineering inspection and signoff of the Crusher Facility expansion during frozen conditions.

2.2.2.7 Modification No. 7 – 2018 Work Plan and 2018 Work Plan Addendum

Construction works completed in 2018 under Modification No. 7 included the Mine Site Waste Rock Facility (WRF) Water Treatment Plant (WTP), installed and operated in 2018 to treat runoff retained at the WRF, and the initiation of the construction of berms, ditches and culverts at Milne Port as outlined in the Project's Milne Port Water Management Plan. Baffinland plans to continue construction activities outlined in Modification No. 7 during 2019. A complete Construction Summary Report for the WRF WTP and WRF Expansion (Modification No. 8) will be submitted to the NWB and other relevant agencies following completion of the WRF Expansion planned to continue in 2019.

2.2.2.8 Modification No. 8 – Mine Site Waste Rock Facility Expansion

Construction activities completed in 2018 under Modification No. 8 focused around preparatory construction works required to support the expansion of the WRF planned for 2019. A complete Construction Summary Report for the WRF Expansion will be submitted to the NWB and other relevant agencies following completion.

2.2.2.9 Modification No. 9 – Milne Port Ore Stockpile Facility Expansion

Construction activities completed in 2018 under Modification No. 9 focused around preparatory construction works required to support the expansion of the Milne Port Ore Stockpile Facility planned for 2019. In late 2018, construction was initiated on the expansion of Pond 1 (Pond 1a), with installation of liner and further earthworks to be completed in 2019.

2.2.2.10 Modification No.10 – Mine Site Upgrades

Construction of the treated sewage effluent pipeline for discharging treated sewage effluent from the 800-Person Camp (Sailiivik Camp) to the existing discharge location near Mary River was initiated in 2018. Construction of the effluent discharge line remained on-going at the end of 2018 with completion and final commissioning planned for 2019.

Expansion of the Mine Site Non-Hazardous Waste Landfill Facility (Landfill Facility) was initiated in 2018 and involved the construction of and deposition of waste at the Landfill Facility's second waste cell (Cell No. 2). The Mine Site Landfill Facility will continue to be developed as outlined in Modification No. 10 to support continued Project operations.

2.3 OTHER CONSTRUCTION ACTIVITIES

Other construction activities completed in 2018, not outlined in Sections 2.1 and 2.2, focused around the ongoing maintenance and repair of existing Project infrastructure, including roads, laydowns and surface water management infrastructure, such as drainage ditches, culverts and free-span bridges.

During 2018, several culverts at the Project were replaced to address environmental, safety and operational concerns. Water crossings replaced in 2018 included BG04, BG25, BG28, BG31, BG33, CV002, CV007, CV079, CV088, CV090, CV091, CV094, CV097, CV101, CV102, CV124, CV125, CV133, CV144, CV203, CV210 and CV224. With exception of CV224, water crossings were replaced using the design specifications outlined in the Tote Road Issued-For-Construction Drawings developed by Hatch Ltd. and approved during the Project's Early Revenue Phase approvals process. CV224 was replaced using the design specifications outlined the Tote Road Earthworks Execution Plan, developed by Golder Associates (Golder) in 2017.

Available as built drawings for the culverts repaired/replaced in 2018 are provided in Appendix C.1.

2.4 INBOUND AND OUTBOUND SHIPMENTS TO AND FROM THE PROJECT

Equipment, materials, consumables and fuel required for the operation and continued development of the Project were transported to Milne Port via marine shipments between July and October 2018. 2018 inbound marine shipments included:

- Five (5) cargo sealifts to Milne Port delivering equipment, materials, and consumables; and
- Four (4) fuel shipments to Milne Port delivering a total of 65.0 ML of Artic Diesel and 2.8 ML of Jet-A1, to the Milne Port Bulk Fuel Storage Facility via floating-hose transfer;

Equipment, materials, consumables and fuel received by the Project at Milne Port during 2018 are summarized in Table 2.3 and listed in Appendix E.4. Once at the Project, received equipment, materials, consumables and fuel were either stored at Milne Port or transported to the Mine Site via the Tote Road.

Equipment and materials not required by Project operations, including non-hazardous and hazardous wastes generated by Project activities, were shipped off site from Milne Port via marine shipments between July and October 2018. 2018 outbound marine shipments included:

- Three (3) cargo sealifts to the Ports of Valleyfield, Cote St Catherine and Becancour in Quebec.

Equipment, materials, and wastes shipped off the Project in 2018 are summarized in Table 2.2 and listed in Appendix E.4. All wastes backhauled in 2018 were unloaded at the Port of Valleyfield, Quebec and subsequently transported to licensed, waste disposal facilities in Quebec. No wastes were backhauled to communities in Nunavut for disposal. Details on the wastes backhauled and disposed in 2018, including shipping manifests and the waste disposal facilities utilized, are outlined in Appendix E.1.

SECTION 3.0 - MINING AND EXPLORATION ACTIVITIES

3.1 EXPLORATION AND GEOTECHNICAL DRILLING ACTIVITIES

For details on the 2018 exploration and geotechnical activities conducted within the scope of Baffinland's Type 'B' Water Licence and Commercial Lease, please refer to Baffinland's *2018 QIA & NWB Annual Report for Exploration and Geotechnical Activities*.

3.2 MINING ACTIVITIES

During 2018, mining operations at the Deposit No. 1 continued to increase and produced a total of 5.6 million tonnes (Mt) of ore, representing a 22 percent (%) increase from the 4.6 Mt of ore produced in 2017. Ore produced by mining operations at the Mine Site was transported by ore haul trucks along the Tote Road and stockpiled at Milne Port for marine shipment to international market during the open-water shipping season.

Monthly and annual quantities of ore generated by the Project during 2018 are provided in Table 3.0.

3.3 SHIPPING ACTIVITIES

During the 2018 open-water shipping season (July to October), a total of 5.1 Mt of ore was shipped from the Project's Milne Port to international markets in Europe, the United Kingdom, Taiwan, and Japan. 2018 marine ore shipments involved 71 individual ore carrier vessel transits. Following the open-water shipping season, ore continued to be stockpiled at Milne Port for subsequent shipment to markets in 2019.

Monthly and annual quantities of ore shipped to international markets from the Project's Milne Port during 2018 are provided in Table 3.1.

3.4 SPECIFIED SUBSTANCES EXTRACTED FROM QUARRIES AND BORROW SOURCES

During 2018, Baffinland operated several quarries and borrow sources to support Project road maintenance and infrastructure construction. Quarries and borrow sources in operation during 2018 included the Q1 Quarry at Milne Port, the QMR2 Quarry at the Mine Site and the Km 97 Borrow Source near the Mine Site. As per the requirements of the Commercial Lease (Part 6.4, item d) iv) and Type 'A' Water Licence (Schedule B, Item (g), x), Tables 3.2 and 3.3 provide quantities of each specified substance removed by quarter, calendar year and annual reporting period (September 1 – August 31), broken down by individual quarry and borrow source.

SECTION 4.0 - WATER USE

During 2018, water was withdrawn from approved sources and used at Milne Port, the Mine Site and along the Tote Road for Project activities under the authorization of the Type 'A' Licence. Water volumes used to support 2018 exploration and geotechnical drilling activities was withdrawn under the authorization of the Type 'B' Water Licence and has been provided to the NWB and QIA in a separate annual report titled *2018 QIA and NWB Annual Report for Exploration and Geotechnical Activities*.

Under the authorization of the Type 'A' Water Licence, freshwater was withdrawn and used by the Project during 2018 to sustain three (3) key activities: potable water supply for camp use, dust suppression and other industrial purposes. The following subsections describe water use at the Project during 2018.

4.1 VOLUMES OF FRESHWATER USED FOR DOMESTIC AND INDUSTRIAL PURPOSES

Camp Lake (MS-MRY-1) was used to supply the Mine Site with freshwater for domestic and industrial purposes. Water was withdrawn from Camp Lake using a wet well jetty structure positioned 30 metres from shore. Potable water (domestic) was transported from the jetty to water storage tanks located at the Mine Site's Potable Water Treatment Systems (Mine Site Exploration Camp, Mine Site Complex, Sailiivik Camp) using heat traced water pipelines and/or water trucks. Water required for industrial purposes at the Mine Site was withdrawn and transported from the Camp Lake jetty using water trucks or other equipment (i.e. fire trucks).

Km 32 Lake (MP-MRY-3) was used to supply Milne Port with freshwater for domestic and industrial purposes. Water withdrawn and transported from Km 32 Lake to Milne Port was conducted using water trucks. Potable water (domestic) was pumped from water trucks into water storage tanks located at Milne Port's Potable Water Treatment Systems (Port Site Complex, Milne Port Weatherhaven).

Water volumes withdrawn from approved water sources were monitored and documented using flow meters and/or flow extrapolation in accordance with the Type 'A' Water Licence (Part I, Item 9). Total volumes of water withdrawn and used for domestic and industrial purposes were monitored for compliance with the maximum daily withdrawal limits stipulated by the Type 'A' Water Licence (Part E, Item 4; Table 3).

Approved water source locations used for Project sites in 2018 are detailed in Table 4.0 and presented in Figures 3, 4 and 5. Tables 4.0 and 4.1 present the daily, monthly, and annual volumes of freshwater withdrawn from approved water sources on Inuit-Owned Lands (IOL) during 2018. Because Steensby Port and Mid-Rail camps were not operated in 2018, water was not withdrawn and/or used at these Project sites in 2018. No freshwater was withdrawn from Crown Lands in 2018 under the authorization of the Type 'A' Water Licence.

Under Table 3 of the Type 'A' Water Licence, source specific water withdrawal limits are specified for both domestic and industrial purposes for each approved water source. Although the total daily water withdrawal

limit for Camp Lake (367.5 m^3/day)[3] was not exceeded in 2018, there were four (4) incidents where the daily water volume withdrawn for domestic purposes exceeded Camp Lake's domestic daily water withdrawal limit (300 m^3/day). These four (4) incidents, detailed in Table 4.1, are believed to be a result of the mis-categorization of water volumes withdrawn for industrial purposes. To prevent similar incidents from re-occurring, Baffinland plans to improve the documentation and categorization of water volumes withdrawn to support Project activities. No other water withdrawal incidents or exceedances for domestic and industrial water uses were noted in 2018.

4.2 VOLUMES OF FRESHWATER USED FOR DUST SUPPRESSION

Water was withdrawn from the approved water sources along the Tote Road, outlined in Table 2-3 of the Type 'A' Water Licence, using water trucks and applied to Project roads for dust suppression purposes. Daily, monthly and annual water volumes withdrawn from these approved water sources during 2018 for dust suppression purposes are outlined in Tables 4.0 and 4.2.

As identified in Table 4.2, during June, July and August several exceedances of source specific daily water withdrawal limits, outlined in Table 2-3 of the Type 'A' Water Licence, occurred at three (3) approved dust suppression water sources along the Tote Road. All exceedances were based on the source specific daily water withdrawal limits, with both weekly and monthly withdrawal volumes being within the source specific withdrawal water limits stipulated in the Type 'A' Water Licence. Baffinland will continue to work on improving the enforcement of the source specific daily water withdrawal limits at approved water sources along the Tote Road.

4.3 VOLUMES OF RECLAIMED AND RECYCLED WATER

Under the Type 'A' Water Licence (Part E, Item 5), freshwater was reclaimed and recycled throughout the Project and applied to roads for dust suppression purposes. A summary of reclaimed and recycled water used during 2018 is provided in Table 4.2.

[3] Domestic (300 m^3/day) + Industrial (67.5 m^3/day) = Total (367.5 m^3/day)

SECTION 5.0 - WASTE MANAGEMENT

5.1 WASTEWATER MANAGEMENT

Under the Type 'A' Water Licence, the Project generated domestic sewage, retained stormwater and runoff at containment areas and ore and waste rock management facilities, and discharged compliant effluents, treated and untreated, to receiving environments at Milne Port and the Mine Site during 2018.

Steensby Port and the Mid-Rail camp remained closed in 2018 and as a result no wastewater was generated and/or discharged at these Project sites.

Wastewater and effluents generated in 2018 were managed in accordance with the Project's *Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010)*.

5.1.1 Quantities of Sewage Effluent and Sludge from STPs and PWSPs

Throughout 2018, residual sewage sludge (sludge) and treated sewage effluents were generated at the Project's Sewage Treatment Plants (STPs), equipped with Membrane Bioreactor (MBR) technology. Sewage wastes generated by the Project in 2018 were treated and managed using the following facilities:

- Mine Site STP No. 1 (MS-01);
- Mine Site STP No. 2 (MS-01B);
- Mine Site Polishing Waste Stabilization Ponds (PWSPs; MS-MRY-04A, B, C);
- Milne Port STP (MP-01); and,
- Milne Port PWSP (MP-01A).

At the Mine Site, treated sewage effluent that met the applicable water quality discharge criteria stipulated in the Type 'A' Water Licence was either direct discharged via a dedicated pipeline (MS-01) or transported by vacuum truck (MS-01B) to the approved discharge location located near the Mary River. Final commissioning of the new pipeline that will allow for direct discharge from Mine Site STP No. 2 (MS-01B), servicing the 800-Person Camp (Sailiivik Camp), to the approved discharge point near Mary River is anticipated to be completed in 2019.

At Milne Port, compliant treated sewage effluent from the Milne Port STP was either direct discharged via a dedicated pipeline or transported by vacuum truck to the approved discharge point near Milne Inlet. A second STP at Milne Port (Milne Port STP No. 2) is expected to be constructed and commissioned in 2019 to service the planned 380-Person Camp.

As part of routine operation of the Project's STPs, dewatered sludge (cake) generated at the STPs was removed daily and transported to site incinerators for disposal. Cake that could not be incinerated onsite during 2018 was shipped off the Project during the Milne Port backhaul sealift and disposed at a licensed waste disposal facility in Southern Canada.

During 2018, PWSPs at the Mine Site and Milne Port were utilized to store treated sewage effluent that did not meet the discharge criteria stipulated in the Type 'A' Water Licence. During upset conditions, when untreated sewage was required to be removed from accommodation lift stations and/or Project STPs (during maintenance), sewage, inclusive of non-compliant effluent, and sludge were transported and discharged to PWSPs for temporary storage. In cases where the wastewater stored in the PWSPs required to be discharged, the wastewater was analysed, treated (if required) and discharged to the receiving environment, in accordance with the Type 'A' Water Licence, Part F, Items 17 & 18. During 2018, approximately 800 m^3 of treated wastewater was discharged from the Milne Port PWSP to the approved discharge point near Milne Inlet. Wastewater stored in the Mine Site PWSPs was not discharged to Sheardown Lake NW in 2018.

Daily, monthly and annual quantities of sewage effluent discharged from Project STPs and PWSPs to approved discharge locations are provided in Table 5.0. Table 5.0 also presents the quantities of sewage and sludge diverted to the PWSPs from accommodation facilities as well as the quantities of cake removed from Project STPs and incinerated.

Figures 3 and 5 show the locations of the Milne Port and Mine Site STPs, PWSPs and approved discharge points.

5.1.2 Quantities of Effluent from Containment Areas

During 2018, stormwater retained within containment areas associated with the Project's bulk fuel storage facilities and hazardous materials storage berms (HWB) was analysed in accordance with the Type 'A' Water Licence (Part F, Item 9), treated if required using the mobile Oily Water Treatment System (OWTS), and discharged to the receiving environment. Stormwater analysed and demonstrated to be compliant with the applicable water quality discharge criteria stipulated in the Type 'A' Water Licence was directly discharged to the receiving environment using pumps and non-rigid hose.

At the Mine Site, the OWTS was operated intermittently from mid-June to early September at the former Exploration Camp Bulk Fuel Storage Facility (MS-MRY-6), now referred to as MS-HWB-7. During 2018, the mobile OWTS was not used to treat and discharge stormwater from Milne Port containment areas. During 2018, a total of approximately 3,200 m^3 of stormwater was discharged from Project containment areas. Table 5.1 provides the daily, monthly and annual volumes of effluent discharged from Project containment areas at the Mine Site and Milne Port during 2018.

Figures 3 and 5 show the locations of the Milne Port and Mine Site containment areas associated with the storage of fuel (bulk fuel storage facilities) and hazardous wastes and materials (HWBs), respectively.

5.1.3 Quantities of Effluent from Surface Water Management Ponds

To manage and monitor stormwater retained by ore and waste rock management facilities, the following four (4) surface water management ponds have been established at the Project:

Mine Site

- Crusher Facility Pond (MS-06)
- Waste Rock Facility Pond (WRF Pond; MS-08)

Milne Port

- Ore Stockpile - East Pond (MP-05)
- Ore Stockpile - West Pond (MP-06)

Stormwater retained by Project ore and waste rock management facilities at Milne Port and the Mine Site are directed to surface water management ponds by a network of ditches and swales established around the perimeter of each facility.

At the Mine Site, a total of approximately 73,600 m^3 was actively discharged from the WRF Pond (MS-08) to an approved final discharge point within the catchment of Mary River Tributary F (Figure 5) using pumps and non-rigid hose in 2018. A total of approximately 3,000 m^3 was actively discharged from the Crusher Facility Pond (MS-06) in 2018. Effluent from MS-06 was discharged using a pump and a direct-discharge pipeline to the approved final discharge point near the Mary River.

At Milne Port, approximately 7,700 m^3 (3,400 m^3 at MP-05 and 4,300 m^3 at MP-06) of effluent was actively discharged from the Milne Port Ore Stockpile Ponds to Milne Inlet during 2018. Effluent from MP-05 and MP-06 was discharged to Milne Inlet using pumps and non-rigid hose.

Table 5.2 provides the daily, monthly and annual quantities of effluent discharged from Project surface water management ponds during 2018. Inline flow meters and pumping rate extrapolation were used to monitor volumes discharged to the receiving environment.

Figures 3 and 5 show the locations of the surface water management ponds located at Milne Port and Mine Site, respectively.

5.2 SOLID AND HAZARDOUS WASTE MANAGEMENT

During 2018, Project operations generated various waste types, including domestic, hazardous, and non-hazardous wastes. Waste types were managed as outlined in the Project's *Waste Management Plan (BAF-PH1-830-P16-0028)* and *Hazardous Materials and Hazardous Waste Management Plan (BAF-PH1-830-P16-0011)*, utilizing the following facilities at the Mine Site and Milne Port.

Mine Site

- Waste Management Building (includes incinerator);
- Hazardous waste and materials containment berms (includes MS-HWB-1 to MS-HWB-7);

- Non-Hazardous Waste Landfill Facility; and,
- Open Burning Facility (near Km 98).

Milne Port

- Waste Management Building (includes incinerator);
- Hazardous waste and materials containment berms (includes MP-HWB-1 to MP-HWB-4);
- Milne Port Landfarm Facility (includes contaminated snow containment berm); and,
- Open Burning Facility (near Km 2)

Locations of the Project waste management facilities listed above are detailed in Table 5.3 and presented in Figures 3 and 5. Steensby Port and the Mid-Rail camp remained closed in 2018 and as a result no wastes were generated and/or managed at these Project sites.

The following subsections describe the waste management and disposal activities conducted at the Project during 2018.

5.2.1 Site Incinerators

In 2018, Mine Site and Milne Port incinerators were operated throughout the year to incinerate solid waste as per regulatory guidelines, including the Canadian Wide Standard (CWS)[4], and the Project's *Waste Management Plan (BAF-PH1-830-P16-0028).* Refer to Section 9.4 for information pertaining to 2018 monitoring activities completed for incinerator bottom ash generated at the Project.

5.2.2 Open Burning

Open burning was conducted throughout 2018 as a method to dispose of untreated wood, cardboard, and paper products generated on site as per Baffinland's *Open Burning of Untreated Wood, Cardboard and Paper Products Procedure (BAF-PH1-300-PRO-0001).* Open-burning disposal reduces the volume of inert waste directed to Project incinerators and the Mine Site Non-Hazardous Landfill Facility (Landfill Facility). Baffinland's open-burning authorization prohibits the burning of hazardous wastes, non-combustible materials, food waste, plastics, Styrofoam and/or treated wood products (plywood). To ensure removal of prohibited waste, secondary waste segregation was completed during the loading process at Project open burn facilities. Bottom ash generated from open burn activities is suitable to be deposited at the Project's Landfill Facility.

Open burning locations at Milne Port and the Mine Site are shown in Figures 3 and 5, respectively.

[4] Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for the Burning and Incineration of Solid Waste. January 2012.

5.2.3 Mine Site Landfill Facility

In 2018, inert, non-combustible wastes (plastics, cement, used construction materials, scrap metal, pipes, glass, etc.) generated by Project activities were deposited at the Landfill Facility located at the Mine Site. Non-hazardous waste, including ash from Project incinerators and open-burning activities and waste that could not be salvaged or incinerated, was also deposited at the Landfill Facility. Disposal of domestic (food) waste, hazardous and biomedical materials at the Landfill Facility is prohibited. Visual inspections were completed throughout 2018 to ensure operational compliance to the Project's *Waste Management Plan (BAF-PH1-830-P16-0028)*.

A total of approximately 12,600 m^3 of waste was deposited at the Landfill Facility in 2018. Table 5.4 provides the monthly and annual quantities of waste deposited at the Landfill Facility during 2018. Since the commissioning of the Landfill Facility, a total volume of approximately 45,200 m^3 of non-hazardous waste has been deposited at the Landfill Facility.

5.2.4 Milne Port Landfarm Facility

The Milne Port Landfarm Facility (Landfarm Facility) consists of two geomembrane lined containment cells. The larger west cell is used as a landfarm for the biotreatment of soils contaminated by hydrocarbons from spills. The smaller east cell is used to contain hydrocarbon contaminated snow generated during winter operations. The east cell is also used as a repository for other sources of oily water at Milne Port and provides a practical location where oily water can be effectively treated at Milne Port using the OWTS.

During 2018, the OWTS was not used to treat water at the Landfarm Facility. Prior to discharge, water retained in the Landfarm Facility (MP-04) was sampled to ensure compliance with the applicable discharge criteria stipulated in the Type 'A' Water Licence. Upon determining that the water met the applicable discharge criteria, water was discharged to the tundra adjacent to the Landfarm Facility. Refer to Section 5.1.2 and Table 5.1 for volumes of water discharged from the Landfarm Facility in 2018.

Throughout 2018, hydrocarbon contaminated soils generated from spills continued to be placed and spread during summer months for remediation through natural microbiological and evaporative processes. Baffinland continued to clean up and remove intermingled debris from soils stored at the Landfarm Facility in 2018. Table 5.5 provides the estimated monthly and annual quantities of soil and contaminated water deposited at the Milne Port Landfarm Facility during 2018.

5.2.5 Hazardous Waste Storage and 2018 Backhaul Sealift

During 2018, there was one (1) sealift backhaul event for Project waste. The backhaul sealift vessel departed Milne Port in August 2018 carrying non-hazardous and hazardous waste materials generated and stored on site by the Project since the previous sealift backhaul in 2017. Prior to the 2018 backhaul, non-hazardous and hazardous waste materials were collected, packaged, and manifested at Milne Port

under the direction of Qikiqtaaluk Environmental (QE). The shipment of waste materials off the Project and transport to licenced waste receiving facilities in Southern Canada was conducted under the direction of QE. Appendix E.1 provides additional information pertaining to Baffinland's 2018 waste management program, including inventories and shipping manifests identifying materials shipped off the Project in 2018 for disposal, treatment and/or recycling in Southern Canada. No Project wastes were transported and deposited in communities located in Nunavut during 2018.

Hazardous waste materials backhauled off the Project in 2018 that are regulated by the Transportation of Dangerous Goods Act (TDGA) included (in alphabetical order):

- Waste aerosol cans - UN 1950
- Waste batteries – UN 2794
- Waste fuel - UN 1202, 1203, 1863

Non-hazardous and hazardous waste materials backhauled off the Project in 2018 that were not regulated by the TDGA included (in alphabetical order):

- Contaminated oily solids
- Contaminated water (sewage, oily water)
- Domestic waste (including STP cake)
- Electrical waste (e-waste)
- Incinerator ash
- Kitchen grease
- Used tires
- Waste glycol
- Waste oil and grease

Hazardous waste and wastes material generated after the 2018 backhaul sealift continues to be sorted and stored in designated waste storage areas at the Project. Wastes that cannot be treated, recycled or disposed at the Project will be packaged and prepared for the next backhaul sealift in 2019.

5.3 WASTE ROCK MANAGEMENT

5.3.1 Mine Site Waste Rock Facility

Mining operations at Deposit No. 1 (Nuluujaak Pit) continued throughout 2018. A total of approximately 1.7 Mt of waste rock was generated during 2018. The waste rock generated at Deposit No. 1 was analytically tested based on operational testing protocols outlined in the Project's *Phase 1 - Waste Rock Management Plan (BAF-PH1-830-P16-0029)*. Based on the analytical testing results, waste rock was classified as Potentially Acid Generating (PAG) or Non-Potentially Acid Generating (NPAG) material. The 2018 results for the geochemical operational testing program are discussed in Section 9.6 and provided in Appendix E.6. All PAG waste rock generated from mining operations in 2018 was deposited at the WRF.

Table 5.6 presents the monthly and annual quantities of waste rock generated, deposited at the WRF and used for construction purposes.

SECTION 6.0 - REPORTED INCIDENTS

6.1 SPILLS

During 2018, thirty-six (36) spills were reported to the Northwest Territories-Nunavut (NT-NU) Spill Line, NWB, CIRNAC and QIA by the Project. Overall, this represented a frequency decrease of 25% when compared to the frequency of reportable spills in 2017. Table 6.0 provides a basic summary of the spills reported in 2018.

TABLE 6.0 – SUMMARY OF REPORTED SPILLS AND UNAUTHORIZED DISCHARGES BY PROJECT AREA AND MATERIAL- 2018

2018 Reported Spills			
Material Spilled	**Project Areas**		
	Mine Site	**Tote Road**	**Milne Port**
Impacted Water	1	0	0
Arctic Diesel	2	1	2
Greywater	2	0	0
Non-Compliant Runoff (MS-08)	1	0	0
Sediment	3	1	0
Sewage (Treated)	1	0	0
Sewage (Untreated)	16	0	4
Oils	0	0	2
Sub-Total	**26**	**2**	**8**
Annual Total	**36**		

In addition to the original spill report submitted within 24 hours of each spill event in 2018, a detailed follow-up report was submitted within thirty (30) days of each reported spill. The follow-up reports included a description of the event, the immediate cause(s), corrective and preventative action(s), photos, and a map showing the location of the spill.

To further outline the corrective actions taken in 2018 and planned in future years to address the sediment releases reported during freshet 2018, Baffinland provided the 2018 Freshet Monitoring Report to the NWB, CIRNAC, ECCC and the QIA in early 2019. A copy of the 2018 Freshet Monitoring Report is provided as Appendix E.10.

All spills reported to the NT-NU Spill Line in 2018 are summarized in Table 6.1 and presented in Figure 8. The follow-up spill reports and original spill reports are provided in Appendix E.8.4. It should be noted that four (4) of the reported spills occurred in secondary containment and did not result in hazardous materials (waste oil, diesel) being released to the receiving environment. Spills that did not result in a release to the receiving environment are identified in Table 6.1.

A basic analysis of the spills reported in 2018 indicated that the most common causes for the spills were equipment failure (component malfunction, preventive maintenance), improper operation of equipment, and procedural issues (inadequate procedure or training). Baffinland continues to work to identify basic causes so that effective long term corrective actions can be implemented. Mandatory spill reporting enforced at all levels in the organization; improved preventive maintenance plans, daily pre-operational checks of all equipment, spill tray usage bulletins, tool box meetings, prescribed training sessions, specific product handling and spill reduction plans are all examples of initiatives undertaken by Baffinland to reduce the frequency spills at the Project.

To ensure Baffinland's emergency response teams have the skills needed to safely and effectively respond to marine spills, marine spill response training was provided by external consultants at Milne Inlet, prior to the 2018 fuel resupply. During the training, the Project's *Emergency Response Plan (ERP; BAF-PH1-840-P16-0002)*, *Spill Contingency Plan (SCP; BAF-PH1-830-P16-0036)* and *Milne Inlet Oil Pollution Emergency Plan (OPEP; BAF-PH1-830-P16-0013)* were reviewed. During the practical deployment exercises, the responders were provided with the opportunity to learn and then practice skills by responding to marine spill scenarios using the Milne Port resident spill response equipment. The findings related to the annual training sessions continue to be used to inform revisions to the OPEP, ERP and SCP.

6.2 HEALTH & SAFETY INCIDENTS

Under the Mine Health and Safety Act, several health and safety incidents were reported by the Project during 2018. Details of the incidents are presented in Table 6.2. All incidents were reported to the Worker's Safety and Compensation Commission as required by the Mine Health and Safety Act. Moving forward, to ensure compliance with the requirements of the Commercial Lease, Baffinland will ensure reportable health & safety incidents, as defined in Section 5.2, a), vii of the Commercial Lease, are reported to the QIA in a timely manner following their occurrence.

SECTION 7.0 - MONITORING

The following subsections discuss and summarize the results of the monitoring program outlined in Schedule I of the Type 'A' Water Licence, known as the Surveillance Network Program (SNP), as well as other relevant aquatic effects monitoring programs conducted at the Project in 2018.

It should be noted that several monitoring stations listed in Schedule I of the Type 'A' Water Licence were originally established during the Exploration Phase of the Project and have since become inactive as a result of continued development and infrastructure changes at the Project. An application to the NWB to discontinue and/or relocate these inactive monitoring stations, including MP-MRY-4, MP-MRY-4A, MP-MRY-7, MP-MRY-12, MS-MRY-09, MS-MRY-10 and MS-MRY-11, is provided as Appendix E.12 to this report. Locations of the inactive monitoring stations are presented in Figures 3 and 5.

7.1 SEWAGE DISPOSAL

Sewage generated and managed by the Project in 2018 was managed as described in the Project's *Fresh Water Supply, Sewage and Wastewater Management Plan* (BAF-PH1-830-P16-0010) and in accordance with the Type A' Water Licence (Part F, Items 17 - 19).

During 2018, sewage generated from Project sites was directed to the Project STPs located at Milne Port (MP-01) and the Mine Site (MS-01, MS-01B). Treated sewage effluent was discharged to Mary River (freshwater) and Milne Inlet (ocean) in accordance with the applicable effluent discharge criteria outlined in the Type 'A' Water Licence. Figures 3 and 5 show the locations of the Milne Port and Mine Site STPs, PWSPs and approved discharge points.

In 2018, there was one (1) exceedance of effluent discharge criteria for treated sewage effluent generated by Project operations. On January 9, 2018, a treated sewage effluent sample collected from the Mine Site STP (MS-01) servicing the Mine Site Accommodations Complex exceeded the applicable discharge criteria for total phosphorus (TP) and total suspended solids (TSS) of 4 mg/L and 35 mg/L, respectively. The elevated TSS concentration (45.3 mg/L) is believed to be result of sampling error while the elevated total phosphorus concentration (4.29 mg/L) is believed to have been caused by temporary upset conditions at the Mine Site STP. The subsequent sampling event of the treated sewage effluent confirmed that both parameters had returned to concentrations below the applicable discharge criteria. No other water quality exceedances involving treated sewage effluent at the Project were observed in 2018.

Table 5.0 provides the daily, monthly and annual quantities of treated sewage effluent discharged to the receiving environment in 2018. Table 7.1 provides the water quality monitoring results for treated sewage effluents discharged from Project STPs (MS-01, MS-01B and MP-01) to the receiving environment during 2018.

7.1.1 2018 Mine Site PWSP Effluent Discharge to Sheardown Lake NW

No wastewater was discharged from the Mine Site PWSPs to Sheardown Lake NW in 2018.

7.1.2 2018 Milne Port PWSP Effluent Discharge to Milne Inlet

In accordance with the PWSP Effluent Discharge Plan, provided in the Project's *Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010)*, wastewater stored at the Milne Port PWSP (MP-01A) was discharged to Milne Inlet in August and September 2018.

From August 28 to September 2, 2018, a Dissolved Air Flotation (DAF) water treatment system, consistent with the system described in the PWSP Effluent Discharge Plan, was used to treat and discharge effluent from the Milne Port PWSP (MP-01A) to Milne Inlet. During the discharge, a total of approximately 800 m^3 of compliant effluent was discharged to Milne Inlet. During the discharge, in field monitoring was conducted to ensure effluent discharged to Milne Inlet remained in compliance with applicable discharge criteria.

Table 5.0 provides the daily and monthly quantities of effluent discharged from the Milne Port PWSP in 2018. Table 7.1 presents the water quality results for the 2018 discharge. No external laboratory results or in field monitoring indicated exceedances of the applicable water quality discharge criteria during the 2018 discharge.

As outlined in the Project's *Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010)*, in the event of a water quality monitoring exceedance during a discharge, the discharge would be stopped immediately and would not be continued until compliance with the applicable discharge criteria could be demonstrated by additional water quality monitoring.

7.2 STORMWATER FROM CONTAINMENT AREAS

During 2018, stormwater retained within containment areas associated with the Project's bulk fuel storage facilities, hazardous materials storage berms (HWB) and Milne Port Landfarm Facility (MP-04) was analysed in accordance with the Type 'A' Water Licence (Part F, Item 9), treated if required using the mobile Oily Water Treatment System (OWTS), and discharged to the receiving environment. Stormwater analysed and demonstrated to be compliant with the applicable water quality discharge criteria stipulated in the Type 'A' Water Licence was directly discharged to the receiving environment using pumps and non-rigid hose.

For stormwater requiring treatment, the mobile OWTS, coupled with polishing trains of metal removal media, was in all cases effective at removing the organic constituents of 'oil and grease' and reducing monitored metals to concentrations within the acceptable range for discharge, stipulated by the Type 'A' Water Licence, with exception of one (1) lead exceedance during the discharge of treated effluent from the Mine Site Containment Area MS-HWB-7.

On September 4, 2018, a treated effluent sample collected from the mobile OWTS, while stationed at Mine Site Containment Area MS-HWB-7, exceeded the applicable discharge criteria for total lead of 0.001 mg/L. Upon receiving the elevated total lead result (0.00127 mg/L) from the analytical lab, discharge of treated effluent from the mobile OWTS was halted. Due to the close proximity to freeze-up at the Project, subsequent sampling was not undertaken following receipt of the elevated total lead result. Potential causes of the exceedance include lab error, due to the close proximity of the discharge criterion to the analytical minimum detection limit (MDL), and the metals removal media used by the mobile OWTS being spent. No other water quality exceedances involving discharges from Project containment areas were observed in 2018.

During discharges from containment areas in 2018, periodic sampling and analyses by an independent laboratory (ALS) were conducted for applicable parameters to ensure compliance. To monitor the performance of the OWTS in the field and ensure the removal of organics constituents from the influent, sampling and analyses were also conducted in the field on a daily basis utilizing a portable total oil and grease (TOG) analyser.

Water quality results for the 2018 discharges are presented in Table 7.1. Refer to Section 5.12 and Table 5.1 for the volumes of effluent discharged from Project containment areas during 2018.

7.3 SURFACE WATER RUNOFF AND SEEPAGE

In accordance with the terms of the Type 'A' Water Licence (Part I), surface run-off/ seepage from facilities designed to contain, withhold, divert and retain water or wastes were monitored during periods of flow and after significant precipitation events. The monitoring locations and associated facilities at Milne Port and the Mine Site are presented in Figures 3 and 5, respectively, and in Table 7.0.

In accordance with the terms of the Type 'A' Water Licence, Schedule I, active monitoring stations were monitored during periods of flow for the required parameters to protect receiving waters from the identified potential contaminants. A summary of the monitoring stations and 2018 monitoring results is provided in the subsections below.

7.3.1 Milne Port Ore Stockpile Facility

Monitoring stations MP-05 and MP-06 under Schedule I of the Type 'A' Water Licence represent the east and west surface water management ponds, respectively, that collect surface water runoff from the stockpile pad associated with the Milne Port Ore Stockpile Facility (refer to Figure 3). Surface water runoff from the pad is directed to the ponds by a network of ditches along the pad's perimeter.

During 2018, retained stormwater within both ponds (MP-05 and MP-06) was actively discharged to Milne Inlet using pumps and sections of non-rigid hose. During discharges, water quality monitoring of the effluent discharged was conducted to ensure compliance with the applicable discharge criteria

outlined in the Type 'A' Water Licence. No exceedances of the applicable discharge criteria were observed during the discharges from both ponds (MP-05 and MP-06) in 2018.

Volumes of effluent discharged from the east (MP-05) and west (MP-06) ponds in 2018 are presented in Table 5.2. Water quality monitoring results for the 2018 discharges are provided in Table 7.1.

7.3.2 Mine Site Landfill Facility

Monitoring stations MS-MRY-13A and MS-MRY-13B under Schedule I of the Type 'A' Water Licence represent the surface runoff sample locations downstream of the Landfill Facility at the Mine Site (refer to Figure 5). In 2018, surface water runoff from the Landfill Facility was initially sampled in May and continued to be sampled until freeze-up in September.

During 2018, there was one (1) exceedance of the applicable water quality criteria involving surface water runoff downstream of the Landfill Facility. On May 21, 2018, a surface water grab sample collected at MS-MRY-13B had a TSS concentration of 20 mg/L which exceeded the applicable TSS criterion of 15 mg/L stipulated by the Type 'A' Water Licence. A subsequent grab sample taken at MS-MRY-13B on May 28, 2018 demonstrated that TSS levels had returned to acceptable concentrations with a TSS concentration of 2.4 mg/L. The exceedance is believed to have been an isolated event at MS-MRY-13B resulting from increased flows associated with snowmelt during freshet. No other exceedances of the applicable water quality criteria were observed at MS-MRY-13A and MS-MRY-13B during 2018. 2018 water quality monitoring results for MS-MRY-13A and MS-MRY-13B are presented in Tables 7.1.

Surface flow volumes continued to be monitored at MS-MRY-13A in 2018 using an existing weir and a pressure transducer logger installed in late June 2018. Daily surface flows at MS-MRY-13A during 2018 are presented in Appendix E.3.

To further confirm program feasibility and utility, Baffinland continued the groundwater monitoring program at the Landfill Facility in 2018. During September 2018, Baffinland installed shallow groundwater wells up-gradient and down-gradient of the Landfill Facility using drive point piezometers. Groundwater wells were established to the depth of permafrost (approx. 1 metre) and water samples were collected at well locations where groundwater was detected. For a complete discussion of the 2018 groundwater monitoring program at the Landfill Facility, refer to Section 7.5 and Appendix E.11 of this report.

7.3.3 Mine Site Waste Rock Facility

Monitoring station MS-08 under Schedule I of the Type 'A' Water Licence represents the surface water management pond (WRF Pond) that collects surface water runoff from the WRF's footprint. Surface

water runoff from the WRF's footprint is directed to the WRF Pond by a network of ditches along the WRF's perimeter.

To address the concerns observed at the WRF in 2017, Baffinland installed, commissioned and operated a dedicated water treatment plant (WTP) at the WRF to treat surface water runoff retained by the WRF Pond during 2018. The WRF WTP was approved under Water Licence Modification No. 7 and uses a combination of coagulation, pH adjustment, precipitation, flocculation and filtration to ensure effluent discharged from the WRF Pond meets the applicable water quality criteria stipulated by the Type 'A' Water Licence and Metal & Diamond Mining Effluent Regulations (MDMER). A full description of the WRF WTP treatment processes is provided in the Project's updated *Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010).*

During 2018, operation of the WRF WTP proved to be effective at addressing the water quality concerns observed at the WRF in 2017. Beginning in June 2018, controlled discharges of treated effluent from the WRF Pond were conducted and resulted in only one (1) minor exceedance of the applicable water quality discharge criteria in 2018.

On August 10, 2018, a treated effluent sample collected from the WRF WTP exceeded the applicable discharge criterion for TSS of 15 mg/L, stipulated in the Type 'A' Water Licence. The elevated TSS concentration (19.3 mg/L) is believed to have been caused by water quality variation in the effluent stream, evidenced by the sample's duplicate having a TSS concentration (14.9 mg/L) below the applicable TSS criterion, and temporary upset conditions at the WTP. Upon receiving the elevated TSS result, discharge of treated effluent from WRF WTP was halted until subsequent sampling events confirmed that TSS concentrations had returned to concentrations below the applicable discharge criteria. No other water quality exceedances involving treated effluent at the WRF WTP were observed in 2018.

Controlled effluent discharges from the WRF in 2018 involved pumping retained surface water runoff from the WRF Pond through the WRF WTP and releasing the treated effluent at an established final discharge point located within the catchment of Mary River Tributary F.

During periods of effluent discharge, the water quality of effluent was monitored at various stages of the WRF WTP by dedicated water treatment operators to ensure the plant was operating as designed and that treatment processes were achieving the target effluent quality. As outlined in the Project's *Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010),* in the event that water quality monitoring indicated that effluent no longer met the applicable water quality discharge criteria, discharge of effluent was halted and recirculated back to the WRF Pond until it could be demonstrated by additional water quality monitoring that effluent was compliant with the applicable water quality discharge criteria.

Volumes and water quality results associated with the 2018 controlled effluent discharges from the WRF are provided in Tables 5.2 and 7.1, respectively. Locations of the WRF effluent monitoring and discharge points are shown in Figure 5 and provided in Table 7.0.

During a routine inspection of the WRF on June 19, 2018, an overflow and release of non-compliant runoff was discovered along the WRF's west perimeter ditch. The cause of the overflow was determined to be a result of insufficient sizing of the perimeter ditch combined with increased flows during freshet. In discovering the release, Baffinland personnel responded quickly and stopped the release within an hour of its discovery. To prevent similar incidents from reoccurring in the future, the capacity of the west perimeter ditch was expanded shortly after the release.

Water quality sampling conducted immediately downstream of the overflow point at the time of the release suggested that the pH of the non-compliant runoff was below the pH criterion stipulated by the MDMER and Type 'A' Water Licence and ranged between a pH of 5.32 and 7.32. Acute toxicity water samples collected from a downstream fish bearing tributary (Camp Lake Tributary No. 1) shortly after the release were analyzed and shown to be non-acutely toxic.

Within 24 hours of discovering and stopping the release, Baffinland reported the release to the NT-NU Spill Line, NWB, CIRNAC, QIA and ECCC (NT-NU Spill Report No. 18-244). Copies of the original and follow-up spill reports for the release are provided in Appendix E.8.4 and provide additional details on the release and the corrective actions taken by Baffinland.

It is anticipated that the planned upgrades to the WRF's surface water management infrastructure, outlined in the approved Water Licence Modification No. 8, will further mitigate similar overflows and surface water management concerns from occurring in the future.

7.3.4 Mine Site Crusher Facility

Monitoring station MS-06 under Schedule I of the Type 'A' Water Licence represents the surface water management pond (Crusher Facility Pond) that collects surface water runoff from the Mine Site Crusher Facility's (Crusher Facility) footprint. Surface water runoff from the Crusher Facility's footprint is directed to the Crusher Facility Pond by a network of ditches that run along the Crusher Facility's perimeter.

During August through October 2018, the Crusher Pond was expanded, as outlined in Water Licence Modification No. 5, to ensure the Crusher Pond would have sufficient capacity to manage runoff retained by the Crusher Facility's expanded footprint.[5]

[5] The Crusher Facility's footprint was expanded in 2017 as outlined in Water Licence Modification No. 1. An as built drawing of the Crusher Facility's footprint expansion is provided in Appendix C.1 of this report.

Periodic controlled effluent discharges from the Crusher Facility Pond occurred during June, July and August 2018. Controlled effluent discharges from the Crusher Facility in 2018 involved pumping retained surface water runoff from the Crusher Facility Pond through a direct-discharge pipeline shared with the Mine Site STPs and releasing the effluent at an approved discharge point near the Mary River (Figure 5). During periods of discharge, water quality monitoring was conducted to ensure compliance with the applicable water quality discharge criteria outlined in the MDMER and the Type 'A' Water Licence. No exceedances of the applicable water quality discharge criteria were observed during the 2018 Crusher Facility effluent discharges.

Volumes and water quality results associated with the 2018 controlled effluent discharges from the Crusher Facility are provided in Tables 5.2 and 7.1, respectively. Locations of the Crusher Facility effluent monitoring and discharge points are shown in Figure 5 and provided in Table 7.0.

7.3.5 Deposit No. 1 and 2008 Bulk Sample Program

Monitoring stations MS-MRY-9, MS-MRY-10, MS-MRY-11 and MP-MRY-12 under Schedule I of the Type 'A' Water Licence represent surface flow/seepage monitoring locations associated with the 2008 Bulk Sample Program's Deposit No. 1 Pit and associated ore stockpiling/processing locations at the Mine Site and Milne Port. As a result of continued developed and infrastructure changes at the Project, these monitoring stations have become inactive. During 2018, no flows were observed from these monitoring stations and as a result samples were not collected.

Appendix E.12 of this report includes an application to the NWB to discontinue and/or relocate these monitoring stations to reflect current Project infrastructure. Locations of discontinued and/or relocated monitoring stations are detailed in Appendix E.12.

7.4 SURFACE WATER RUNOFF DOWNSTREAM OF PROJECT AREAS AND QUARRIES

In accordance to the terms of Type 'A' Water Licence (Part I, Item 25), surface runoff and/or discharge was monitored at stations established downstream of construction and operation areas at Milne Port and the Mine Site. Similar to 2017, managing surface water drainage at the Project during freshet remained a challenge and resulted in several sedimentation events and incidents where surface water flows downstream of Project areas exceeded the applicable discharge criterion for TSS. However, prompt implementation of sedimentation mitigation measures, outlined in the Project's *Surface Water and Aquatic Ecosystem Management Plan (BAF-PH1-830-P16-0026)*, proved effective in controlling the mobilization of sediments and returning TSS levels to below the applicable TSS criterion stipulated by the Type 'A' Water Licence at these locations.

Active surface water monitoring stations outlined in Schedule I of the Type 'A' Water Licence and located downstream of Project construction and operation areas are presented in Figures 3 and 5, as well as in

Table 7.0. In accordance with the terms of the Type 'A' Water Licence (Part I, Item 27), the water quality monitoring results for these locations are provided in Table 7.1 and are compared to the applicable water quality criteria prescribed by the Type 'A' Water Licence. Daily surface flow volumes were also measured at or near most of these surface water monitoring locations and are detailed in Appendix E.3.

In accordance to the terms of the Type 'A' Water Licence (Part I, Item 23), runoff and/or discharge water quality monitoring from borrow sources and quarries was conducted during 2018. During 2018, there were three (3) incidents where water samples collected downstream of quarry locations exceeded the applicable discharge criterion for TSS. All three (3) exceedances occurred during freshet; one (1) exceedance occurred on May 28, 2018 downstream of the QMR2 Quarry, and two (2) exceedances occurred on June 4 and 6, 2018 downstream of the Q1 Quarry. All three (3) exceedances are believed to be a result of high flows and rapid snow melt during freshet and demonstrated to be short-lived events with subsequent sampling events showing that TSS levels had returned to acceptable concentrations. 2018 water quality monitoring results for surface water runoff from developed quarries are provided in Table 7.1 and are compared to the applicable water quality discharge criteria. Monitoring locations downstream of developed quarries are presented in Figures 3 and 5, and in Table 7.0.

In accordance to the terms of Type 'A' Water Licence (Part I, Item 23), acute toxicity testing was also performed at surface runoff and/ or discharge locations downstream of active quarries Q1 at Milne Port and QMR2 at the Mine Site during 2018. 2018 acute toxicity results for surface runoff downstream of active quarries are presented in Table 7.1 of this report. During 2018, all acute toxicity samples collected downstream of active quarries (Q1 and QMR2) were demonstrated to be non-acutely toxic.

To address the 2018 sedimentation events and on-going sedimentation concerns at the Project, Baffinland continued to implement corrective and mitigation measures, including initiatives outlined in the Sedimentation Mitigation Action Plan (Golder, 2016), Dust Mitigation Action Plan (Golder, 2016) and Tote Road Earthworks Execution Plan (TREEP; Golder, 2017). Corrective actions and mitigation measures implemented to address sedimentation concerns at the Project in 2018 are fully discussed in the 2018 Freshet Monitoring Report provided in Appendix E.10. The reader is referred to the Project's *Surface Water and Aquatic Ecosystem Management Plan (BAF-PH1-830-P16-0026)* for the best management practices and mitigation measures implemented at the Project to manage and mitigate the impacts of sedimentation and erosion on receiving waterbodies, aquatic ecosystems, fish and fish habitat.

7.5 2018 GROUNDWATER MONITORING PROGRAM

Baffinland continued to conduct groundwater monitoring at the Mine Site Landfill Facility in 2018. The 2018 monitoring program used a similar methodology to the 2017 Groundwater Pilot Program, establishing shallow groundwater wells up-gradient and down-gradient of the Landfill Facility using drive-point piezometers and collecting water samples near the depth of the active layer (approx. 1 metre) during September 2018. The 2018 monitoring program involved sampling two (2)

groundwater wells up-gradient of the Landfill Facility and three (3) groundwater wells down-gradient of the Landfill Facility.

Water quality results for groundwater samples collected during the 2018 program did not demonstrate any significant trends that would allow for evaluation of potential water quality changes associated with the Landfill Facility. Due to the limited data set, further groundwater monitoring is required to gain a better understanding of natural groundwater chemistry at the Project site. As additional monitoring is conducted in future years, Baffinland will be able to better characterize natural groundwater chemistry at the Project and identify any trends, including potential impacts from Project activities or infrastructure. For additional details on the 2018 groundwater monitoring program conducted at the Landfill Facility, refer to Appendix E.11 of this report.

Baffinland plans to continue the groundwater monitoring program in 2019 using a consistent methodology as the 2018 program. The 2019 groundwater monitoring program will establish groundwater wells near Project infrastructure with a focus on the Landfill Facility at the Mine Site. Additional data is required to determine the feasibility and utility of groundwater monitoring in arctic conditions. Following the 2019 year, Baffinland will provide further recommendations to the NWB and other relevant parties.

7.6 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

Water quality samples collected in 2018 as required by Schedule I of the Type 'A' Water Licence are presented in Table 7.1. Samples collected for analysis in 2018 followed the general recommendations presented in the *Quality Assurance (QA) and Quality Control (QC) Guidelines for use by Class A Licensees in Meeting SNP Requirements and for Submission of a QA/QC Plan* (CIRNAC, 1996).

Field QA/QC procedures adopted by the Project are described in detail in the Project's *Surface Water Sampling Program - Quality Assurance and Quality Control Plan (QA/QC Plan; BAF-PH1-830-P16-0001)*. Field QA/QC samples include the collection of field duplicates and the use of field and travel blanks. Of the 333 discrete sets of Type 'A' Water Licence regulatory samples collected in 2018, field QA/QC samples (41 duplicates, 13 field blanks and 8 travel blanks) comprised 18.6% of the total samples collected. This satisfied the minimum 10% QA/QC sampling requirement stipulated in the QA/QC Plan. Baffinland will continue to adhere to the water sampling protocols outlined in the QA/QC Plan, including the 10% QA/QC sampling requirement, to ensure the collection of representative water quality data at the Project.

The results and interpretation of the QA/QC program are presented in Table 7.2. The results for the field QA/QC program are mostly acceptable, however, there was some variation observed in field duplicates that had relative percent differences (RPD) greater than 30%. A summary of these duplicates is presented in Table 7.3 below.

TABLE 7.3 – SUMMARY - QA/QC ANALYSIS OF DUPLICATES WITH AN RPD > 30% - 2018

Sample ID	Date Sampled	Parameter	RPD (%)[1]
MS-0101[2]	09-Jan-18	Total Kjeldahl Nitrogen; Faecal Coliforms	84; 35
MP-C-H01[3]	04-Jun-18	TSS	100
MS-C-E01[3]	11-Jun-18	Turbidity	108
MP-0601[2]	19-Jun-18	Total Aluminium; Total Iron	36; 48
MQ-C-A01[3]	25-Jun-18	Turbidity	47
MS-0801[2]	30-Jun-18	Total Radium (226)	40
MP-0501[2]	03-Jul-18	Total Magnesium; Total Manganese; Total Nickel	161; 90; 81
MP-C-H01[3]	10-Jul-18	Turbidity	53
MQ-C-D01[3]	10-Jul-18	TSS	39
MS-0801[2]	11-Jul-18	TSS	33
MS-0601[2]	11-Jul-18	Conductivity; Total Radium (226)	425; 121
MQ-C-B01[3]	16-Jul-18	TSS	33
MS-0801[2]	21-Jul-18	Total Radium (226)	117
MS-0801[2]	24-Jul-18	TSS; Total Radium (226)	54; 77
MP-C-H01[3]	14-Aug-18	Turbidity	59
MS-MRY-13B01[3]	27-Aug-18	Turbidity	174
MP-Q1-0201[3]	27-Aug-18	Turbidity	43
MQ-C-A01[3]	28-Aug-18	Turbidity	33
MP-0601[2]	10-Sep-18	Total Phosphorus	44

Notes:

[1]Relative Percent Difference (RPD) for a parameter is calculated by dividing the absolute analytical result difference between the sample and its duplicate by the analytical result of the sample, and multiplying by 100.

[2]Observed variation attributed to the normal water quality variability of an effluent stream.

[3]Observed variation attributed to the normal water quality variability in surface water runoff.

In addition, a total of eleven (11) field and travel blanks with result values greater than their respective parameter method detection limits (MDL) were identified in 2018, however all were within three (3) times the value of their respective MDLs, with the exception of; MP-0102 on October 2nd, MS-0103 on October 2nd, MS-C-F02 on June 11th and MQ-C-B02 on June 25th. Sampling error and laboratory analytical error are possible explanations for these elevated parameter values.

To ensure the continued collection of representative, accurate and reliable water quality data at the Project, Baffinland will continue to require all personnel involved with water quality sampling to be experienced and fully trained in the Project's QA/QC procedures and processes outlined in the Project's QA/QC Plan.

Laboratory analyses of water samples were carried out by three (3) accredited analytical laboratories during 2018. A laboratory operated by ALS Environmental located in Waterloo, ON and run by ALS Canada Ltd. (ALS) performed the majority of sample analyses in 2018. An on-site accredited field laboratory, located at the Mine Site[6] and also operated by ALS, performed select analyses in 2018 (i.e. pH, TSS, TDS, turbidity),

[6] Mine Site accredited laboratory operated by ALS Canada Ltd. commenced operation in September 2014.

reducing logistical costs while providing timely results. Acute and chronic toxicity testing was conducted by Aquatox Testing & Consulting Inc. (Aquatox), located in Guelph, ON, subcontracted by ALS.

ALS adheres to a designated QA/QC Management System which includes documentation and document control, staff training and internal audits. The practices exceed accreditation requirements for high confidence in data reliability utilising:

- Calibration verification standards and drift control standards;
- Surrogate standards and internal standards;
- Replicate analyses and blanks on submitted samples;
- Standard reference materials (SRM's) and matrix spikes; and,
- Standards Data Quality objectives, established for each QC sample, based on a combination of reference method objectives, customer requirements and historical test method performance.

The laboratory QA/QC data is reported in individual analytical certificates.

7.7 AQUATIC EFFECTS MONITORING PLAN (AEMP)

The Aquatic Effects Monitoring Plan (AEMP) describes how monitoring of the aquatic environment will be undertaken at the Project. The AEMP was identified as a follow-up monitoring program in Baffinland`s Final Environmental Impact Statement (FEIS; Baffinland, 2012) and is prescribed by the Type 'A' Water Licence. The AEMP, specifically, is a monitoring program designed to:

- Detect the short-term and long-term effects of the Project's activities on the surrounding aquatic environment;
- Evaluate the accuracy of impact predictions;
- Assess the effectiveness of planned mitigation measures; and
- Identify additional mitigation measures to avert or reduce unforeseen environmental effects.

The AEMP focuses on the key potential impacts to freshwater environment valued ecosystems components (VECs), as identified in the Final Environmental Impact Statement and Addendum for the Early Revenue Phase (ERP). The freshwater VECs include water quantity, sediment quality, and freshwater biota and fish habitat. The AEMP has been structured to serve as an overarching 'umbrella' that conceptually provides an opportunity to integrate results of individually monitored but related aquatic monitoring programs.

The following are the component studies that comprise the AEMP. The 2018 study reports are provided in Appendix E.9:

- Core Receiving Environment Monitoring Program (CREMP), provides a basis for the evaluation of any mine-related influences on water quality, sediment quality and/or biota (including

phytoplankton, benthic invertebrates and/or fish) within aquatic environments located near the Mine Site. The 2018 study report is provided as Appendix E.9.1.

- Lake Sedimentation Monitoring Program evaluates baseline and Project-influenced lake sedimentation rates at Sheardown Lake NW. The 2018 study report is provided as Appendix E.9.2.
- Hydrometric Monitoring Program assesses flow in several streams and rivers near Project sites and supports the AEMP. The 2018 study report is provided in Appendix E.9.3.
- Dustfall Monitoring Program evaluates dustfall rates in proximity to the Tote Road, Milne Port and Mine Site. The 2018 study forms part of the *2018 Terrestrial Environment Annual Monitoring Report*, available on Baffinland's Document Portal.
- Stream Diversion Barrier Study was an initial study evaluating the potential for fish barriers under natural conditions and due to Project-related stream diversions. This study has been deferred due to the low impact anticipated by the reduced footprint of the WRF during the Early Revenue Phase of the Project.
- Environmental Effects Monitoring (EEM) Program, as required under the MDMER. The first biological EEM study for the Project, Phase 1, was conducted in August 2017 and submitted to ECCC during January 2018. The next biological EEM study for the Project, Phase 2, is scheduled for August 2020.

The 2018 AEMP study reports outlined above and provided in Appendix E.9 include the evaluation of Project related influences on chemical and biological conditions at mine-exposed waterbodies following the fourth full year of mine operations.

On November 8 and 9, 2017, Baffinland chaired the 2017 Freshwater Workshop in Iqaluit, NU with regulators and stakeholders (ECCC, CIRNAC, GN, NWB, QIA) to discuss the Project's freshwater monitoring programs and the proposed changes to the Project's Core Receiving Environment Monitoring (CREMP), included in Revision 2 of the AEMP; submitted to regulators in April 2016. Taking into account discussions and feedback received at the 2017 Freshwater Workshop, Baffinland plans on resubmitting a modified Revision 2 of the AEMP in 2019 to regulators and stakeholders for final review and approval.

7.8 NATURAL SEDIMENTATION EVENTS

During 2018, natural sedimentation events were documented upstream of several water crossings along the Tote Road as well as in a undisturbed tributary north of Milne Port, unaffected by anthropogenic activities. All natural sedimentation events were observed during freshet 2018.

Water quality monitoring conducted under the Tote Road Freshet Monitoring Program during freshet 2018 indicated naturally elevated TSS levels upstream of several water crossings, including known fish-bearing water crossings BG-27 and CV-114. On May 30, 2018, a sample collected upstream of water crossing BG-27

(Km 86) was analysed and determined to have a TSS concentration of 83 mg/L. Similarly, on June 1, 2018, a water sample collected upstream of water crossing CV-114 (Km 29) was analysed and determined to have a TSS concentration of 83.6 mg/L.

On June 23, 2018, during routine helicopter flights in the Milne Port area, personnel observed a natural sedimentation event in a tributary nine (9) kilometres (km) north of Milne Port that was undisturbed and did not interact with Project infrastructure. A water sample was subsequently taken along the tributary at a location named MP-NW-01. Analysis of the water sample collected determined that the sample had a TSS concentration and turbidity reading of 2,800 mg/L and 4,000 NTU, respectively.

Water quality results for these sedimentation events are detailed in Table 7.4. Locations of these observed natural sedimentation events are presented in the 2018 Freshet Monitoring Report, provided as Appendix E.10 of this report.

All of these sedimentation events demonstrated elevated TSS concentrations in drainages upstream or unaffected by Project activities that significantly exceeded the TSS criteria stipulated in the Type 'A' Water Licence (monthly average – 15 mg/L; grab – 30 mg/L). Given the naturally elevated TSS levels observed within the Project area over the last 4 years of mine operation, Baffinland will pursue submitting an application to the NWB in 2019 to modify the TSS criteria and/or assessment framework (i.e. static criteria vs. criteria adjusted for background) used by the Type 'A' Water Licence to assess Project effects on TSS concentrations.

SECTION 8.0 - RECLAMATION, CLOSURE AND FINANCIAL SECURITY

8.1 PROGRESSIVE AND FINAL RECLAMATION

Throughout 2018, the following progressive reclamation activities were completed:

- Continued development and implementation of a long term multi-year plan to address localized areas of permafrost degradation associated with the current borrow areas, including the borrow areas near Km 97. Borrowing in the Km 97 areas has led to thawing of the underlying permafrost soils, which has caused a considerable increase in ponded water, and as a result there is settlement from thaw of both the ground ice in the soil matrix and the thaw of ice wedges. To address the permafrost degradation, a reclamation plan for the historical Km 97 borrow areas was developed by Baffinland and is outlined in Appendix B of the *Borrow Source Management Plan – Km 97 (BAF-PH1-830-P16-0032)*. During 2018, Baffinland continued the reclamation efforts by stockpiling material at the historical borrow areas for the purposes further reclamation works in 2019. Work completed to date includes the stockpiling of aggregate and the excavation of a ditching and swale structure at the southwest end of the historical borrow area. Works outlined in the reclamation plan are expected to continue in 2019.
- Demobilization and backhaul of equipment and supplies not required for near term activities, including the current inventory of hazardous waste and other materials by means of sealifts from Milne Port.
- Reclamation of a historical section of the Tote Road near Km 52. Reclamation works involved the removal of culvert CV-076 to restore natural drainage and scarifying the ground surface along the alignment of the historical road section.
- On-going management of hydrocarbon impacted soils at the Milne Port Landfarm Facility generated from historical decommissioning efforts and ongoing operations.

A summary of the reclamation works listed above and their implications on financial security held by both the QIA and the Crown (CIRNAC) for the Project are presented in Table 8.0.

8.2 CURRENT RESTORATION LIABILITY

During 2018, approximately $12,188,000 CAD of additional security was posted for activities outlined in the 2018 Work Plan (Rev. 1) and 2018 Work Plan Addendum. Closure and reclamation security posted for Project activities as of December 31, 2018 is summarized in Table 8.1.

SECTION 9.0 - PLANS, REPORTS AND STUDIES

9.1 SUMMARY OF STUDIES REQUESTED BY THE NUNAVUT WATER BOARD

In 2018, studies were not requested by the NWB.

9.2 REVISIONS TO PLANS REPORTS AND MANUALS

TABLE 9.0 - MANAGEMENT AND MONITORING PLAN UPDATES - 2018

Management Plan	Current Revision	Updated since 2017 QIA/NWB Annual Report for Operations?
Air Quality and Noise Abatement Management Plan	March 2016	No update
Emergency Response Plan	September 2018	Yes
Spill Contingency Plan	September 2018	Yes
Environmental Protection Plan	August 2016	No update
Fresh Water, Sewage and Wastewater Management Plan	March 2019	Yes
Surface Water and Aquatic Ecosystem Management Plan	March 2019	Yes
Hazardous Materials and Hazardous Waste Management Plan	March 2017	No update
Waste Management Plan	September 2018	Yes
Interim Reclamation and Closure Plan	October 2018	Yes
Surface Water Sampling Program - Quality Assurance and Quality Control Plan	March 2017	No update
Aquatic Effects Monitoring Plan	October 2015	No update
Snow Management Plan	December 2018	Yes
Life of Mine Waste Rock Management Plan	April 2014	No update
Phase 1 Waste Rock Management Plan[1]	November 2017	No update
Explosives Management Plan	August 2013	No update
Milne Port Oil Pollution Emergency Plan (OPEP)	September 2018	Yes
Exploration Spill Contingency Plan	June 2014	No update

Management Plan	Current Revision	Updated since 2017 QIA/NWB Annual Report for Operations?
Exploration Closure and Reclamation Plan	July 2014	No update
Terrestrial Environmental Management and Monitoring Plan	March 2016	No update
Roads Management Plan	March 2019	Yes
Borrow Pits and Quarry Management Plan	March 2014	No update
Milne Inlet Tote Road Quarry and Borrow Source Management Plan	March 2019	New Plan
Site Specific Quarry Management Plans	Various below	
Borrow Source Management Plan – Kilometre 2	October 2014	No update
Borrow Source Management Plan – Kilometre 97	October 2014	No update
Borrow Source Management Plan – Kilometre 104	March 2014	No update
D1Q1 Quarry Management Plan	October 2013	No update
D1Q2 Quarry Management Plan	October 2013	No update
Q1 Quarry Management Plan	July 2017	No update
Q11 Quarry Management Plan	October 2013	No update
Q19 Quarry Management Plan	October 2013	No update
Q7 Quarry Management Plan	October 2013	No update
QMR2 Quarry Management Plan	July 2017	No update

Notes:

[1]An Interim Waste Rock Management Plan (Golder, March 2019) that supersedes the Phase 1 Waste Rock Management Plan is provided as Appendix E.5.

Management and monitoring plans that have been updated since the submission of 2017 QIA & NWB Annual Report for Operations can be accessed on Baffinland's Document Portal, located on the Baffinland corporate website.

9.3 SUMMARY OF FUEL STORAGE

During 2018, bulk fuel storage and dispensing facilities located at the Mine Site and Milne Port were used to support Project activities, including diesel electric power generation and building heat, light and heavy vehicle and equipment operation, fixed-wing aircraft and helicopter flights and shiploader operations.

At the end of 2018, the Milne Port Bulk Fuel Storage Facility included: three (3) 12 ML Arctic Diesel field-fabricated tanks, one (1) 13 ML Arctic Diesel field-fabricated tank, two (2) 5 ML Arctic Diesel field-fabricated tanks, one (1) 3 ML Arctic Diesel field-fabricated tank, and four (4) 0.75 ML Jet-A1 pre-fabricated tanks. All tanks are vertical single wall steel construction and designed to API 650 specifications. Fuel inventories at the Milne Port Bulk Fuel Storage Facility on December 31, 2018 consisted of 41.3 ML and 2.36 ML of Arctic Diesel and Jet-A1, respectively.

During late June to early July, and late August to early October, the 3 ML Arctic Diesel field-fabricated tank and 13 ML Arctic Diesel field-fabricated tank were constructed and installed at the Milne Port Bulk Fuel Storage Facility, respectively. The tanks were installed within the facility's existing secondary containment berm, engineered to comply with the CCME *"Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products" (2015)*. A Construction Summary Report detailing the construction of the 0.75 ML Jet-A1, 3 ML Arctic Diesel and 13 ML Arctic Diesel fuel tanks will be provided in 2019.

At the end of 2018, the bulk fuel storage and dispensing facilities at the Mine Site included the Mine Site Bulk Fuel Storage Facility, equipped with four (4) 0.5 ML Arctic Diesel pre-fabricated tanks and two (2) 50,000 L Jet-A1 steel tanks at the Mine Site Aerodrome. Both bulk fuel facilities are equipped with lined secondary containment berms, engineered to comply with the CCME *"Environmental Code of Practice for Aboveground Storage Tank Systems Containing Petroleum Products" (2015)*. As of December 31, 2018, fuel inventories at the Mine Site consisted of 1.27 ML of Arctic Diesel at the Mine Site Bulk Fuel Storage Facility and 79,818 L of Jet-A1 at the Mine Site Aerodrome. No significant modifications to the fuel management infrastructure at the Mine Site were completed in 2018.

During 2018, the Milne Port Bulk Fuel Storage Facility was resupplied by fuel tanker vessels during the open-water shipping season via ship-to-shore floating hose fuel transfers. Throughout the year, fuel at the Mine Site Bulk Fuel Storage Facility and Mine Site Aerodrome were resupplied by bulk fuel tanker trucks transporting fuel from Milne Port via the Tote Road. The remaining fuel requirements needed for the various aspects of the Project during 2018 were supplied using day tanks and 205 L drums.

As described in the *2018 QIA and NWB Annual Report for Exploration and Geotechnical Activities*, drummed fuel was used mainly to support on site helicopters involved with exploration and environmental field studies in 2018. As of December 31, 2018, there were 1,172 drums (205 L) of fuel (624 Arctic Diesel and 548 Jet-A1) stored at Steensby Port, 715 drums (205 L) of fuel (674 Jet-A1 and 41

gasoline) at the Mine Site and 71 drums (205 L) of fuel (17 Jet-A1 and 54 gasoline) at Milne Port. No fuel was stored at the Mid-Rail or Bruce Head camps in 2018.

It is Baffinland's practice to construct and operate its fuel storage/dispensing facilities in accordance with applicable guidelines and regulations such as the CCME "*Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products (2015)*", *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations (Canadian Environmental Protection Act, 1999 SOR/2008-197 June 12, 2008)* and the *National Fire Code of Canada*. To protect receiving waters, it is Baffinland's practice, to store drummed fuel, petroleum based wastes, and other potentially hazardous products within lined containment areas whenever possible. Engineered lined containment areas are in place at the Mine Site, Milne Port, Steensby Port and Mid-Rail camp for the storage of drummed fuel and hazardous products and wastes.

Part D, Item 18 in the Type 'A' Water Licence requires that Baffinland shall ensure the proper function of earthworks associated with facilities at the Mine Site and Milne Port such as the bulk fuel storage and ancillary fuel facilities. Bi-annual geotechnical inspections are required to be performed by a geotechnical engineer registered in Nunavut. To fulfil the requirement, geotechnical inspections of Project sites were conducted in July and October 2018. Reports for the geotechnical inspections were submitted to the NWB within 60 days of each inspection. Copies of the 2018 geotechnical inspection reports are provided in Appendix C.2.

9.4 RESULTS OF CHEMICAL ANALYSIS OF INCINERATOR BOTTOM ASH

To confirm that Project incinerators at the Mine Site and Milne Port were operating as designed (per manufacturer's specifications), routine process monitoring was completed throughout 2018. This included monitoring the temperature in the primary chamber, secondary chamber and stack; burn times, system pressure and fuel level.

Prior to disposal at the Mine Site Landfill Facility, residual bottom ash generated from the site incinerators were tested using Toxicity Characteristic Leaching Procedure (TCLP) analysis. TCLP testing of residual bottom ash was conducted to ensure compliance with the Type 'A' Water Licence (Part F, Item 7) and confirm that disposal of residual bottom ash at the Landfill Facility would not generate leachate at concentrations above the applicable water quality criteria. In comparing the TCLP analytical results for the 2018 composite ash samples with the applicable environmental guidelines[7], all ash samples, with the exception of one (1) sample (MS-ASH-155) at the Mine Site, were below the threshold values for

[7] Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Industrial Waste Discharges into Municipal Solid Waste and Sewage Treatment Facilities. April 2011.

monitored parameters. Bottom ash associated with the sample MS-ASH-155 was re-sampled and confirmed to be below threshold values. As such, all ash generated during 2018 by Project incinerators was disposed at the Landfill Facility. Appendix E.2 provides the analytical certificates for ash generated and sampled during 2018 as well as summary tables detailing the disposal method for ash generated by Project incinerators in 2018.

Baffinland will continue to conduct routine sampling of residual bottom ash generated by Project incinerators as described above to ensure ash disposed in the Landfill Facility is compliant with the established applicable environmental guidelines. Ash identified by TCLP analysis to exceed the established threshold values will be segregated, packaged and shipped offsite to Southern Canada for proper disposal at a licensed waste facility.

9.5 SUMMARY OF GEOCHEMICAL ANALYSIS FOR OPERATED QUARRIES

In accordance with terms of the Type 'A' Water Licence (Schedule B, Item g (xiii)), geochemical analysis results for aggregates extracted from approved quarries during 2018 to support construction and road maintenance activities are presented in Appendix E.7. Appendix E.7 also provides a statistical summary of the 2018 geochemical results for each quarry, in addition to the laboratory analytical data.

During 2018, an operational sampling program was conducted to confirm the original predictions that the aggregate material removed from approved quarries would have a low potential for Acid Rock Drainage and Metal Leaching (ARD/ML). Samples analyzed were collected from blast hole cuttings. When assessing whether aggregate is Potentially Acid Generating (PAG), the general cut-off criteria used by the Project was a Net Potential Ratio (NPR) value less than two (2) and a sulphur concentration greater than 0.20%. Material that had a NPR greater than two (2) and a sulphur concentration less than 0.20% was considered Non-Potentially Acid Generating (NPAG) material.

2018 results for aggregates extracted from the Q1 Quarry continued to indicate low potential for ARD/ML as was originally predicted in the assessments made prior to development and documented in the Project's *Q1 Quarry Management Plan (BAF-PH1-830-P16-0017)*.

In 2018, results for aggregate extracted from the QMR2 Quarry showed a slight increase in average sulphur concentration (0.04%) when compared to pre-development predictions (0.01%) outlined in the Project's *QMR2 Quarry Management Plan (BAF-PH1-830-P16-0040)*. As outlined in the *2017 QIA and NWB Annual Report for Operations*, during 2018 Baffinland conducted an investigation to further characterize and predict the potential ARD/ML production from QMR2 Quarry bedrock and aggregates. The 2018 investigation along with further development of the QMR2 Quarry identified small localized areas of PAG material within the QMR2 Quarry's limits of development.

To properly manage aggregates produced in these localized areas during 2018, prior to each blast Mine Operation's on site geologists would review and evaluate the geochemical results of the blast hole cuttings

and appropriately delineate the limits of the PAG material for each blast pattern. Delineated blast patterns were then communicated to the blasts teams for execution. Following each blast, identified PAG material was flagged off, quarantined and subsequently deposited at the WRF. A total of 2,430 m^3 of PAG material was removed from the QMR2 Quarry and deposited at the WRF in 2018. Water quality monitoring conducted downstream of the QMR2 Quarry demonstrated that the pH of drainage remained within the applicable water quality limits stipulated by Type 'A' Water Licence. 2018 water quality monitoring results are outlined in Table 7.1.

Baffinland will provide an updated revision of the QMR2 Quarry Management Plan to the NWB by November 1, 2019 outlining the Project's current protocols and strategies for managing the small quantities of PAG encountered at the QMR2 Quarry.

9.6 WASTE ROCK STUDIES AND OPERATIONAL TESTING RESULTS

During 2018, Baffinland continued to characterize Deposit No. 1 waste rock generated by Project operations and optimize waste rock deposition and management strategies to address outstanding concerns identified at the WRF during 2017. Waste rock monitoring and management activities completed in 2018 included:

- Operational geochemical testing of waste rock generated by mining operations at Deposit No. 1;
- Installation of eight (8) thermistor series at varying depths and locations throughout the WRF to characterize the thermal conditions of the Facility; and,
- Continued optimization of the Project's near term waste rock deposition and management strategies, detailed in the Interim Waste Rock Management Plans developed by Golder Associates (Golder) and provided to regulators on March 31 and December 31, 2018.

Operational testing of waste rock generated by mining operations at Deposit No. 1 continued to be conducted throughout 2018 to inform the management and deposition of PAG and NPAG waste rock at the Project. The testing methods employed are outlined in the Project's *Life-of-Mine Waste Rock Management Plan (BAF-PH1-830-P16-0031)* and involve the on-site sampling and analysis of blast hole cuttings for total sulphur content and supporting Acid Base Accounting (ABA) parameters, such as the Neutralization Potential Ratio (NPR). The operational testing results provide the basis for determining the appropriate waste rock classification: PAG or NPAG. Waste rock analyzed to have a NPR greater than two (2) and a sulphur concentration less than 0.20% was classified as NPAG material while waste rock analyzed to have a NPR less than two (2) and a sulphur concentration greater than 0.20% was classified as PAG material. All PAG waste rock generated in 2018 was deposited at the WRF. The 2018 operational testing results for waste rock material generated in 2018 are presented in Appendix E.6.

As part of the ongoing waste rock geochemical evaluation program, eight (8) thermistor series at varying depths and locations throughout the WRF were installed in late 2018 and early 2019 to characterize the thermal conditions of the Facility. Thermistor data will be used to inform future waste rock and ARD/ML management practices as well as water quality modelling at the WRF.

In consultation with Golder, Baffinland continued to optimize the Project's near term waste rock deposition and management strategies in 2018. Optimization strategies for waste rock deposition and management at the Project were outlined Interim Waste Rock Management Plans provided to regulators on March 31 and December 31, 2018. An updated Interim Waste Rock Management (Golder, March 2019) detailing the planned waste rock management strategies for the Project is provided as Appendix E.5.

SECTION 10.0 - REGULATORY INSPECTIONS AND COMPLIANCE

10.1 REGULATORY INSPECTIONS

Throughout 2018, Baffinland hosted numerous inspections and audits from CIRNAC, NIRB, ECCC and the QIA, as well as the WSCC Mines Inspector. Table 12.1 summarizes the 2018 site visits to the Project by the various agencies in 2018.

10.1.1 CIRNAC Inspections

CIRNAC Water Resources Officers conducted three (3) inspections of the Project in 2018. The dates of the inspections are as follows:

- May 15 - 17
- June 21 - 25
- August 21 - 23

Inspection results were conveyed during close-out meetings at the Project and documented in Water Licence Inspection Reports distributed to Baffinland follow each inspection. 2018 CIRNAC Water Licence Inspection Reports and Baffinland's responses are provided in Appendix E.8.1.

10.1.2 QIA Inspections

The QIA conducted four (4) inspections/visits of the Project in 2018 under the Commercial Lease. The dates of the inspections/visits are as follows:

- March 20 – 22
- June 25 – 28
- August 2 – 4
- October 2 – 3

In addition to the inspections, the QIA conducted one (1) environmental audit from September 6 – 11.

The findings from the audit and inspections were conveyed during the close-out meetings and documented in subsequent reports and correspondence. The available QIA inspection reports along with Baffinland's responses are provided in Appendix E.8.2 of this report.

10.1.3 ECCC Inspections

ECCC Enforcement Officers conducted one (1) inspection in 2018, beginning June 21 and ending June 25. Inspection results were conveyed during a close-out meeting following the inspection and documented in subsequent correspondence.

10.1.4 Workers' Safety and Compensation Commission (WSCC) Mine Inspections and Visits

The Workers' Safety & Compensation Commission (WSCC) conducted eight (8) inspections/visits of the Project in 2018. The dates of the inspections and visits are as follows:

- January 23 – 29
- March 28 – 29
- July 5 – 9
- July 13
- August 29 – 30
- October 17
- November 8
- December 16

Reports generated from these inspections and visits were distributed to Baffinland management as well as Baffinland's Occupational Health & Safety (OHS) Committee. The 2018 inspections and visits resulted in directives being issued to the Company over the course of the year. All directives were reviewed by the management team and responses were sent to the Mines Inspector within a timely manner. The results of the inspections are provided in Appendix E.8.3 of this report.

10.2 REGULATORY ENFORCEMENT ACTIONS

As shown in Table 10, during 2018 no enforcement actions were issued to the Project by federal or territorial regulators.

During the summer of 2017, the development of Acid Rock Drainage and Metal Leaching (ARD/ML) at the WRF in combination with the WRF Pond liner becoming compromised resulted in non-compliant effluent discharges at the WRF

As a result of the concerns identified and non-compliant effluent discharges at the WRF in 2017, CIRNAC issued an Inspector's Direction to Baffinland on September 5, 2017 followed by the QIA and ECCC issuing notifications to Baffinland on September 7, 2017 and September 13, 2017, respectively, that both parties had initiated investigations into the 2017 events at the WRF.

In response to the concerns identified and non-compliant discharges, Baffinland developed and implemented several immediate corrective actions in 2017 to ensure compliance regarding the management of waste rock and effluent at the WRF. These actions were summarized and provided to regulators in the Project's *2017 QIA and NWB Annual Report for Operations*.

During 2018, Baffinland continued to implement corrective actions to address ongoing concerns, including:

- The successful installation and operation of a dedicated water treatment plant at the WRF to ensure effluent water quality compliance under the Metal & Diamond Mining Effluent Regulations (MDMER) and Type 'A' Water Licence during controlled discharges;
- Inspection of the WRF Pond's liner integrity to further investigate the cause of the uncontrolled seepage observed in August 2017;
- Approval from the NWB under Modification No. 8 for the expansion and repair of the WRF Pond;
- Installation of eight (8) thermistor series at varying depths and locations throughout the WRF to characterize the thermal conditions of the Facility. Thermistor data will be used to inform future waste rock and ARD/ML management practices as well as water quality modelling at the WRF.
- Continued optimization of the Project's near term waste rock deposition and management strategies, detailed in the Interim Waste Rock Management Plans developed by Golder and provided to regulators on March 31 and December 31, 2018.
- Development of a MDMER Emergency Response Plan to: clarify roles & responsibilities; clarify emergency spill response procedures; and outline the controls in place to ensure effluent water quality compliance at the Project under MDMER.

Baffinland continues to remain committed to addressing the identified concerns and maintaining compliance in the management of waste rock and effluent at the WRF. Industry best practices and procedures planned for the WRF to maintain compliance are detailed in the Project's most recent revisions of the Interim Waste Rock Management Plan (Golder, March 31, 2019; Appendix E.5), *MDMER Emergency Response Plan (BAF-PH1-830-P16-0047)* and *Fresh Water Supply, Sewage and Wastewater Management Plan (BAF-PH1-830-P16-0010)*. Key corrective actions planned for 2019 include the expansion and repair of WRF Pond and additional waste rock studies to further optimize the Project's waste rock and ARD/ML management strategies.

SECTION 11.0 - AMENDMENTS – PENDING AND COMPLETED

11.1 TYPE 'A' WATER LICENCE

Although no amendments to the Type 'A' Water Licence were completed in 2018, on August 16, 2018, Baffinland submitted an application to the NWB to amend the Type 'A' Water Licence to support the Project's Phase 2 Expansion Proposal. At the end of 2018, the Project's Phase 2 Final Environmental Impact Statement (FEIS) and associated Type 'A' Water Licence amendment application continued to proceed through the review and approvals process facilitated by the NIRB and NWB.

11.2 COMMERCIAL LEASE

11.2.1 Options Exercise Notices

Under Section 3 of the Commercial Lease, the 'Options Exercise Notice (OEN) process' allows Baffinland to propose amendments to the limits and classifications of Inuit-Owned Lands captured under the Commercial Lease. During 2018, Baffinland submitted two (2) Options Exercise Notices to the QIA for review and approval. Details of the submissions are summarized in Table 11 and discussed below:

- January 10, 2018 – Communications Network Upgrades – reclassification of Inuit-Owned Lands (Parcels PI-16, PI-19) along the length of the Tote Road to facilitate upgrades to the Project's communication network. Upgrades involved replacing existing and installing new communication towers at Milne Port, along the Tote Road and at the Mine Site. Approval of the OEN was issued by the QIA on February 15, 2018. Construction of the communication network upgrades followed shortly after approval and was completed by the end of 2018.
- November 1, 2018 – 2019 Work Plan – reclassification of Inuit-Owned Lands (Parcels PI-19, PI-16) at Milne Port and along the length of the Tote Road in order to:
  - Accommodate new quarries and laydowns proposed in the 2019 Work Plan;
  - Reconcile the limits of Tote Road Impact Areas to reflect the current footprint of the Tote Road and associated infrastructure; and,
  - Finalize land classification amendments to reflect as built conditions of the communication network upgrades completed in 2018.

  At the end of 2018, approval for the 2019 Work Plan OEN had not been granted by the QIA. It is anticipated that approval for the OEN will be issued by the QIA following the completion of the 2019 Annual Security Review process.

11.2.2 Tote Road Adjustment Notices

Finalized and implemented in 2018, the Tote Road Reconciliation Agreement between Baffinland and the QIA requires that Baffinland submit for QIA's review and approval a "Tote Road Adjustment Notice" (TRAN) for significant upgrades and realignments of the Tote Road. Under the Tote Road Reconciliation Agreement, no TRANs were approved by the QIA during 2018.

SECTION 12.0 - PUBLIC CONSULTATIONS

Throughout 2018, Baffinland continued to consult with the North Baffin communities and organizations, regarding on-going construction activities at the Project, operations and the 2018 shipping season, progress regarding employment from the North Baffin communities, environmental monitoring activities and results, and future phases of the Project. Baffinland's senior management team continued to participate in these meetings. In addition, there were various stakeholder and government visits and tours of the Project. The list of meetings held during 2018 and visits to Project sites are presented in Tables 12 and 12.1.

SECTION 13.0 - SUMMARY OF PROJECT PLANS FOR 2019

The 2019 Work Plan was prepared and provided by Baffinland to relevant parties on November 1, 2018 as required under Section 6.1 of the Commercial Lease and under Part J, Item 3 of the Type 'A' Water Licence, for the purposes of an Annual Security Review for activities undertaken on an annual basis.

The 2019 Work Plan described the planned development and operation of the mine, ore crushing and land transportation, stockpiling and marine shipment of ore, and the continued development and construction of infrastructure required at Milne Port, the Tote Road, and the Mine Site. To continue to upgrade and improve Project infrastructure, Baffinland plans on submitting a 2019 Work Plan Addendum in mid-2019.

On August 16, 2018, Baffinland submitted to the NIRB and NWB the Project's Phase 2 Expansion Final Environmental Impact Statement (FEIS) and associated Type 'A' Water Licence amendment application. The Project's Phase 2 Expansion Proposal continues to proceed through the review and approvals process facilitated by the NIRB and NWB.

The continued operation and development of the Project as described in the 2019 Work Plan will require a 2019 sealift. It is expected that sealifts carrying fuel, equipment and supplies for use at the Mine Site and Milne Port will occur during the open-water season (July to October) in 2019. Material, fuel and supplies required for operational and construction activities will be transported to the Mine Site year round via the Tote Road.

Project environmental monitoring programs prescribed by the Project Certificate, water licences, authorizations, management plans and environmental effects monitoring plans will continue through 2019.

Operation of Steensby Port and the Mid-Rail camp to support operational activities are not anticipated to be required during 2019.

TABLES

Baffinland

TABLE 2.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND ANNUAL REPORT FOR OPERATIONS
EQUIPMENT AND MATERIALS SHIPPED OFF THE PROPERTY - 2018

Property Section	Equipment/ Material Item	Owner	Annual Amount of Equipment and Material (metric tonnes)[5]	Annual Revenue Tonnes[6]
Project-Wide	Non-Hazardous Waste Materials[1,2,3,4]	Baffinland	964	4,890
Project-Wide	Hazardous Waste Materials[1,3,4]	Baffinland	372	1,194
Project-Wide	Miscellaneous Equipment and Materials	Baffinland &Third Party	1,103	5,208
		TOTAL	**2,438**	**11,291**

Notes:

[1]Assumes tare weight of a 20' shipping container to be 2.3 metric tonnes.

[2]Assumes tare weight of a 40' shipping container to be 3.75 metric tonnes.

[3]Assumes external volume of a 20' shipping container to be 38.5 m^3

[4]Assumes external volume of a 40' shipping container to be 77 m^3

[5]Includes weight of shipping containers/materials.

[6]A revenue tonne is a shipping term describing the measurement on which the shipment is freighted. If cargo is rated as weight or measure, whichever produces the highest revenue will be considered the revenue ton. Weights are based on metric tonnes and measures are based on cubic meters.

Baffinland

TABLE 2.3

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND ANNUAL REPORT FOR OPERATIONS
EQUIPMENT AND MATERIALS SHIPPED TO AND STORED ON THE PROPERTY - 2018

Property Section	Equipment/Material Item	Owner	Annual Amount of Equipment and Material (metric tonnes)[6]	Annual Revenue Tonnes[7]
Project-Wide	Arctic Diesel[1]	Baffinland	54,080	N/A
Project-Wide	Jet-A1[2]	Baffinland	2,251	N/A
Project-Wide	Pre-Packaged Explosives[3,4]	Explosives Contractor	45	193
Project-Wide	Explosives[5]	Explosives Contractor	3,835	6,746
Project-Wide	Food Stuffs	Baffinland	769	2,891
Project-Wide	Miscellaneous Equipment and Materials	Baffinland & Third Party	27,247	90,745
		TOTAL	**88,228**	**100,575**

Notes:

[1]Assumes a density for Arctic Diesel of 0.832 kg/L

[2]Assumes a density of Jet-A1 of 0.804 kg/L.

[3]Includes detonators and other explosives accessories.

[4]Assumes external volume of a 20' shipping container to be 38.5 m^3

[5]Includes ammonia nitrate prill as well as materials required for on site explosives/emulsion manufacturing.

[6]Includes weight of shipping containers/materials.

[7]A revenue tonne is a shipping term describing the measurement on which the shipment is freighted. If cargo is rated as weight or measure, whichever produces the highest revenue will be considered the revenue ton. Weights are based on metric tonnes and measures are based on cubic meters.

Baffinland

TABLE 3.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES OF ORE GENERATED BY THE PROJECT – 2018

Month	Quantity of Ore Generated (Wet Metric Tonnes)	
	Lump	Fines
January	313,374	207,249
February	279,471	190,971
March	312,339	134,064
April	374,066	204,036
May	382,251	181,657
June	273,567	141,818
July	232,112	140,255
August	276,406	198,319
September	260,068	138,598
October	75,011	430,795
November	303,658	169,825
December	177,917	189,023
SUB-TOTAL	**3,260,241**	**2,326,609**
TOTAL	**5,586,850**	

Baffinland

TABLE 3.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES OF ORE SHIPPED BY THE PROJECT – 2018

Month	Lump Shipped (Wet Metric Tonnes)		Fines Shipped (Wet Metric Tonnes)		Total Shipped (Wet Metric Tonnes)	
	Milne Inlet	Steensby Inlet	Milne Inlet	Steensby Inlet	Milne Inlet	Steensby Inlet
January	0	0	0	0	0	0
February	0	0	0	0	0	0
March	0	0	0	0	0	0
April	0	0	0	0	0	0
May	0	0	0	0	0	0
June	0	0	0	0	0	0
July	446,878	0	0	0	446,878	0
August	1,233,118	0	656,176	0	1,889,294	0
September	1,170,834	0	807,854	0	1,978,688	0
October	428,267	0	351,350	0	779,617	0
November	0	0	0	0	0	0
December	0	0	0	0	0	0
SUB-TOTAL	**3,279,097**	**0**	**1,815,380**	**0**	**5,094,477**	**0**
TOTAL	**3,279,097**		**1,815,380**		**5,094,477**	

Baffinland

TABLE 3.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
QUANTITIES OF SPECIFIED SUBSTANCES REMOVED FROM BORROWS AND QUARRIES (BCMs)
BY QUARTER AND CALENDAR YEAR - 2018

Quarter	Quarry - QMR2			Survey Dates		Notes
	Rock	Unconsolidated Material	Organics	Start	End	
Jan-March 2017	-	-	-	-	-	No activity in the quarry.
April-June 2017	8,737	-	-	September 29, 2017	July 4, 2018	Survey performed with RTK.
July-Sept 2017	15,444	-	-	July 4, 2018	August 28, 2018	Survey performed with drone.
Oct-Dec 2017	55,984	-	-	August 28, 2018	December 31, 2018	Survey performed with RTK.
TOTAL	**80,165**	**0**	**0**			

Quarter	Quarry - Q01			Survey Dates		Notes
	Rock	Unconsolidated Material	Organics	Start	End	
Jan-March 2017	-	-	-	-	-	No activity in the quarry.
April-June 2017	34,186	-	-	December 21, 2018	June 30, 2018	Survey performed with RTK.
July-Sept 2017	107,721	-	-	June 30, 2018	September 21, 2018	Survey performed with drone.
Oct-Dec 2017	52,350	-	-	September 21, 2018	December 31, 2018	Survey Performed with RTK.
TOTAL	**194,257**	**0**	**0**			

Quarter	Borrow Source - Km 97			Survey Dates		Notes
	Rock	Unconsolidated Material	Organics	Start	End	
Jan-March 2017						No activity at borrow source.
April-June 2017		5,533		December 27, 2018	July 3, 2018	Survey performed with RTK.
July-Sept 2017		4,069		July 3, 2018	October 20, 2018	Survey performed with RTK.
Oct-Dec 2017		1,313		October 20, 2018	December 23, 2018	Survey performed with RTK.
TOTAL	**0**	**10,915**	**0**			

Notes:

BCM - banked cubic metres

Baffinland

TABLE 3.3

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
QUANTITIES OF SPECIFIED SUBSTANCES REMOVED FROM BORROWS AND QUARRIES (BCMs)
SEPTEMBER 1, 2017 TO AUGUST 31, 2018 REPORTING PERIOD

Specified Substances	Quarry - QMR2	Quarry - Q01	Borrow Source - Km 97	Total - All Quarry and Borrow Sources
Rock	99,740	166,762	-	266,502
Unconsolidated Material	-	-	23,021	23,021
Organics	-	-	-	0
TOTAL	**99,740**	**166,762**	**23,021**	**289,523**

Notes:

Annual volumes calculated using the following equation:

Annual Volume Removed (Sept. 1, 2017 to Aug. 31, 2018) = 2016 Q4 + 2017 Q1 + 2017 Q2 + 2017 Q3

BCM - banked cubic metres

Baffinland

TABLE 4.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
ANNUAL VOLUMES OF WATER USED FOR PROJECT ACTIVITIES ON INUIT-OWNED AND CROWNS LANDS BY SOURCE – 2018

Property Section	Water Source ID	Water Source Location (UTM; NAD 83)	Annual Volume Used (m^3)[1]	Percent of Total Annual Volume Used (%)
Mine Site	Camp Lake (MS-MRY-1)[2]	17 W 557793 7914684	43,220	57.04%
Milne Inlet	Km 32 Lake (MP-MRY-3)[3]	17 W 521547 7953735	21,623	28.54%
Tote Road	CV128 (Km 17)	17 W 513568 7965904	2,468	3.26%
Tote Road	CV099 (Km 37)	17 W 521862 7948844	121	0.16%
Tote Road	Katiktok Lake (Km 52 - 58)	17 W 527492 7930716	636	0.84%
Tote Road	BG50 (Km 62)	17W 529302 7926860	2,408	3.18%
Tote Road	BG32 (Km 78)	17W 540738 7921595	106	0.14%
Tote Road	CV217 (Km 80)	17W 542323 7922178	2,483	3.28%
Tote Road	BG17 (Km 90)	17W 550715 7917654	1,302	1.72%
Tote Road	CV233 (Km 97)	17W 555712 7914680	1,408	1.86%
		TOTAL	**75,775**	**100%**

Notes:

[1]Refer to Tables 4.1 and 4.2 for the 2018 daily and monthly volumes withdrawn by water source.

[2]Includes all volumes withdrawn from Camp Lake during 2018 for domestic, industrial and dust suppression purposes.

[3]Includes all volumes withdrawn from Km 32 Lake during 2018 for domestic, industrial and dust suppression purposes.

Baffinland

TABLE 4.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL VOLUMES OF WATER USED FOR DOMESTIC AND INDUSTRIAL PURPOSES ON INUIT-OWNED AND CROWN LANDS - 2018

Day	January						February						March					
	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL
	D	I		D	I		D	I		D	I		D	I		D	I	
1	69	0	69	43	0	43	83	0	83	35	0	35	57	0	57	38	3	41
2	39	0	39	36	0	36	78	0	78	39	0	39	72	0	72	29	0	29
3	72	0	72	31	0	31	78	0	78	37	0	37	144	0	144	40	0	40
4	64	0	64	35	0	35	80	0	80	36	0	36	84	0	84	41	0	41
5	47	0	47	26	0	26	30	0	30	38	0	38	94	0	94	35	0	35
6	97	0	97	44	0	44	91	0	91	39	0	39	90	0	90	33	0	33
7	121	0	121	22	0	22	98	0	98	35	0	35	70	0	70	42	0	42
8	50	0	50	36	0	36	114	0	114	43	0	43	73	0	73	43	0	43
9	61	0	61	29	0	29	41	0	41	31	0	31	70	0	70	23	0	23
10	60	0	60	39	0	39	85	0	85	26	0	26	89	0	89	41	0	41
11	89	0	89	36	0	36	82	0	82	33	0	33	104	0	104	37	0	37
12	76	0	76	33	0	33	69	0	69	34	0	34	76	0	76	33	0	33
13	59	0	59	34	0	34	82	0	82	62	0	62	117	0	117	37	0	37
14	83	0	83	33	0	33	107	0	107	72	0	72	87	0	87	43	0	43
15	75	0	75	29	0	29	98	0	98	44	0	44	120	0	120	34	0	34
16	140	0	140	38	0	38	165	0	165	26	0	26	72	0	72	27	9	35
17	70	0	70	34	0	34	127	0	127	40	0	40	115	0	115	39	0	39
18	77	0	77	34	0	34	149	0	149	33	0	33	84	0	84	35	0	35
19	104	0	104	34	0	34	100	0	100	45	0	45	116	0	116	48	0	48
20	81	0	81	39	0	39	149	0	149	25	0	25	132	0	132	47	0	47
21	111	0	111	31	0	31	128	0	128	39	0	39	123	0	123	42	0	42
22	79	0	79	42	0	42	145	0	145	38	0	38	64	0	64	39	0	39
23	79	0	79	34	0	34	88	0	88	38	0	38	98	0	98	33	0	33
24	78	0	78	42	0	42	131	0	131	34	0	34	98	0	98	33	0	33
25	85	0	85	26	0	26	73	0	73	41	0	41	119	0	119	40	0	40
26	69	0	69	45	0	45	90	0	90	28	0	28	27	0	27	42	0	42
27	93	0	93	39	0	39	98	0	98	32	0	32	97	0	97	34	0	34
28	56	0	56	31	0	31	60	0	60	40	0	40	84	0	84	46	0	46
29	135	0	135	38	0	38	---	---	---	---	---	---	101	0	101	44	0	44
30	36	0	36	40	0	40	---	---	---	---	---	---	86	0	86	37	0	37
31	70	0	70	44	0	44	---	---	---	---	---	---	78	0	78	37	0	37
TOTAL	**2,428**	**0**	**2,428**	**1,100**	**0**	**1,100**	**2,719**	**0**	**2,719**	**1,063**	**0**	**1,063**	**2,842**	**0**	**2,842**	**1,169**	**12**	**1,181**

Notes:

All volumes in cubic metres (m^3).

MS-MRY-1 - Camp Lake; MP-MRY-3 - Km 32 Lake

D - Domestic/Camp Purposes; I - Industrial Purposes

Bold and highlighted values indicate daily volumes that exceeded the source, use specific daily withdrawal limit stipulated by Table 3 of the Type 'A' Water Licence.

Baffinland

TABLE 4.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL VOLUMES OF WATER USED FOR DOMESTIC AND INDUSTRIAL PURPOSES ON INUIT-OWNED AND CROWN LANDS - 2018

Day	April						May						June					
	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL
	D	I		D	I		D	I		D	I		D	I		D	I	
1	79	0	79	43	4	47	115	0	115	66	0	66	188	0	188	44	0	44
2	105	0	105	38	0	38	104	0	104	26	0	26	145	0	145	40	0	40
3	79	0	79	45	0	45	86	0	86	35	0	35	168	0	168	40	0	40
4	62	0	62	38	0	38	146	0	146	41	0	41	108	0	108	50	0	50
5	111	0	111	43	0	43	135	0	135	39	0	39	130	0	130	33	0	33
6	92	0	92	47	0	47	104	0	104	38	4	43	131	0	131	46	0	46
7	84	0	84	36	0	36	180	0	180	54	2	56	176	0	176	34	0	34
8	65	0	65	48	0	48	132	0	132	27	17	45	187	0	187	48	0	48
9	86	0	86	28	4	33	80	0	80	37	9	46	162	0	162	40	0	40
10	102	0	102	45	0	45	169	0	169	44	0	44	78	0	78	45	0	45
11	122	0	122	34	0	34	122	0	122	36	0	36	90	0	90	38	0	38
12	136	0	136	42	0	42	124	0	124	43	0	43	154	0	154	42	0	42
13	125	0	125	48	0	48	146	0	146	39	0	39	130	0	130	40	0	40
14	77	0	77	46	0	46	129	0	129	37	0	37	181	0	181	40	0	40
15	92	0	92	37	0	37	122	0	122	43	0	43	148	0	148	41	0	41
16	115	0	115	41	0	41	200	0	200	40	0	40	92	0	92	44	0	44
17	90	0	90	52	0	52	136	0	136	43	0	43	122	0	122	42	0	42
18	105	0	105	54	0	54	170	0	170	35	0	35	123	0	123	46	0	46
19	119	0	119	44	0	44	156	0	156	43	0	43	115	0	115	44	0	44
20	155	0	155	38	0	38	140	0	140	40	0	40	113	0	113	46	0	46
21	55	0	55	35	0	35	139	0	139	36	6	42	144	0	144	47	0	47
22	106	0	106	38	0	38	92	0	92	40	0	40	142	0	142	44	3	47
23	116	0	116	54	0	54	135	0	135	57	0	57	135	0	135	47	0	47
24	110	0	110	47	0	47	163	0	163	33	0	33	144	0	144	46	0	46
25	57	0	57	50	0	50	117	0	117	41	0	41	98	0	98	46	0	46
26	86	0	86	46	0	46	95	0	95	45	0	45	145	0	145	42	0	42
27	75	0	75	38	0	38	113	0	113	46	0	46	137	0	137	53	0	53
28	119	0	119	51	0	51	134	0	134	33	6	39	125	0	125	44	0	44
29	91	0	91	44	0	44	95	0	95	39	0	39	124	0	124	35	0	35
30	84	0	84	33	6	39	150	0	150	48	0	48	175	0	175	45	0	45
31	---	---	--	---	---	---	145	0	145	28	0	28	---	---	---	---	---	---
TOTAL	**2,899**	**0**	**2,899**	**1,285**	**15**	**1,300**	**4,074**	**0**	**4,074**	**1,254**	**45**	**1,298**	**4,109**	**0**	**4,109**	**1,294**	**3**	**1,297**

Notes:

All volumes in cubic metres (m^3).

MS-MRY-1 - Camp Lake; MP-MRY-3 - Km 32 Lake

D - Domestic/Camp Purposes; I - Industrial Purposes

Bold and highlighted values indicate daily volumes that exceeded the source, use specific daily withdrawal limit stipulated by Table 3 of the Type 'A' Water Licence.

Baffinland

TABLE 4.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL VOLUMES OF WATER USED FOR DOMESTIC AND INDUSTRIAL PURPOSES ON INUIT-OWNED AND CROWN LANDS - 2018

Day	July						August						September					
	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL
	D	I		D	I		D	I		D	I		D	I		D	I	
1	105	0	105	41	0	41	145	0	145	54	0	54	191	51	242	50	4	54
2	128	0	128	51	0	51	123	0	123	33	17	50	174	0	174	77	0	77
3	134	0	134	41	0	41	112	0	112	45	9	53	123	0	123	53	0	53
4	199	0	199	50	0	50	145	0	145	49	17	49	117	0	117	56	0	56
5	89	0	89	33	0	33	95	0	95	61	0	61	131	0	131	53	0	53
6	163	0	163	39	0	39	128	0	128	49	0	49	168	64	232	65	0	65
7	93	0	93	48	0	48	127	0	127	56	0	56	**248**	0	248	48	0	48
8	143	0	143	42	0	42	130	0	130	66	0	66	67	0	67	51	0	51
9	68	0	68	40	0	40	119	0	119	56	0	56	165	0	165	56	0	56
10	107	0	107	46	0	46	79	0	79	48	0	48	**255**	7	262	46	0	46
11	158	0	158	52	0	52	141	0	141	35	0	35	129	0	129	66	6	71
12	77	0	77	45	0	45	98	0	98	60	0	60	153	0	153	58	0	58
13	123	0	123	48	0	48	147	13	160	63	0	63	144	0	144	54	0	54
14	126	0	126	55	0	55	107	0	107	54	0	54	145	0	145	42	0	42
15	111	0	111	46	0	46	138	0	138	44	0	44	117	0	117	48	0	48
16	160	0	160	51	0	51	105	0	105	40	0	40	136	44	180	67	0	67
17	135	0	135	35	0	35	154	0	154	49	0	49	106	0	106	38	0	38
18	120	0	120	56	0	56	170	0	170	50	0	50	122	0	122	73	0	73
19	140	0	140	50	0	50	165	0	165	38	9	47	107	0	107	44	0	44
20	129	0	129	52	0	52	167	0	167	46	0	46	145	0	145	45	0	45
21	155	0	155	42	9	51	159	0	159	50	0	50	118	0	118	63	0	63
22	137	0	137	64	2	66	166	0	166	49	0	49	134	0	134	55	0	55
23	133	0	133	41	2	43	120	0	120	48	6	54	123	44	167	51	0	51
24	144	0	144	49	9	58	147	0	147	48	0	48	114	0	114	55	0	55
25	122	0	122	44	0	44	110	0	110	62	0	62	170	0	170	41	0	41
26	108	0	108	58	0	58	136	0	136	43	0	43	82	0	82	52	0	52
27	83	0	83	37	0	37	205	20	225	54	0	54	166	0	166	36	2	39
28	163	0	163	68	0	68	139	0	139	63	0	63	105	0	105	55	0	55
29	106	0	106	37	9	45	159	0	159	53	0	53	127	0	127	66	0	66
30	93	0	93	47	3	50	209	0	209	48	0	48	121	38	159	42	9	51
31	126	0	126	50	0	50	176	0	176	58	0	58	---	--	---	---	---	---
TOTAL	**3,878**	**0**	**3,878**	**1,458**	**34**	**1,492**	**4,323**	**32**	**4,355**	**1,572**	**58**	**1,613**	**4,203**	**248**	**4,451**	**1,606**	**21**	**1,628**

Notes:

All volumes in cubic metres (m^3).

MS-MRY-1 - Camp Lake; MP-MRY-3 - Km 32 Lake

D - Domestic/Camp Purposes; I - Industrial Purposes

Bold and highlighted values indicate daily volumes that exceeded the source, use specific daily withdrawal limit stipulated by Table 3 of the Type 'A' Water Licence.

Baffinland

TABLE 4.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL VOLUMES OF WATER USED FOR DOMESTIC AND INDUSTRIAL PURPOSES ON INUIT-OWNED AND CROWN LANDS - 2018

Day	October						November						December					
	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL	MS-MRY-1		TOTAL	MP-MRY-3		TOTAL
	D	I		D	I		D	I		D	I		D	I		D	I	
1	99	26	125	50	0	50	140	0	140	43	0	43	122	24	146	61	0	61
2	116	14	130	45	0	45	133	0	133	61	0	61	111	70	180	48	0	48
3	192	38	230	64	0	64	**216**	0	216	66	0	66	132	76	208	48	0	48
4	114	0	114	49	0	49	105	8	112	39	0	39	123	95	218	53	0	53
5	139	0	139	57	0	57	134	0	134	65	0	65	155	38	193	41	0	41
6	101	13	114	51	0	51	96	0	96	46	0	46	140	70	210	46	0	46
7	151	41	192	53	0	53	146	0	146	53	0	53	156	114	269	44	0	44
8	72	0	72	59	0	59	191	0	191	51	0	51	127	19	146	50	0	50
9	155	0	155	52	0	52	135	0	135	52	0	52	157	19	176	46	0	46
10	155	12	167	55	0	55	118	0	118	51	0	51	104	0	104	57	0	57
11	137	12	149	52	0	52	122	8	129	37	0	37	145	0	145	36	0	36
12	118	13	131	29	17	46	119	0	119	44	0	44	172	0	172	47	0	47
13	131	0	131	50	0	50	124	12	136	66	0	66	109	0	109	45	0	45
14	161	13	174	51	0	51	143	0	143	54	0	54	126	0	126	33	0	33
15	96	10	106	50	0	50	116	0	116	51	0	51	111	0	111	48	0	48
16	130	11	141	48	0	48	114	0	114	59	0	59	71	0	71	23	0	23
17	150	0	150	48	0	48	125	0	125	36	0	36	100	0	100	33	0	33
18	111	0	111	50	0	50	150	0	150	50	0	50	117	0	117	47	0	47
19	152	0	152	53	0	53	140	0	140	61	0	61	113	0	113	47	0	47
20	120	0	120	52	0	52	100	0	100	60	0	60	136	0	136	47	0	47
21	129	26	155	55	0	55	110	0	110	38	0	38	128	0	128	47	0	47
22	132	0	132	51	0	51	103	0	103	52	0	52	101	0	101	40	0	40
23	159	0	159	54	0	54	137	0	137	40	0	40	105	0	105	43	0	43
24	156	11	167	65	0	65	176	0	176	56	0	56	68	0	68	37	0	37
25	117	0	117	42	0	42	78	0	78	48	0	48	98	0	98	42	0	42
26	172	0	172	43	0	43	124	0	124	54	0	54	127	0	127	42	0	42
27	107	0	107	58	0	58	154	0	154	56	0	56	**226**	0	226	39	0	39
28	164	0	164	34	0	34	162	0	162	42	0	42	171	0	171	31	9	40
29	101	0	101	59	0	59	129	64	193	50	0	50	115	0	115	39	0	39
30	129	0	129	51	0	51	105	24	128	46	0	46	106	0	106	36	0	36
31	117	0	117	57	0	57	---	---	---	---	---	---	97	0	97	37	0	37
TOTAL	**4,083**	**240**	**4,323**	**1,588**	**17**	**1,606**	**3,945**	**115**	**4,059**	**1,528**	**0**	**1,528**	**3,868**	**523**	**4,391**	**1,335**	**9**	**1,343**

Notes:

All volumes in cubic metres (m^3).

MS-MRY-1 - Camp Lake; MP-MRY-3 - Km 32 Lake

D - Domestic/Camp Purposes; I - Industrial Purposes

Bold and highlighted values indicate daily volumes that exceeded the source, use specific daily withdrawal limit stipulated by Table 3 of the Type 'A' Water Licence.

Baffinland

TABLE 4.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL VOLUMES OF WATER USED FOR DUST SUPPRESSION PURPOSES ON INUIT-OWNED AND CROWN LANDS - 2018

Date[1]	Approved Water Sources for Dust Suppression[2]										Recycled Water			TOTAL
	Camp Lake	Km 32 Lake	CV128 (Km 17)	CV099 (Km 37)	Katiktok Lake (Km 52 - 58)	BG50 (Km 62)	BG32 (Km 78)	CV217 (Km 80)	BG17 (Km 90)	CV233 (Km 97)	Tote Road[3]	Km 105 Check Dam	Q1 Quarry	
9-May-18	19	0	0	0	0	0	0	0	0	0	0	0	0	19
31-May-18	38	0	0	0	0	0	0	0	0	0	0	0	0	38
1-Jun-18	0	303	0	0	0	0	0	0	0	0	0	0	0	303
2-Jun-18	30	182	0	0	0	0	0	0	0	91	91	0	0	394
3-Jun-18	30	0	0	0	0	61	0	0	0	121	212	0	0	424
4-Jun-18	61	0	0	0	0	0	0	0	0	30	212	0	0	303
5-Jun-18	0	0	0	0	212	0	0	0	0	0	121	0	394	727
6-Jun-18	0	0	0	0	61	0	0	0	0	61	91	91	0	303
7-Jun-18	0	0	0	0	0	0	30	0	0	30	0	91	0	151
8-Jun-18	0	0	0	0	30	0	0	0	0	76	212	0	0	318
9-Jun-18	0	0	0	0	121	30	0	0	0	0	121	0	182	454
10-Jun-18	61	0	0	91	151	0	45	0	0	121	0	30	0	500
11-Jun-18	0	0	0	0	0	0	30	0	0	0	0	0	0	30
12-Jun-18	21	0	0	0	0	0	0	0	0	0	0	0	0	21
13-Jun-18	0	91	0	0	0	0	0	0	0	0	0	0	0	91
14-Jun-18	76	273	0	0	0	0	0	0	0	0	0	0	0	348
15-Jun-18	0	30	0	0	0	0	0	0	0	0	303	0	0	333
16-Jun-18	0	151	0	30	0	0	0	121	0	0	0	0	0	303
17-Jun-18	0	0	0	0	30	121	0	121	0	121	0	0	0	394
19-Jun-18	0	91	0	0	0	30	0	61	0	0	0	0	0	182
20-Jun-18	0	212	0	0	0	30	0	30	0	0	151	0	0	424
21-Jun-18	0	0	0	0	0	0	0	91	0	0	0	0	0	91
22-Jun-18	0	121	91	0	0	30	0	121	0	0	30	0	0	394

Notes:

All volumes in cubic metres (m^3).

[1]No volumes withdrawn during dates not listed.

[2]Dust suppression water sources as shown in Table 2-3 of the Type 'A' Water Licence.

[3]Pooling road runoff along length of the Tote Road.

Bold and highlighted values indicate daily volumes that exceeded the source specific daily withdrawal limit stipulated by Table 2-3 of the Type 'A' Water Licence.

Baffinland

TABLE 4.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL VOLUMES OF WATER USED FOR DUST SUPPRESSION PURPOSES ON INUIT-OWNED AND CROWN LANDS - 2018

Date[1]	Approved Water Sources for Dust Suppression[2]										Recycled Water			TOTAL
	Camp Lake	Km 32 Lake	CV128 (Km 17)	CV099 (Km 37)	Katiktok Lake (Km 52 - 58)	BG50 (Km 62)	BG32 (Km 78)	CV217 (Km 80)	BG17 (Km 90)	CV233 (Km 97)	Tote Road[3]	Km 105 Check Dam	Q1 Quarry	
23-Jun-18	0	121	242	0	0	61	0	0	0	0	0	0	0	424
24-Jun-18	0	61	91	0	0	0	0	91	0	91	30	0	0	363
26-Jun-18	0	30	91	0	0	61	0	121	0	61	0	0	0	363
27-Jun-18	0	61	30	0	0	61	0	**242**	0	61	0	0	0	454
28-Jun-18	61	273	91	0	0	61	0	61	0	0	0	0	61	606
29-Jun-18	0	121	242	0	0	0	0	30	0	121	0	30	0	545
30-Jun-18	38	121	0	0	30	121	0	**212**	0	121	61	0	0	704
1-Jul-18	19	151	61	0	0	0	0	0	0	91	0	0	0	322
3-Jul-18	0	212	303	0	0	0	0	0	0	0	0	0	0	515
4-Jul-18	0	303	0	0	0	0	0	0	0	0	0	0	0	303
5-Jul-18	0	**485**	0	0	0	121	0	61	0	30	0	0	0	697
6-Jul-18	0	91	0	0	0	0	0	0	0	0	0	0	0	91
7-Jul-18	0	0	0	0	0	91	0	91	0	0	0	0	0	182
11-Jul-18	0	0	0	0	0	0	0	61	0	0	0	0	0	61
12-Jul-18	0	30	121	0	0	136	0	30	30	0	0	0	0	348
13-Jul-18	0	30	61	0	0	0	0	0	0	0	0	0	0	91
14-Jul-18	0	182	91	0	0	**151**	0	121	0	30	0	0	0	575
15-Jul-18	0	0	212	0	0	121	0	91	30	61	0	0	0	515
16-Jul-18	0	0	0	0	0	91	0	61	30	0	0	0	0	182
17-Jul-18	49	151	182	0	0	30	0	0	61	30	0	61	0	564
18-Jul-18	19	**394**	30	0	0	0	0	0	61	121	0	30	0	655
19-Jul-18	0	121	76	0	0	0	0	0	0	0	0	0	182	379
20-Jul-18	0	91	121	0	0	0	0	121	0	61	0	0	0	394

Notes:

All volumes in cubic metres (m^3).

[1]No volumes withdrawn during dates not listed.

[2]Dust suppression water sources as shown in Table 2-3 of the Type 'A' Water Licence.

[3]Pooling road runoff along length of the Tote Road.

Bold and highlighted values indicate daily volumes that exceeded the source specific daily withdrawal limit stipulated by Table 2-3 of the Type 'A' Water Licence.

Baffinland

TABLE 4.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL VOLUMES OF WATER USED FOR DUST SUPPRESSION PURPOSES ON INUIT-OWNED AND CROWN LANDS - 2018

Date[1]	Approved Water Sources for Dust Suppression[2]										Recycled Water			TOTAL
	Camp Lake	Km 32 Lake	CV128 (Km 17)	CV099 (Km 37)	Katiktok Lake (Km 52 - 58)	BG50 (Km 62)	BG32 (Km 78)	CV217 (Km 80)	BG17 (Km 90)	CV233 (Km 97)	Tote Road[3]	Km 105 Check Dam	Q1 Quarry	
21-Jul-18	0	121	121	0	0	121	0	61	0	0	0	0	0	424
22-Jul-18	0	121	0	0	0	0	0	0	0	0	0	0	151	273
23-Jul-18	0	61	0	0	0	0	0	0	0	0	0	0	0	61
7-Aug-18	0	0	30	0	0	61	0	0	0	0	0	0	0	91
11-Aug-18	0	0	0	0	0	30	0	91	61	30	0	0	0	212
12-Aug-18	0	0	0	0	0	0	0	91	61	30	0	0	0	182
13-Aug-18	0	0	0	0	0	**182**	0	61	30	0	0	0	0	273
14-Aug-18	0	91	0	0	0	30	0	30	0	0	0	0	0	151
15-Aug-18	0	30	0	0	0	**151**	0	30	30	0	0	0	0	242
16-Aug-18	0	30	30	0	0	0	0	30	61	61	0	0	0	212
17-Aug-18	0	61	91	0	0	0	0	30	30	0	0	0	0	212
18-Aug-18	0	0	0	0	0	30	0	0	0	0	0	0	0	30
25-Aug-18	0	0	0	0	0	0	0	0	61	61	0	30	0	151
26-Aug-18	0	0	0	0	0	0	0	0	61	61	0	0	0	121
29-Aug-18	30	0	0	0	0	0	0	0	61	0	0	0	0	91
30-Aug-18	0	0	0	0	0	121	0	30	61	30	0	0	0	242
31-Aug-18	0	114	0	0	0	121	0	0	0	0	0	0	0	235
1-Sep-18	0	163	30	0	0	91	0	0	30	0	0	0	0	314
2-Sep-18	0	0	30	0	0	0	0	0	0	0	0	0	0	30
3-Sep-18	0	0	0	0	0	30	0	0	30	0	0	0	0	61
4-Sep-18	0	0	0	0	0	30	0	0	0	0	0	0	0	30
SUB-TOTAL	**551**	**5,273**	**2,468**	**121**	**636**	**2,408**	**106**	**2,392**	**788**	**1,802**	**1,635**	**363**	**969**	**19,512**
TOTAL	**16,544**										**4,543**			

Notes:

All volumes in cubic metres (m^3).

[1]No volumes withdrawn during dates not listed.

[2]Dust suppression water sources as shown in Table 2-3 of the Type 'A' Water Licence.

[3]Pooling road runoff along length of the Tote Road.

Bold and highlighted values indicate daily volumes that exceeded the source specific daily withdrawal limit stipulated by Table 2-3 of the Type 'A' Water Licence.

Baffinland

TABLE 5.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES - SEWAGE MANAGEMENT - 2018

Day	Treated Sewage Effluent																
	January		February		March		April		May			June			July		
	MS-01	MP-01	MS-01	MP-01	MS-01	MP-01	MS-01	MP-01	MS-01	MS-01B	MP-01	MS-01	MS-01B	MP-01	MS-01	MS-01B	MP-01
1	63	43	83	36	57	41	79	47	104	0	66	165	0	44	91	13	41
2	39	37	78	39	72	29	105	38	77	0	26	132	0	40	96	13	51
3	72	31	78	37	144	40	79	45	59	0	35	152	0	40	97	13	41
4	57	36	80	37	84	41	62	38	111	0	42	91	0	51	135	13	50
5	47	26	31	38	95	35	111	43	98	0	39	112	19	33	68	13	33
6	97	45	91	39	90	33	92	48	66	38	43	108	5	46	139	13	39
7	121	22	98	35	70	42	84	36	151	30	56	146	21	34	59	13	48
8	43	36	114	43	73	43	65	48	106	26	45	152	0	48	115	17	42
9	62	29	41	31	70	23	86	33	57	23	46	126	6	40	64	17	40
10	60	39	86	26	89	41	102	45	148	21	44	52	26	45	97	17	46
11	82	36	82	33	104	37	122	35	88	34	36	71	1	38	135	17	52
12	76	33	70	35	76	33	136	42	90	34	43	129	15	42	60	17	45
13	59	34	82	62	117	37	125	48	121	26	39	103	31	40	100	17	48
14	83	33	107	72	87	43	77	46	103	27	37	153	13	40	109	17	55
15	68	29	98	44	120	34	92	37	96	26	43	127	22	41	97	18	46
16	140	38	165	26	72	35	115	41	169	31	40	70	23	44	143	18	51
17	70	34	127	40	115	39	90	52	99	37	43	92	2	42	114	18	35
18	71	34	149	33	84	35	105	54	119	51	36	93	24	46	114	18	56
19	104	34	100	45	116	48	120	44	108	48	43	88	33	44	105	18	50
20	81	39	149	25	132	47	155	38	98	42	40	89	18	46	103	18	52
21	111	31	128	39	123	42	55	35	102	37	42	106	23	47	107	18	51
22	72	42	145	38	64	39	106	38	52	40	40	101	27	47	128	22	66
23	79	34	88	38	98	33	117	54	91	44	57	96	31	47	120	22	43
24	78	42	131	34	98	33	110	47	122	41	33	99	30	46	121	22	58
25	78	26	73	41	119	40	57	50	81	36	41	77	36	46	230	22	44
26	70	45	90	28	27	42	86	46	63	32	45	108	24	42	90	22	58
27	93	39	98	32	97	34	75	38	81	32	46	92	21	53	54	22	37
28	56	31	60	40	84	46	119	51	114	20	39	98	22	44	147	22	68
29	129	38	-	-	102	44	91	44	78	17	39	97	29	35	101	22	45
30	36	40	-	-	86	37	84	39	133	17	48	147	27	45	88	22	50
31	70	44	-	-	78	37	-	-	122	23	28	-	-	-	112	22	8
TOTAL	**2,366**	**1,100**	**2,719**	**1,063**	**2,842**	**1,181**	**2,899**	**1,300**	**3,106**	**831**	**1,298**	**3,272**	**528**	**1,297**	**3,340**	**556**	**1,451**

Notes:

All volumes in cubic metres (m^3).

Compliant treated effluent from MS-01 and MS-01B (Mine Site STPs) discharged to approved location near the Mary River.

Compliant treated effluent from MP-01 (Milne Port STP) discharged to approved location near Milne Inlet.

Sludge generated from STPs pressed into cake and disposed using site incinerators.

[1]Compliant treated effluent from MP-01A (Milne Port PWSP) discharged to approved location near Milne Inlet.

Baffinland

TABLE 5.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES - SEWAGE MANAGEMENT - 2018

Day	Treated Sewage Effluent																
	August				September				October			November			December		
	MS-01	MS-01B	MP-01	MP-01A[1]	MS-01	MS-01B	MP-01	MP-01A[1]	MS-01	MS-01B	MP-01	MS-01	MS-01B	MP-01	MS-01	MS-01B	MP-01
1	107	38	58	0	157	34	59	165	96	36	55	91	48	52	95	51	46
2	85	38	58	0	141	33	62	50	92	38	60	85	48	57	105	62	58
3	78	35	48	0	86	38	67	0	155	37	63	166	50	59	152	56	56
4	111	34	62	0	76	41	55	0	80	41	59	59	54	47	165	53	53
5	63	32	54	0	110	21	64	0	96	43	58	95	39	57	113	80	53
6	94	34	59	0	198	35	66	0	58	43	59	53	43	52	136	61	52
7	78	49	61	0	210	38	61	0	131	48	51	100	47	56	225	44	47
8	82	49	57	0	32	35	68	0	26	53	57	143	48	58	100	46	53
9	82	37	64	0	129	36	57	0	114	41	51	86	49	56	122	54	50
10	42	37	48	0	217	38	51	0	118	49	65	70	48	55	53	51	52
11	107	34	47	0	91	38	57	0	107	49	62	92	37	53	82	63	52
12	52	46	59	0	104	49	69	0	89	42	58	84	35	42	102	70	42
13	113	35	60	0	91	54	63	0	90	40	52	97	39	54	58	52	49
14	74	33	60	0	113	33	55	0	112	48	59	80	63	56	64	62	47
15	91	47	56	0	80	38	47	0	62	51	60	68	48	52	65	45	56
16	77	29	49	0	94	41	64	0	93	48	53	74	40	48	22	49	41
17	109	45	47	0	67	39	58	0	96	54	55	81	44	53	42	57	47
18	123	47	54	0	88	33	58	0	70	48	57	95	55	55	59	59	57
19	116	49	49	0	71	35	59	0	107	46	60	89	51	63	64	49	50
20	139	29	56	0	109	36	58	0	94	26	62	66	34	53	84	52	50
21	115	44	54	0	77	41	55	0	93	36	58	64	45	51	82	45	50
22	114	52	51	0	91	43	53	0	103	36	63	57	47	44	52	48	50
23	93	27	62	0	87	36	58	0	124	35	53	92	45	45	60	45	50
24	96	51	47	0	76	37	58	0	123	44	59	134	42	52	16	52	46
25	65	45	56	0	128	42	55	0	83	41	46	20	59	58	30	68	50
26	87	49	55	0	40	42	58	0	136	36	42	67	57	59	49	78	47
27	160	45	47	0	126	40	50	0	59	48	57	93	61	53	159	67	49
28	104	35	47	67	68	37	63	0	116	48	63	100	62	49	105	67	44
29	121	38	60	166	90	38	65	0	59	48	57	114	53	56	70	45	50
30	169	40	55	165	84	38	65	0	81	48	56	113	49	51	64	42	48
31	131	44	69	166	-	-	-	0	78	39	49	-	-	-	50	47	50
TOTAL	**3,078**	**1,245**	**1,709**	**563**	**3,130**	**1,137**	**1,778**	**214**	**2,940**	**1,342**	**1,759**	**2,627**	**1,439**	**1,596**	**2,645**	**1,720**	**1,545**

Notes:

All volumes in cubic metres (m^3).

Compliant treated effluent from MS-01 and MS-01B (Mine Site STPs) discharged to approved location near the Mary River.

Compliant treated effluent from MP-01 (Milne Port STP) discharged to approved location near Milne Inlet.

Sludge generated from STPs pressed into cake and disposed using site incinerators.

[1]Compliant treated effluent from MP-01A (Milne Port PWSP) discharged to approved location near Milne Inlet.

Baffinland

TABLE 5.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES - SEWAGE MANAGEMENT - 2018

Month	Sludge Cake from Mine Site STPs[1]	Sludge from MS-01 STP to PWSP[2]	Sludge from MS-01B STP to PWSP[3]	Sludge from Mine Site Lift Stations to PWSP[4]	Sludge Cake from Milne Port STP[1]	Sludge from MP-01 STP to PWSP (m^3)[5]	Sludge from Milne Port Lift Stations to PWSP[6]
January	15	0	0	45	8	27	0
February	7	11	0	6	10	0	60
March	10	291	15	0	8	3	3
April	8	0	685	0	10	4	4
May	14	16	137	0	13	3	7
June	13	18	0	0	8	17	42
July	20	74	0	0	9	20	24
August	25	0	0	2	17	12	0
September	23	31	0	0	14	29	7
October	26	0	0	0	16	16	0
November	27	0	0	0	15	6	10
December	25	18	0	0	10	20	0
TOTAL	**211**	**459**	**837**	**53**	**137**	**155**	**157**

Notes:

All volumes in cubic metres (m^3).

[1]Sludge generated by STPs pressed into cake and disposed using site incinerators.

[2]Sewage sludge removed from MS-01 STP to Mine Site PWSP

[3]Sewage sludge removed from MS-01B STP to Mine Site PWSP

[4]Sewage sludge removed from Mine Site lift stations to Mine Site PWSP

[5]Sewage sludge removed from Milne Port STP to Milne Port PWSP

[6]Sewage sludge removed from Milne Port lift stations to Milne Port PWSP

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TABLE 5.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL QUANTITIES OF DISCHARGED STORMWATER - CONTAINMENT AREAS - 2018

Day	June		August		September	
	MS-MRY-6	MP-03	MS-MRY-6	MP-03	MS-MRY-6	MP-04
1	0	0	0	0	16	105
2	0	0	0	0	28	67
3	0	0	0	0	10	194
4	0	0	0	0	47	249
5	0	0	0	0	16	140
6	0	0	0	0	13	0
7	0	0	0	0	9	0
8	0	0	0	0	31	0
9	0	0	0	0	22	0
10	0	0	0	0	15	0
11	35	0	0	0	0	0
12	69	0	0	0	0	0
13	97	730	0	0	0	0
14	40	100	0	0	0	0
15	32	0	0	0	0	0
16	0	0	0	551	0	0
17	32	0	0	379	0	0
18	32	0	0	48	0	0
19	0	0	0	0	0	0
20	0	0	0	0	0	0
21	0	0	0	0	0	0
22	0	0	0	0	0	0
23	0	0	0	0	0	0
24	0	0	0	0	0	0
25	0	0	32	0	0	0
26	0	0	19	0	0	0
27	0	0	19	0	0	0
28	0	0	17	0	0	0
29	0	0	6	0	0	0
30	0	0	9	0	0	0
31	0	0	22	0	0	0
SUB-TOTAL	**337**	**830**	**125**	**978**	**206**	**755**
TOTAL	**3,230**					

Notes:

All volumes in cubic metres (m^3).

Effluent from MS-MRY-6 (Mine Site Exploration Phase Fuel Facility) and MP-04 (Milne Port Landfarm Facility) discharged to adjacent tundra.

Effluent from MP-03 (Milne Port Bulk Fuel Storage Facility) discharged to ditch near Milne Inlet.

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TABLE 5.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL QUANTITIES OF DISCHARGED STORMWATER - SURFACE WATER MANAGEMENT PONDS - 2018

Day	June				July			August				September		
	MP-05	MP-06	MS-06	MS-08	MP-05	MS-06	MS-08	MP-05	MP-06	MS-06	MS-08	MP-05	MP-06	MS-08
1	0	0	0	0	0	0	931	0	0	53	1,018	0	0	0
2	0	0	0	0	0	39	1,375	0	0	52	2,071	0	284	0
3	0	0	0	0	123	83	265	0	0	99	4,649	16	386	0
4	0	0	0	0	8	46	530	0	0	49	2,349	3	302	285
5	0	0	0	0	0	78	3,826	0	0	49	4,916	5	0	953
6	0	0	0	0	0	56	806	0	0	0	3,872	0	0	1,137
7	0	0	0	0	0	56	80	0	0	180	2,315	1	0	252
8	0	0	0	0	0	0	1,044	120	123	143	1,127	29	0	0
9	0	0	0	0	0	0	0	400	226	129	34	10	0	0
10	0	0	0	0	0	0	2,074	719	779	0	482	0	0	0
11	0	0	1	0	0	2	1,043	8	389	20	1,937	0	677	0
12	0	0	3	0	0	58	1,404	0	150	0	2,239	0	120	0
13	0	0	61	0	0	0	2,387	0	0	0	1,817	0	0	0
14	0	0	58	0	0	58	906	0	0	0	1,626	0	0	0
15	0	0	61	0	0	45	1,470	0	0	0	844	0	0	0
16	112	0	0	0	0	74	1,618	0	0	0	769	0	0	0
17	250	281	69	0	0	71	1,632	0	0	7	907	0	0	0
18	0	431	8	0	0	59	0	0	0	0	279	0	0	0
19	496	115	79	0	0	74	253	0	0	0	1,187	0	0	0
20	74	0	39	0	0	77	622	0	0	0	284	0	0	0
21	0	0	0	0	0	112	1,442	0	0	0	562	0	0	0
22	0	0	23	0	0	76	946	0	0	0	0	0	0	0
23	0	0	0	0	0	14	433	0	0	0	0	0	0	0
24	0	0	88	0	0	84	556	0	0	0	0	0	0	0
25	0	0	0	0	0	91	801	43	0	0	0	0	0	0
26	0	0	0	0	124	96	1,008	46	0	0	1,663	0	0	0
27	0	0	0	0	158	97	0	0	0	0	825	0	0	0
28	0	0	0	0	370	66	0	0	0	3	0	0	0	0
29	0	0	49	0	253	0	0	0	0	0	913	0	0	0
30	0	0	83	931	0	0	0	0	0	0	618	0	0	0
31	-	-	-	-	0	71	3,269	0	0	0	44	-	-	-
TOTAL	**931**	**827**	**622**	**931**	**1,035**	**1,582**	**30,720**	**1,336**	**1,667**	**783**	**39,348**	**64**	**1,768**	**2,626**
TOTAL	**84,241**													

Notes:

All volumes in cubic metres (m^3).

Effluent from MS-08 (Mine Site Waste Rock Facility Pond) was treated using a water treatment plant and discharged to the catchment of Mary River Tributary F.

Effluent from MS-06 (Crusher Facility Pond) was discharged at a location near the Mary River.

Effluent from MP-05 & MP-06 (East and West Milne Port Ore Stockpile Ponds) was discharged to Milne Inlet.

Baffinland

TABLE 5.3

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
LOCATIONS OF TEMPORARY AND PERMANENT STORAGE AREAS FOR WASTES – 2018

Description	Location (UTM; NAD83; 17 W)		Location	
	Easting (m)	Northing (m)	Latitude	Longitude
Milne Port				
MP-HWB-1	503869	7976308	71° 53' 12.4"	80° 53' 18.6"
MP-HWB-2	503730	7975972	71° 53' 01.6"	80° 53' 33.1"
MP-HWB-3	503543	7975959	71° 53' 01.2"	80° 53' 52.5"
MP-HWB-4	503569	7975954	71° 53' 01.0"	80° 53' 49.8"
Milne Port Landfarm Facility (MP-04; including Contaminated Snow Containment Berm)	503751	7975570	71° 52' 48.6"	80° 53' 30.9"
Milne Port Waste Stabilization Pond (PWSP - MP-01A)	503625	7976015	71° 53' 03.0"	80° 53' 44.0"
Milne Port Waste Management Building	503760	7976014	71° 53' 02.9"	80° 53' 30.0"
Mine Site				
MS-HWB-1	558170	7914598	71° 19' 35.5"	79° 22'19.2"
MS-HWB-2	558200	7914585	71° 19' 35.1"	79° 22' 16.2"
MS-HWB-3	558283	7914563	71° 19' 34.3"	79° 22' 08.0"
MS-HWB-4	558295	7914551	71° 19' 33.9"	79° 22' 06.8"
MS-HWB-5	558161	7914580	71° 19' 34.9"	79° 22' 20.1"
MS-HWB-6	558511.8	7914709.5	71° 19' 38.8"	79° 21' 44.5"
MS-HWB-7	558284.4	7914449.2	71° 19' 30.6"	79° 22' 08.1"
Mine Site Non-Hazardous Waste Landfill Facility	560879.2	7912512.5	71° 18' 25.9"	79° 17' 51.8"
Mine Site Polishing Waste Stabilization Ponds (PWSP - MS-MRY-4A, B, C)	558469.9	7914237.2	71° 19' 23.6"	79° 21' 50"
Mine Site Waste Management Building	561369	7913338	71° 18' 52.0"	79° 17' 00.7"
Mid-Rail				
Temporary hazardous waste and barrel fuel storage area	595660	7876369	70° 58' 19"	78° 22' 13"
Steensby Port				
Temporary hazardous waste and barrel fuel storage area	594679	7800514	70° 17' 35"	78° 29' 1"

Notes:

Refer to Figures 3, 5, 6 and 7 for locations of waste storage areas at Milne Port, the Mine Site, Mid-Rail Camp and Steensby Port.

Baffinland

TABLE 5.4

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES OF WASTE DEPOSITED - LANDFILL FACILITY - 2018

Quarter	Month	Volume of Waste Deposited in Landfill	Comments
Q1	January	422	Quarterly survey conducted on March 30, 2018.
	February	422	
	March	422	
Q2	April	1075	Quarterly survey conducted on June 26, 2018.
	May	1075	
	June	1075	
Q3	July	1481	Quarterly survey conducted on September 25, 2018.
	August	1481	
	September	1481	
Q4	October	1235	Quarterly survey conducted on December 23, 2018.
	November	1235	
	December	1235	
TOTAL (BCMs)		**12,639**	

Notes:
All volumes in BCMs.
BCMs - banked cubic metres.

Baffinland

TABLE 5.5

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES OF HYDROCARBON IMPACTED SOIL, WATER AND SNOW DEPOSITED - MILNE PORT LANDFARM FACILITY - 2018

Quarter	Month	Soil Deposited in Landfarm (m^3)[1]	Water Deposited in Contaminated Snow Containment Berm (m^3)	Comments
Q1	January	-	13	-
	February	-	0	-
	March	-	0	-
Q2	April	-	6	-
	May	-	75	-
	June	-	0	-
Q3	July	-	0	-
	August	-	0	-
	September	-	0	-
Q4	October	-	0	-
	November	-	4	-
	December	-	10	-
TOTAL		**-**	**108**	**-**

Notes:

[1]Information not available. On December 31, 2018, there was approximately 9,800 m^3 of soil stored at the Milne Port Landfarm Facility.

Baffinland

TABLE 5.6

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES - DEPOSIT NO. 1 WASTE ROCK MANAGEMENT – 2018

Month	Total NPAG Waste Rock Used for Construction Purposes	Total NPAG Waste Rock Deposited in Waste Rock Facility	Total PAG Waste Rock Deposited in Waste Rock Facility	Total Waste Rock Generated
January	91,656	3,332	50,232	145,220
February	95,524	1,394	59,364	156,282
March	23,190	57	12,318	35,564
April	0	104,477	18,972	123,449
May	0	56,039	93,651	149,690
June	2,524	41,457	179,810	223,792
July	2,640	72,565	137,295	212,500
August	34,478	46,471	121,886	202,835
September	50,817	7,374	32,384	90,575
October	11,631	17,303	2,868	31,802
November	3,526	57,944	104,917	166,387
December	30,706	32,161	65,721	128,588
TOTAL	**346,691**	**440,574**	**879,418**	**1,666,683**

Notes:

All quantities in wet metric tonnes.

NPAG - Non-Potentially Acid Generating Waste Rock, PAG - Potentially Acid Generating Waste Rock

Baffinland

TABLE 6.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
LIST OF REPORTED SPILLS AND UNAUTHORIZED DISCHARGES – 2018

Date	Quantity (m^3)	Material Spilled	Approximate Location (UTM; NAD 83)	Project Area	Specific Location	Proximity to Water Body	Spill Line ID	Occurred within a Engineered Lined Facility?
18-Jan-18	0.2	Sewage (Untreated)	17 W 561319 7913244	Mine Site	MSC STP	> 100 m	18-016	No
21-Jan-18	0.4	Grey Water	17 W 558106 7914488	Mine Site	Exploration Camp Lift Station	> 200 m	18-020	No
21-Jan-18	0.15	Sewage (Untreated)	17 W 503981 7975985	Milne Port	PSC Main Lift Station	> 100 m	18-022	No
7-Feb-18	0.225	Sewage (Untreated)	17 W 515949 8795593	Mine Site	MSC Lift Station	> 100 m	18-037	No
9-Feb-18	2	Sewage (Untreated)	17 W 503904 7975985	Milne Port	PSC Lift Station	> 100 m	18-040	No
14-Feb-18	10	Impacted Water	17 W 558030 7915074	Mine Site	Nuna Shop	> 160 m	18-045	No
22-Feb-18	0.2	Sewage (Untreated)	17 W 561334 7913430	Mine Site	MSC Lift Station	> 100 m	18-051	No
23-Feb-18	0.15	Sewage (Untreated)	17 W 561406 7913420	Mine Site	MSC Lift Station	> 100 m	18-050	No
25-Feb-18	0.2	Fuel - Diesel	17 W 503721 7976171	Milne Port	Bulk Fuel Storage Facility	> 100 m	18-052	Yes
27-Feb-18	0.2	Sewage (Untreated)	17 W 561405 7913370	Mine Site	MSC Lift Station	> 100 m	18-062	No
16-Mar-18	0.2	Sewage (Untreated)	17 W 515949 8795593	Mine Site	MSC Lift Station	> 100 m	18-089	No
18-Mar-18	0.3	Sewage (Untreated)	17 W 561334 7913430	Mine Site	MSC Lift Station	> 100 m	18-098	No
19-Mar-18	0.3	Sewage (Untreated)	17 W 503856 7976140	Milne Port	PSC Lift Station	> 100 m	18-100	No
9-Apr-18	1	Sewage (Untreated)	17 W 503856 7976140	Mine Site	MSC AF South Lift Station	> 100 m	18-118	No
23-Apr-18	0.25	Sewage (Untreated)	17 W 561405 7913370	Mine Site	MSC Lift Station	> 100 m	18-131	No
23-Apr-18	0.25	Sewage (Untreated)	17 W 561276 7913366	Mine Site	MSC Lift Station	> 100 m	18-140	No
26-Apr-18	0.3	Sewage (Untreated)	17 W 558045 7914517	Mine Site	Exploration Camp Lift Station	> 100 m	18-141	No
29-Apr-18	0.5	Fuel - Diesel	17 W 561334 7913430	Mine Site	MSC Day Tank	> 100 m	18-145	No
30-Apr-18	1.3	Sewage (Untreated)	17 W 560374 7914333	Mine Site	Sailiivik Camp STP	> 100 m	18-148	No
4-May-18	0.25	Sewage (Untreated)	17 W 561345 7913368	Mine Site	MSC Lift Station	> 100 m	18-153	No
6-May-18	0.5	Sewage (Treated)	17 W 561345 7913368	Mine Site	Sailiivik Camp STP	> 100 m	18-154	No
16-May-18	-	Sediment	17 W 557782 7914735	Mine Site	Camp Lake	0	18-180	No
17-May-18	-	Sediment	17 W 557599 7914843	Mine Site	Sheardown Lake & Camp Lake Tributaries	0	18-182	No
5-Jun-18	-	Sediment	17 W 547824 7919418	Tote Road	Water Crossing BG-27 (Km 86)	0	18-209	No
8-Jun-18	-	Sediment	17 W 564789 7914370	Mine Site	Mine Haul Road (Km 107 - 108)	0	18-214	No
15-Jun-18	1	Waste Oil	17 W 503913 7976295	Milne Port	MP-HWB-1	100 m	18-232	Yes
19-Jun-18	-	Non-Compliant Runoff	17 W 562879 7916667	Mine Site	Waste Rock Facility - West Ditch	> 3 km	18-244	No
22-Jul-18	0.03	Gear Oil	17 W 503194 7976665	Milne Port	Ore Dock - Milne Inlet	0	18-286	No
12-Aug-18	0.2	Fuel - Diesel	17 W 503720 7976170	Milne Port	Bulk Fuel Storage Facility	> 100 m	18-324	Yes
27-Aug-18	1.1	Fuel - Diesel	17 W 561333 7913430	Mine Site	Bulk Fuel Storage Facility	> 100 m	18-363	Yes
25-Oct-18	1	Sewage (Untreated)	17 W 503797 7976201	Milne Port	Mobile Maintenance Building	> 100 m	18-436	No
13-Nov-18	0.5	Sewage (Untreated)	17 W 561387 7913276	Mine Site	MSC Main Lift Station	> 100 m	18-451	No
20-Nov-18	0.5	Grey Water	17 W 561345 7913368	Mine Site	MSC Kitchen	> 100 m	18-459	No
25-Nov-18	0.5	Sewage (Untreated)	17 W 558146 7914457	Mine Site	Exploration Camp Sewage Holding Tank	> 100 m	18-463	No
14-Dec-18	0.1	Fuel - Diesel	17 W 516150 7963030	Tote Road	Km 21	90 m	18-479	No
18-Dec-18	0.6	Sewage (Untreated)	17 W 561403 7913432	Mine Site	MSC Lift Station	> 100 m	18-481	No

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TABLE 6.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND ANNUAL REPORT FOR OPERATIONS
LIST OF REPORTED HEALTH & SAFETY INCIDENTS

Incident Report Description	Incident Type	Date of the Incident
Finger Injury	Injury- LTI	15-Jan-18
Back Strain	Injury- LTI	16-Jan-18
Fire at Crusher	Fire	18-Jan-18
Shoulder Strain	Injury- LTI	23-Jan-18
Back Strain	Injury- LTI	27-Jan-18
Back Strain	Injury- LTI	29-Jan-18
Shoulder Strain	Injury- LTI	30-Jan-18
Light Vehicle Fire	Fire	14-Feb-18
Ore Haul Truck Off Road	Vehicle Accident	26-Feb-18
Float Brake Failure	Vehicle Accident	7-Mar-18
Ore Haul Truck Off Road	Vehicle Accident	10-Mar-18
Knee Injury	Injury- LTI	12-Mar-18
Hot Box Fire	Fire	8-Apr-18
Soft Tissue Injury	Injury- LTI	8-Apr-18
Fall Injury	Injury- LTI	8-Apr-18
Multiple-Vehicle Collision	Vehicle Accident	8-Apr-18
Ore Haul Truck Off Road	Injury- LTI	19-Apr-18
Ore Haul Truck Fire	Fire	23-Apr-18
Fire at Crusher	Fire	15-May-18
Belly Dump Trailer Fire	Fire	22-May-18
Ore Haul Truck Fire	Fire	10-Jun-18
Fall Injury	Injury- LTI	24-Jun-18
Arm Injury	Injury- LTI	28-Jun-18
Fire at Crusher	Fire	2-Jul-18
Fuel Lube Truck Fire	Fire	11-Jul-18
Back Strain	Injury- LTI	16-Jul-18
Survival Shack Fire	Fire	10-Aug-18
Back Injury	Injury- LTI	10-Aug-18
Mine Haul Truck Off Road	Vehicle Accident	18-Aug-18
Struck By Injury	Injury- LTI	16-Sep-18
Fall Injury	Injury- LTI	16-Sep-18
Sternum Injury	Injury- LTI	19-Sep-18
Mine Haul Truck Off Road	Vehicle Accident	12-Nov-18
Ore Haul Truck Fire	Fire	3-Dec-18
Multiple-Vehicle Collision	Vehicle Accident	6-Dec-18
Water Truck Off Road	Vehicle Accident	14-Dec-18
745 Rock Truck Off Road	Fatality	16-Dec-18

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TABLE 7.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER LICENCE WATER QUALITY MONITORING LOCATIONS – 2018

Monitoring Station	Description	Location (UTM; NAD83; 17 W)		Location		Status in 2018
		Easting (m)	Northing (m)	Latitude	Longitude	
Milne Port						
MP-MRY-2	Fresh Water Intake at Phillips Creek	514503	7964579	71° 46' 52" N	80° 35' 4" W	Inactive
MP-MRY-3	Fresh Water Intake at Km 32 Lake	521547	7953735	71° 41' 00" N	80° 23' 09" W	Active
MP-01	Milne Port Sewage Treatment Plant	503209	7976485	71° 53' 18" N	80° 54' 27" W	Active
MP-01A	Milne Port Polishing Waste Stabilization Pond (PWSP)	503625	7976015	71° 53' 03" N	80° 53' 44" W	Active
MP-03	Milne Port Bulk Fuel Storage Facility (stormwater)	503638	7976272	71° 52' 11" N	80° 53' 43" W	Active
MP-04	Milne Port Landfarm Facility	503710	7975574	71° 52' 49" N	80° 53' 35" W	Active
MP-MRY-04	Milne Port Exploration Phase Sewage Treatment Plant	503462	7975764	71° 52' 55" N	80° 54" 01" W	Inactive[1]
MP-MRY-04A	Milne Port Exploration Phase PWSP	503344	7976118	71° 53' 06" N	80° 54' 13" W	Inactive[1]
MP-05	Milne Port Ore Stockpile Facility - East Surface Water Management Pond	503469	7976383	71° 53' 15" N	80° 54' 00" W	Active
MP-06	Milne Port Ore Stockpile Facility - West Surface Water Management Pond	503125	7976364	71° 53' 14" N	80° 54' 36" W	Active
MP-MRY-7	Milne Port Exploration Phase Bladder Fuel Storage Facility (stormwater)	503309	7976097	71° 53' 06" N	80° 54' 17" W	Inactive[1]
MP-MRY-12	Milne Port 2008 Bulk Sample Program - Stockpile (surface drainage/seepage)	503357	7976453	71° 53' 17" N	80° 54' 11" W	Inactive[2]
MP-C-A	Surface water drainage downstream of Milne Port infrastructure.	503214	7976483	71° 53' 18" N	80° 54' 27" W	Inactive[2]
MP-C-B		503191	7975396	71° 52' 43" N	80° 54' 29" W	Active
MP-C-B01		503242	7975558	71° 52' 48" N	80° 54' 24" W	Active
MP-C-C		503436	7975427	71° 52' 44" N	80° 54' 04" W	Inactive[2]
MP-C-D		503651	7976363	71° 53' 14" N	80° 53' 41" W	Inactive[2]
MP-C-E		503736	7976346	71° 53' 14" N	80° 53' 32" W	Active
MP-C-F		503922	7976304	71° 53' 12" N	80° 53' 13" W	Active
MP-C-G		502939	7976238	71° 53' 10" N	80° 54' 55" W	Inactive[2]
MP-C-H		504113	7976509	71° 53' 19" N	80° 52' 53" W	Active
MP-Q1-01	Surface water drainage downstream of the Q1 Quarry.	503828	7975062	71° 52' 32" N	80° 53' 23" W	Active
MP-Q1-02		503811	7975272	71° 52' 39" N	80° 53' 25" W	Active
Mine Site						
MS-MRY-1	Fresh Water Intake at Camp Lake	557793	7914684	71° 19' 38.6" N	79° 22' 57" W	Active
MS-01	Mine Site Sewage Treatment Plant No. 1	561322	7913257	71° 18' 49.4" N	79° 17' 5.6" W	Active

Notes:

[1]Exploration Phase infrastructure decommissioned.

[2]No surface water flows at location in 2018.

Baffinland

TABLE 7.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER LICENCE WATER QUALITY MONITORING LOCATIONS – 2018

Monitoring Station	Description	Location (UTM; NAD83; 17 W)		Location		Status in 2018
		Easting (m)	Northing (m)	Latitude	Longitude	
Mine Site cont'd						
MS-01B	Mine Site Sewage Treatment Plant No. 2	560794	7913235	71° 18′ 49.2″ N	79° 17′ 58.8″ W	Active
MS-02	Mine Site Mobile Maintenance Buildings (meltwater)	561638	7913222	71° 18' 48" N	79° 16' 34" W	Active
MS-03	Mine Site Bulk Fuel Storage Facility (stormwater)	561258	7913304	71° 18' 51" N	79° 17' 12" W	Active
MS-MRY-4	Mine Site Exploration Camp Sewage Treatment Plant	558141	7914427	71° 19' 30" N	79° 22' 22.6" W	Inactive[1]
MS-MRY-4A, B, C	Mine Site PWSPs	558470	7914237	71° 19' 23.6" N	79° 21' 50" W	Active
MS-MRY-6	Mine Site Exploration Camp Bulk Fuel Storage Facility (MS-HWB-7)	558341	7914508	71° 19' 41" N	79° 22' 17" W	Active
MS-06	Mine Site Crusher Facility - Surface Water Management Pond	561475	7913000	71° 18' 41" N	79° 16' 51" W	Active
MS-08	Waste Rock Facility - Surface Water Management Pond	563492	7916273	71° 20' 25" N	79° 13' 18" W	Active
MS-MRY-9	Mine Site 2008 Bulk Sample Program - Open Pit (surface drainage/seepage)	563246	7914632	71° 19' 32" N	79° 13' 48" W	Inactive[2]
MS-MRY-10	Mine Site 2008 Bulk Sample Program - Stockpile (surface drainage/seepage)	563488	7915197	71° 19' 50" N	79° 13' 22" W	Inactive[2]
MS-MRY-11	Mine Site 2008 Bulk Sample Program - Ore Crushing Area (surface drainage/seepage)	560690	7913350	71° 18' 53" N	79° 18' 09" W	Inactive[2]
MS-MRY-13A	Mine Site Non-Hazardous Waste Landfill Facility (surface drainage/seepage)	560754	7912484	71° 18' 25" N	79° 18' 5" W	Active
MS-MRY-13B		560642	7912527	71° 18'27" N	79° 18' 16" W	
MS-C-A	Surface water drainage downstream of Mine Site infrastructure.	561263	7913571	71° 19' 00" N	79° 17' 11" W	Active
MS-C-B		561454	7913537	71° 18' 58" N	79° 16' 52" W	Active
MS-C-C		561110	7913199	71° 18' 48" N	79° 17' 27" W	Active
MS-C-D		561008	7913280	71° 18' 50" N	79° 17' 37" W	Active
MS-C-E		560980	7913388	71° 18' 54" N	79° 17' 40" W	Active
MS-C-F		561797	7913278	71° 18' 49'' N	79° 16' 17'' W	Active
MS-C-G		561813	7911830	71° 18' 03" N	79° 16' 20" W	Active
MS-C-H		561162	7912067	71° 18" 11" N	79° 17' 25" W	Active
MQ-C-A	Surface water drainage downstream of QMR2 Quarry.	559489	7914408	71° 19' 28'' N	79° 20' 07'' W	Active
MQ-C-B		560076	7913888	71° 19' 11'' N	79° 19' 09'' W	Active
MQ-C-D		559422	7914223	71° 19' 23'' N	79° 20' 14'' W	Active
MQ-C-E	Surface water drainage downstream of D1Q2 Quarry.	563351	7912902	71° 18' 36" N	79° 13' 42" W	Active

Notes:

[1]Exploration Phase infrastructure decommissioned.

[2]No surface water flows at location in 2018.

TABLE 7.1.1
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-01

Analyte	Sample ID			MP-01	MP-0101	MP-01	MP-01	MP-0103	MP-01
	ALS Laboratory Sample ID			L2043724-1	L2043724-3	L2054248-1	L2068010-1	L2068010-3	L2076019-1
	Sample Date & Time			1/9/2018 14:45	1/9/2018 14:45	2/6/2018 14:45	3/13/2018 13:45	3/13/2018 13:45	4/3/2018 13:45
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	Travel Blank	N/A
	Units	LOR	Water Licence Criteria[1]						
pH	pH units	0.1	6.0 - 9.5	7.9	7.85	7.48	7.49	6.15	7.54
Total Suspended Solids	mg/L	2	<120	<2.0	2.1	<2.0	3.1	<2.0	2.5
Alkalinity, Total (as CaCO3)	mg/L	10	-	156	158	76	73	<10	71
Ammonia, Total (as N)	mg/L	0.02	-	0.078	0.057	0.188	0.115	<0.020	0.251
Total Kjeldahl Nitrogen	mg/L	0.15	-	2.09	2.13	2.01	2.29	<0.15	2.24
Phosphorus, Total	mg/L	0.003	-	9.99	9.93	11.6	9.99	0.0062	11
Fecal Coliforms	CFU/100mL	0	10,000	0	0	1	6	0	1
BOD	mg/L	2	100	<2.0	2.4	<2.0	<2.0	<2.0	10.7
COD	mg/L	10	-	39	37	43	40	<10	43
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	2.2
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Toxicity[2,3]	N/A		Non-Lethal	-	-	-	-	-	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 5

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

Baffinland

TABLE 7.1.1
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-01

Analyte	Sample ID			MP-01	MP-01	MP-01	MP-01	MP-01	MP-01
	ALS Laboratory Sample ID			L2088476-1	L2107700-1	L2124906-1	L2124906-1	L2168412-1	L2178013-1
	Sample Date & Time			5/1/2018 13:45	6/5/2018 13:45	7/4/2018 13:45	8/22/2018 13:45	9/19/2018 13:45	10/2/2018 10:00
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]						
pH	pH units	0.1	6.0 - 9.5	7.81	7.26	7.4	7.52	7.69	7.38
Total Suspended Solids	mg/L	2	<120	2.1	<2.0	6.8	<2.0	<2.0	<2.0
Alkalinity, Total (as CaCO3)	mg/L	10	-	128	69	66	61	72	73
Ammonia, Total (as N)	mg/L	0.02	-	0.101	0.12	0.086	0.053	0.058	1.37
Total Kjeldahl Nitrogen	mg/L	0.15	-	1.8	2.02	3.13	1.58	1.81	1.91
Phosphorus, Total	mg/L	0.003	-	6.47	9.25	11.4	8.78	9.21	8.43
Fecal Coliforms	CFU/100mL	0	10,000	0	0	0	0	0	0
BOD	mg/L	2	100	<2.0	<2.0	2.4	<2.0	<2.0	<2.0
COD	mg/L	10	-	31	36	47	45	47	49
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Toxicity[2,3]	N/A		Non-Lethal	-	-	-	-	Non-lethal	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 5

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

Baffinland

TABLE 7.1.1
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-01

Analyte	Sample ID			MP-0102	MP-01	MP-0101	MP-01	MP-0101
	ALS Laboratory Sample ID			L2178013-3	L2194088-1	L2194088-2	L2210761-1	L2210761-3
	Sample Date & Time			10/2/2018 10:00	11/6/2018 10:40	11/6/2018 10:40	12/12/2018 12:30	12/12/2018 12:30
	QA/QC Sample Type			Field Blank	N/A	Field Duplicate	N/A	Field Duplicate
	Units	LOR	Water Licence Criteria[1]					
pH	pH units	0.1	6.0 - 9.5	5.99	7.07	7.06	7.48	7.43
Total Suspended Solids	mg/L	2	<120	<2.0	<2.0	<2.0	4.8	2.7
Alkalinity, Total (as CaCO3)	mg/L	10	-	<10	58	59	102	101
Ammonia, Total (as N)	mg/L	0.02	-	0.059	0.04	0.036	1.32	1.19
Total Kjeldahl Nitrogen	mg/L	0.15	-	<0.15	2.03	2.13	4.3	4.6
Phosphorus, Total	mg/L	0.003	-	0.0133	7.14	7.16	9.97	9.87
Fecal Coliforms	CFU/100mL	0	10,000	0	0	0	0	0
BOD	mg/L	2	100	<2.0	<2.0	<2.0	2.5	2
COD	mg/L	10	-	<10	40	40	33	36
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Toxicity[2,3]	N/A		Non-Lethal	-	-	-	-	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 5

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

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TABLE 7.1.2
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-01a

Analyte	Sample ID			MP-01a	MP-01a
	ALS Laboratory Sample ID			L2155757-1	L2160265-1
	Sample Date & Time			8/28/2018 3:10:00 PM	9/1/2018 8:15:00 AM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence Criteria[1]		
pH	pH units	0.1	6.0 - 9.5	7.79	7.55
Total Suspended Solids	mg/L	2	<120	85.2	71.5
Alkalinity, Total (as CaCO3)	mg/L	10	-	295	276
Ammonia, Total (as N)	mg/L	0.02	-	3.51	4.19
Total Kjeldahl Nitrogen	mg/L	0.15	-	18.2	14.4
Phosphorus, Total	mg/L	0.003	-	1.25	1.12
Fecal Coliforms	CFU/100mL	0	10,000	125	100
BOD	mg/L	2	100	23.6	20.4
COD	mg/L	10	-	520	400
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Toxicity[2,3]	N/A		Non-Lethal	Non-lethal	Non-lethal

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 5

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.3
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-03

Analyte	Sample ID			MP-03	MP-03	MP-03
	ALS Laboratory Sample ID			L2112845-1	L2151335-1	L2151335-3
	Sample Date & Time			6/13/2018 12:15	8/16/2018 14:55	8/18/2018 9:20
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]			
pH	pH units	0.1	-	8.06	8.15	-
Total Suspended Solids	mg/L	2	-	3.3	<2.0	-
Total Dissolved Solids	mg/L	20	-	-	20200	-
Turbidity	NTU	0.1	-	-	8.22	-
Ammonia, Total (as N)	mg/L	0.02	-	-	-	0.777
Phosphorus, Total	mg/L	0.003	-	-	-	0.012
Arsenic (As)-Total	mg/L	0.0001	-	-	0.00054	-
Copper (Cu)-Total	mg/L	0.001	-	-	0.0027	-
Lead (Pb)-Total	mg/L	0.0001	0.001	<0.00050	0.00069	-
Nickel (Ni)-Total	mg/L	0.0005	-	-	0.001	-
Zinc (Zn)-Total	mg/L	0.003	-	-	0.0052	-
Oil and Grease, Total	mg/L	2	15	<2.0	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	
Benzene	ug/L	0.5	370	<0.50	<0.50	-
Ethylbenzene	ug/L	0.5	90	<0.50	<0.50	-
Toluene	ug/L	0.5	2	<0.50	0.5	-
o-Xylene	ug/L	0.3	-	<0.50	0.56	-
m+p-Xylenes	ug/L	0.4	-	<1.0	<1.0	-
Xylenes (Total)	ug/L	0.5	-	<1.1	<1.1	-
4-Bromofluorobenzene	%	Surrogate	-	94.2	94.8	-
1,4-Difluorobenzene	%	Surrogate	-	98.6	96.5	-
F1 (C6-C10)	ug/L	25	-	<100	<100	-
F1-BTEX	ug/L	25	-	<100	<100	-
F2 (C10-C16)	ug/L	100	-	270	140	-
F3 (C16-C34)	ug/L	250	-	<250	<250	-
F4 (C34-C50)	ug/L	250	-	<250	<250	-
Total Hydrocarbons (C6-C50)	ug/L	370	-	<380	<380	-
Chrom. to baseline at nC50		n/a	-	YES	YES	-
2-Bromobenzotrifluoride	%	Surrogate	-	96.5	90.6	-
3,4-Dichlorotoluene	%	Surrogate	-	95.6	100.3	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 8

TABLE 7.1.4
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-04

Analyte	Sample ID			MP-04
	ALS Laboratory Sample ID			L2160270-1
	Sample Date & Time			9/1/2018 12:30
	QA/QC Sample Type			N/A
	Units	LOR	Water Licence Criteria[1]	
pH	pH units	0.1	6.0 - 9.5	8.07
Total Suspended Solids	mg/L	2	15	4.5
Total Dissolved Solids	mg/L	20	-	533
Turbidity	NTU	0.1	-	16.2
Lead (Pb)-Total	mg/L	0.0001	0.001	<0.00050
Oil and Grease, Total	mg/L	2	15	<2.0
	-	-	No Visible Sheen	No Visible Sheen
Benzene	ug/L	0.5	370	<0.50
Ethylbenzene	ug/L	0.5	90	<0.50
Toluene	ug/L	0.5	2	<0.50
o-Xylene	ug/L	0.5	-	<0.50
m+p-Xylenes	ug/L	1	-	<1.0
Xylenes (Total)	ug/L	1.1	-	<1.1
4-Bromofluorobenzene	%	Surrogate	-	94.8
1,4-Difluorobenzene	%	Surrogate	-	95.7
F1 (C6-C10)	ug/L	100	-	<100
F1-BTEX	ug/L	100	-	<100
F2 (C10-C16)	ug/L	100	-	460
F3 (C16-C34)	ug/L	250	-	<250
F4 (C34-C50)	ug/L	250	-	<250
Total Hydrocarbons (C6-C50)	ug/L	380	-	460
Chrom. to baseline at nC50		n/a	-	YES
2-Bromobenzotrifluoride	%	Surrogate	-	92.5
3,4-Dichlorotoluene	%	Surrogate	-	107.9

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 9

TABLE 7.1.5
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-B

Analyte	Sample ID			MP-C-B	MP-C-B	MP-C-B	MP-C-B
	ALS Laboratory Sample ID			L2111033-2	L2120589-7	L2123843-7	L2128204-6
	Sample Date & Time			6/11/2018 1:40:00 PM	6/25/2018 10:45:00 AM	7/2/2018 10:45:00 AM	7/10/2018 9:55:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	566	469	508	-
pH	pH units	0.1	6.0 - 9.5	8.05	8.21	8.2	8.1
Total Suspended Solids	mg/L	2	Grab 30, Average 15	17.4	2.5	<2.0	2.9
Total Dissolved Solids	mg/L	10	-	-	-	-	385
Turbidity	NTU	0.1	-	-	-	-	11.6
Ammonia, Total (as N)	mg/L	0.02	-	1.32	1.26	1.17	-
Nitrate (as N)	mg/L	0.02	-	4.88	6.13	8.6	-
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.5
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-B

Analyte	Sample ID			MP-C-B	MP-C-B	MP-C-B	MP-C-B
	ALS Laboratory Sample ID			L2131995-8	L2137113-7	L2141875-7	L2143614-7
	Sample Date & Time			7/17/2018 11:50:00 AM	7/23/2018 3:05:00 PM	7/30/2018 6:00:00 PM	8/7/2018 5:05:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	533	-	545	537
pH	pH units	0.1	6.0 - 9.5	8.24	8.29	8.1	8.17
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	2	4.8	5.2
Total Dissolved Solids	mg/L	10	-	-	346	329	317
Turbidity	NTU	0.1	-	-	10.2	11.2	21.7
Ammonia, Total (as N)	mg/L	0.02	-	1.23	-	0.618	0.647
Nitrate (as N)	mg/L	0.02	-	7.5	-	5.08	5.09
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.5
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-B

Analyte	Sample ID			MP-C-B	MP-C-B	MP-C-B	MP-C-B
	ALS Laboratory Sample ID			L2148774-6	L2152813-4	L2157679-9	L2160216-4
	Sample Date & Time			8/14/2018 4:35:00 PM	8/21/2018 3:25:00 PM	8/27/2018 11:30:00 AM	9/4/2018 6:10:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	-	556	-	736
pH	pH units	0.1	6.0 - 9.5	8.33	8.27	8.24	8.25
Total Suspended Solids	mg/L	2	Grab 30, Average 15	3.2	4.2	<2.0	4
Total Dissolved Solids	mg/L	10	-	376	344	386	415
Turbidity	NTU	0.1	-	4.16	10.7	3.53	7.4
Ammonia, Total (as N)	mg/L	0.02	-	-	0.551	-	0.166
Nitrate (as N)	mg/L	0.02	-	-	5.32	-	6.36
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	<2.0
	-	-	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.5
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-B

Analyte	Sample ID			MP-C-B
	ALS Laboratory Sample ID			L2164348-4
	Sample Date & Time			9/10/2018 11:45:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Water Licence Criteria[1]	
Conductivity	umhos/cm	3	-	-
pH	pH units	0.1	6.0 - 9.5	8.19
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0
Total Dissolved Solids	mg/L	10	-	464
Turbidity	NTU	0.1	-	2.68
Ammonia, Total (as N)	mg/L	0.02	-	-
Nitrate (as N)	mg/L	0.02	-	-
Oil and Grease, Total	mg/L	2	-	-
	-	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.6
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-B01

Analyte	Sample ID			MP-C-B01	MP-C-B01	MP-C-B0101	MP-C-B01	MP-C-B0101
	ALS Laboratory Sample ID			L2107359-1	L2111033-3	L2111033-4	L2120589-5	L2120589-6
	Sample Date & Time			6/4/2018 8:40:00 AM	6/11/2018 2:00:00 PM	6/11/2018 2:00:00 PM	6/25/2018 10:20:00 AM	6/25/2018 10:20:00 AM
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	Field Duplicate
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	339	-	-	467	465
pH	pH units	0.1	6.0 - 9.5	7.9	8.03	8.04	8.17	8.19
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	**44.7**	**46.1**	**52.4**	3.2	2.8
Total Dissolved Solids	mg/L	10	-	-	369	364	-	-
Turbidity	NTU	0.1	-	-	115	116	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.501	-	-	1.37	1.37
Nitrate (as N)	mg/L	0.02	-	1.29	-	-	6.53	6.3
Oil and Grease, Total	mg/L	2	-	<2.0	-	-	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	-	-	No Visible Sheen	No Visible Sheen

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

TABLE 7.1.6
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-B01

Analyte	Sample ID			MP-C-B01	MP-C-B01	MP-C-B01	MP-C-B01
	ALS Laboratory Sample ID			L2123843-6	L2128204-5	L2131995-7	L2137113-6
	Sample Date & Time			7/2/2018 10:35:00 AM	7/10/2018 9:45:00 AM	7/17/2018 2:45:00 PM	7/23/2018 2:55:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	501	-	516	-
pH	pH units	0.1	6.0 - 9.5	8.18	8.1	8.22	8.22
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	<2.0	3.7	2.2	2.5
Total Dissolved Solids	mg/L	10	-	-	386	-	346
Turbidity	NTU	0.1	-	-	13.1	-	15.8
Ammonia, Total (as N)	mg/L	0.02	-	1.09	-	1.02	-
Nitrate (as N)	mg/L	0.02	-	8.72	-	6.94	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

TABLE 7.1.6
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-B01

Analyte	Sample ID			MP-C-B01	MP-C-B01	MP-C-B0101	MP-C-B01	MP-C-B01
	ALS Laboratory Sample ID			L2141875-6	L2143614-6	L2143614-3	L2148774-3	L2152813-3
	Sample Date & Time			7/30/2018 5:45:00 PM	8/7/2018 4:45:00 PM	8/7/2018 4:45:00 PM	8/14/2018 4:20:00 PM	8/21/2018 2:30:00 PM
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	525	532	529	-	541
pH	pH units	0.1	6.0 - 9.5	8.11	8.15	8.15	8.24	8.24
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	4.6	6.7	5.7	4	3.5
Total Dissolved Solids	mg/L	10	-	324	322	314	340	336
Turbidity	NTU	0.1	-	11.9	24.9	24.5	4.94	11.1
Ammonia, Total (as N)	mg/L	0.02	-	0.697	0.644	0.698	-	0.558
Nitrate (as N)	mg/L	0.02	-	5.33	5.19	5.12	-	5.23
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	-	No Visible Sheen

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

TABLE 7.1.6
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-B01

Analyte	Sample ID			MP-C-B01	MP-C-B01	MP-C-B01
	ALS Laboratory Sample ID			L2157679-10	L2160216-3	L2164348-3
	Sample Date & Time			8/27/2018 11:45:00 AM	9/4/2018 5:50:00 PM	9/10/2018 12:25:00 PM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]			
Conductivity	umhos/cm	3	-	-	683	-
pH	pH units	0.1	6.0 - 9.5	8.25	8.3	8.18
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	366	386	455
Turbidity	NTU	0.1	-	4.5	4.62	3.17
Ammonia, Total (as N)	mg/L	0.02	-	-	0.111	-
Nitrate (as N)	mg/L	0.02	-	-	8.64	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

TABLE 7.1.7
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-H

Analyte	Sample ID			MP-C-H	MP-C-H01	MP-C-H	MP-C-H	MP-C-H
	ALS Laboratory Sample ID			L2107359-6	L2107359-5	L2111033-1	L2116243-1	L2120589-1
	Sample Date & Time			6/4/2018 6:20:00 AM	6/4/2018 6:20:00 AM	6/11/2018 9:20:00 AM	6/18/2018 3:00:00 PM	6/25/2018 8:20:00 AM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	1140	1150	-	112	-
pH	pH units	0.1	6.0 - 9.5	7.9	7.9	7.86	7.94	8.05
Total Suspended Solids	mg/L	2	Grab 30, Average 15	3.6	7.2	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	99	-	82
Turbidity	NTU	0.1	-	-	-	3.77	-	0.77
Ammonia, Total (as N)	mg/L	0.02	-	0.059	0.056	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	0.294	0.277	-	<0.020	-
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.7
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-H

Analyte	Sample ID			MP-C-H	MP-C-H	MP-C-H01	MP-C-H	MP-C-H
	ALS Laboratory Sample ID			L2123843-1	L2128204-1	L2128204-2	L2131995-1	L2137113-1
	Sample Date & Time			7/2/2018 8:05:00 AM	7/10/2018 8:20:00 AM	7/10/2018 8:20:00 AM	7/17/2018 8:30:00 AM	7/23/2018 1:40:00 PM
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	151	-	-	215	-
pH	pH units	0.1	6.0 - 9.5	8.01	8.05	8.05	8.15	8.22
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	121	118	-	127
Turbidity	NTU	0.1	-	-	0.89	0.42	-	0.43
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	<0.020	-	-	0.035	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.7
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-H

Analyte	Sample ID			MP-C-H	MP-C-H	MP-C-H	MP-C-H01	MP-C-H
	ALS Laboratory Sample ID			L2141875-1	L2143614-1	L2148774-7	L2148774-8	L2152813-6
	Sample Date & Time			7/30/2018 10:05:00 AM	8/7/2018 1:00:00 PM	8/14/2018 9:10:00 AM	8/14/2018 9:10:00 AM	8/21/2018 5:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	241	256	-	-	247
pH	pH units	0.1	6.0 - 9.5	8.12	8.19	8.22	8.23	8.28
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	138	142	161	157	150
Turbidity	NTU	0.1	-	0.68	0.58	0.34	0.54	0.31
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020	-	-	0.029
Nitrate (as N)	mg/L	0.02	-	0.035	0.03	-	-	0.029
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	-	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	-	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.7
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-C-H

Analyte	Sample ID			MP-C-H01	MP-C-H	MP-C-H03	MP-C-H	MP-C-H
	ALS Laboratory Sample ID			L2152813-7	L2157679-1	L2157679-2	L2160216-6	L2164348-6
	Sample Date & Time			8/21/2018 5:00:00 PM	8/27/2018 8:40:00 AM	8/27/2018 8:40:00 AM	9/4/2018 12:00:00 PM	9/10/2018 9:30:00 AM
	QA/QC Sample Type			Field Duplicate	N/A	Travel Blank	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	247	-	-	283	-
pH	pH units	0.1	6.0 - 9.5	8.29	8.2	5.99	8.24	8.17
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	142	201	11	153	176
Turbidity	NTU	0.1	-	0.23	0.16	0.19	0.33	0.24
Ammonia, Total (as N)	mg/L	0.02	-	0.031	-	-	0.026	-
Nitrate (as N)	mg/L	0.02	-	0.03	-	-	0.046	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.8
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-05

Analyte	Sample ID			MP-05	MP-05
	ALS Laboratory Sample ID			L2116394-1	L2123842-1
	Sample Date & Time			6/19/2018 11:00:00 AM	7/3/2018 1:35:00 PM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence Criteria[1]		
Hardness (as CaCO3)	mg/L	10	-	274	351
pH	pH units	0.1	6.0 - 9.5	8.13	8.22
Total Suspended Solids	mg/L	2	15	2	3.2
Total Dissolved Solids	mg/L	13	-	581	669
Turbidity	NTU	0.1	-	10.2	14.3
Alkalinity, Total (as CaCO3)	mg/L	10	-	83	109
Ammonia, Total (as N)	mg/L	0.02	-	0.868	0.042
Chloride (Cl)	mg/L	0.5	-	178	199
Fluoride (F)	mg/L	0.02	-	0.204	0.221
Nitrate (as N)	mg/L	0.02	-	7.64	8.82
Total Kjeldahl Nitrogen	mg/L	0.15	-	1.35	0.57
Phosphorus, Total	mg/L	0.003	-	0.006	0.0077
Sulfate (SO4)	mg/L	0.3	-	120	126
Dissolved Organic Carbon	mg/L	1	-	3.5	4.32
Total Organic Carbon	mg/L	1	-	3.6	3.63
Aluminum (Al)-Total	mg/L	0.01	-	0.115	0.215
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00021	0.00023
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	0.5	-	54.9	65.3
Copper (Cu)-Total	mg/L	0.001	0.3	0.0014	0.0016
Iron (Fe)-Total	mg/L	0.05	-	0.144	0.261
Lead (Pb)-Total	mg/L	0.00005	0.2	0.00014	0.00025
Magnesium (Mg)-Total	mg/L	0.05	-	37.1	16
Manganese (Mn)-Total	mg/L	0.0005	-	0.0312	0.241
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.00519	0.00566
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00138	0.0062
Potassium (K)-Total	mg/L	0.05	-	10.3	11.2
Selenium (Se)-Total	mg/L	0.00005	-	0.000223	0.000201
Sodium (Na)-Total	mg/L	0.5	-	77.4	87.8
Thallium (Tl)-Total	mg/L	0.00001	-	0.000025	0.000022
Uranium (U)-Total	mg/L	0.00001	-	0.0335	0.0325
Zinc (Zn)-Total	mg/L	0.003	0.5	0.0037	0.0043
Aluminum (Al)-Dissolved	mg/L	0.005	-	0.0141	0.0194
Arsenic (As)-Dissolved	mg/L	0.0001	-	0.00016	0.00021
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010
Calcium (Ca)-Dissolved	mg/L	0.05	-	51.8	67.8
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.00112	0.00128
Iron (Fe)-Dissolved	mg/L	0.01	-	<0.010	<0.010
Lead (Pb)-Dissolved	mg/L	0.00005	-	<0.000050	<0.000050
Magnesium (Mg)-Dissolved	mg/L	0.05	-	35.2	44.2
Manganese (Mn)-Dissolved	mg/L	0.0005	-	0.0141	0.00671
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.0048	0.0055
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.0011	0.00079
Potassium (K)-Dissolved	mg/L	0.05	-	9.93	11.8
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.000248	0.000205
Sodium (Na)-Dissolved	mg/L	0.5	-	72.2	94.4
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.000023	0.00002
Uranium (U)-Dissolved	mg/L	0.00001	-	0.0312	0.0328
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0026	0.0022
Acute Lethality[2,3]	N/A		Non-Lethal	-	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.8
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-05

Analyte	Sample ID			MP-0501	MP-05
	ALS Laboratory Sample ID			L2123842-2	L2143845-1
	Sample Date & Time			7/3/2018 1:35:00 PM	8/8/2018 2:40:00 PM
	QA/QC Sample Type			Field Duplicate	N/A
	Units	LOR	Water Licence Criteria[1]		
Hardness (as CaCO3)	mg/L	10	-	350	363
pH	pH units	0.1	6.0 - 9.5	8.23	8.04
Total Suspended Solids	mg/L	2	15	3.2	4.3
Total Dissolved Solids	mg/L	13	-	663	726
Turbidity	NTU	0.1	-	13.6	9.64
Alkalinity, Total (as CaCO3)	mg/L	10	-	112	166
Ammonia, Total (as N)	mg/L	0.02	-	0.041	0.114
Chloride (Cl)	mg/L	0.5	-	199	219
Fluoride (F)	mg/L	0.02	-	0.25	0.198
Nitrate (as N)	mg/L	0.02	-	8.79	3.98
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.54	1.08
Phosphorus, Total	mg/L	0.003	-	0.0095	0.0073
Sulfate (SO4)	mg/L	0.3	-	125	105
Dissolved Organic Carbon	mg/L	1	-	3.55	14.3
Total Organic Carbon	mg/L	1	-	3.97	16.3
Aluminum (Al)-Total	mg/L	0.01	-	0.167	0.137
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00023	0.00024
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	0.5	-	65.9	84.3
Copper (Cu)-Total	mg/L	0.001	0.3	0.0015	0.0021
Iron (Fe)-Total	mg/L	0.05	-	0.199	0.179
Lead (Pb)-Total	mg/L	0.00005	0.2	0.00024	0.00022
Magnesium (Mg)-Total	mg/L	0.05	-	41.8	42.8
Manganese (Mn)-Total	mg/L	0.0005	-	0.0228	0.0424
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.00579	0.00314
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00118	0.00114
Potassium (K)-Total	mg/L	0.05	-	11	8.74
Selenium (Se)-Total	mg/L	0.00005	-	0.000188	0.00018
Sodium (Na)-Total	mg/L	0.5	-	88.6	75.5
Thallium (Tl)-Total	mg/L	0.00001	-	0.000019	0.000014
Uranium (U)-Total	mg/L	0.00001	-	0.0336	0.0165
Zinc (Zn)-Total	mg/L	0.003	0.5	0.0041	0.0101
Aluminum (Al)-Dissolved	mg/L	0.005	-	0.0211	0.0116
Arsenic (As)-Dissolved	mg/L	0.0001	-	0.0002	0.00019
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010
Calcium (Ca)-Dissolved	mg/L	0.05	-	66.3	80.6
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.00129	0.00143
Iron (Fe)-Dissolved	mg/L	0.01	-	<0.010	<0.010
Lead (Pb)-Dissolved	mg/L	0.00005	-	<0.000050	<0.000050
Magnesium (Mg)-Dissolved	mg/L	0.05	-	44.7	39.2
Manganese (Mn)-Dissolved	mg/L	0.0005	-	0.00685	0.0273
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.00554	0.00297
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.00081	0.00086
Potassium (K)-Dissolved	mg/L	0.05	-	11.9	8.06
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.000201	0.000172
Sodium (Na)-Dissolved	mg/L	0.5	-	92.6	71.9
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.000017	0.000015
Uranium (U)-Dissolved	mg/L	0.00001	-	0.0333	0.0164
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0024	0.0071
Acute Lethality[2,3]	N/A		Non-Lethal	-	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.8
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-05

Analyte	Sample ID			MP-05	MP-0501
	ALS Laboratory Sample ID			L2160180-1	L2160180-2
	Sample Date & Time			9/5/2018 10:20:00 AM	9/5/2018 10:20:00 AM
	QA/QC Sample Type			N/A	Field Duplicate
	Units	LOR	Water Licence Criteria[1]		
Hardness (as CaCO3)	mg/L	10	-	561	582
pH	pH units	0.1	6.0 - 9.5	8.26	8.28
Total Suspended Solids	mg/L	2	15	4.2	4.9
Total Dissolved Solids	mg/L	13	-	1000	1030
Turbidity	NTU	0.1	-	11.2	12.3
Alkalinity, Total (as CaCO3)	mg/L	10	-	185	185
Ammonia, Total (as N)	mg/L	0.02	-	0.076	0.092
Chloride (Cl)	mg/L	0.5	-	291	291
Fluoride (F)	mg/L	0.02	-	0.167	0.168
Nitrate (as N)	mg/L	0.02	-	5.83	5.85
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.53	0.57
Phosphorus, Total	mg/L	0.003	-	0.0104	0.0124
Sulfate (SO4)	mg/L	0.3	-	177	178
Dissolved Organic Carbon	mg/L	1	-	9.99	10.3
Total Organic Carbon	mg/L	1	-	10.6	10.9
Aluminum (Al)-Total	mg/L	0.01	-	0.169	0.181
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00026	0.00027
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	0.5	-	119	119
Copper (Cu)-Total	mg/L	0.001	0.3	0.002	0.0021
Iron (Fe)-Total	mg/L	0.05	-	0.297	0.315
Lead (Pb)-Total	mg/L	0.00005	0.2	0.00025	0.00028
Magnesium (Mg)-Total	mg/L	0.05	-	65	65.7
Manganese (Mn)-Total	mg/L	0.0005	-	0.288	0.292
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.00247	0.00246
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00155	0.00154
Potassium (K)-Total	mg/L	0.05	-	9.24	9.29
Selenium (Se)-Total	mg/L	0.00005	-	0.000381	0.000358
Sodium (Na)-Total	mg/L	0.5	-	87.2	88.7
Thallium (Tl)-Total	mg/L	0.00001	-	0.000014	0.000016
Uranium (U)-Total	mg/L	0.00001	-	0.0157	0.0162
Zinc (Zn)-Total	mg/L	0.003	0.5	0.0196	0.0192
Aluminum (Al)-Dissolved	mg/L	0.005	-	0.0102	0.011
Arsenic (As)-Dissolved	mg/L	0.0001	-	0.00022	0.00023
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010
Calcium (Ca)-Dissolved	mg/L	0.05	-	117	125
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.00198	0.00181
Iron (Fe)-Dissolved	mg/L	0.01	-	<0.010	<0.010
Lead (Pb)-Dissolved	mg/L	0.00005	-	<0.000050	<0.000050
Magnesium (Mg)-Dissolved	mg/L	0.05	-	65.3	65.5
Manganese (Mn)-Dissolved	mg/L	0.0005	-	0.253	0.257
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.00233	0.00245
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.00125	0.00126
Potassium (K)-Dissolved	mg/L	0.05	-	9.78	9.54
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.000387	0.000371
Sodium (Na)-Dissolved	mg/L	0.5	-	88.7	93.5
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.00001	0.000011
Uranium (U)-Dissolved	mg/L	0.00001	-	0.015	0.0151
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0139	0.0143
Acute Lethality[2,3]	N/A		Non-Lethal	Non-lethal	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.9
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-06

Analyte	Sample ID			MP-06	MP-0601
	ALS Laboratory Sample ID			L2116369-1	L2116369-2
	Sample Date & Time			/19/2018 11:45:00 AM	/19/2018 11:45:00 AM
	QA/QC Sample Type			N/A	Field Duplicate
	Units	LOR	Water Licence Criteria[1]		
Hardness (as CaCO3)	mg/L	10	-	507	507
pH	pH units	0.1	6.0 - 9.5	7.96	7.9
Total Suspended Solids	mg/L	2	15	<2.0	4.8
Total Dissolved Solids	mg/L	13	-	822	845
Turbidity	NTU	0.1	-	8.82	10.2
Alkalinity, Total (as CaCO3)	mg/L	10	-	59	59
Ammonia, Total (as N)	mg/L	0.02	-	0.894	0.879
Chloride (Cl)	mg/L	0.5	-	65.2	64.7
Fluoride (F)	mg/L	0.02	-	0.078	0.078
Nitrate (as N)	mg/L	0.02	-	3.76	3.76
Total Kjeldahl Nitrogen	mg/L	0.15	-	1.3	1.29
Phosphorus, Total	mg/L	0.003	-	<0.030	<0.030
Sulfate (SO4)	mg/L	0.3	-	427	426
Dissolved Organic Carbon	mg/L	0.5	-	2.8	2.3
Total Organic Carbon	mg/L	0.5	-	2.5	2.3
Aluminum (Al)-Total	mg/L	0.01	-	0.045	0.061
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00014	0.00013
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	0.5	-	70.9	71.5
Copper (Cu)-Total	mg/L	0.001	0.3	<0.0010	<0.0010
Iron (Fe)-Total	mg/L	0.05	-	0.122	0.18
Lead (Pb)-Total	mg/L	0.0001	0.2	<0.00010	0.00011
Magnesium (Mg)-Total	mg/L	0.05	-	83.6	82.3
Manganese (Mn)-Total	mg/L	0.0005	-	1.86	1.76
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.00157	0.00159
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00338	0.00343
Potassium (K)-Total	mg/L	0.05	-	4.92	4.81
Selenium (Se)-Total	mg/L	0.00005	-	0.00133	0.00135
Sodium (Na)-Total	mg/L	0.5	-	28.6	28
Thallium (Tl)-Total	mg/L	0.00001	-	0.000026	0.000026
Uranium (U)-Total	mg/L	0.00001	-	0.00667	0.00703
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.0030	<0.0030
Aluminum (Al)-Dissolved	mg/L	0.005	-	<0.0050	<0.0050
Arsenic (As)-Dissolved	mg/L	0.0001	-	<0.00010	<0.00010
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010
Calcium (Ca)-Dissolved	mg/L	0.05	-	71.3	72.2
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.00055	0.00054
Iron (Fe)-Dissolved	mg/L	0.01	-	<0.010	<0.010
Lead (Pb)-Dissolved	mg/L	0.00005	-	<0.000050	<0.000050
Magnesium (Mg)-Dissolved	mg/L	0.05	-	79.8	79.3
Manganese (Mn)-Dissolved	mg/L	0.0005	-	1.69	1.71
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.00158	0.00156
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.00304	0.00303
Potassium (K)-Dissolved	mg/L	0.05	-	4.77	4.56
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.00135	0.00134
Sodium (Na)-Dissolved	mg/L	0.5	-	27.3	26.4
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.000028	0.000026
Uranium (U)-Dissolved	mg/L	0.00001	-	0.00686	0.00695
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0013	0.0013
Acute Lethality[2,3]	N/A		Non-lethal	-	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

Baffinland

TABLE 7.1.9
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-06

Analyte	Sample ID			MP-06	MP-06
	ALS Laboratory Sample ID			L2143845-2	L2162554-1
	Sample Date & Time			8/8/2018 5:40:00 PM	/10/2018 11:30:00 AI
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence Criteria[1]		
Hardness (as CaCO3)	mg/L	10	-	621	341
pH	pH units	0.1	6.0 - 9.5	8.01	8.17
Total Suspended Solids	mg/L	2	15	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	1010	499
Turbidity	NTU	0.1	-	2.07	11
Alkalinity, Total (as CaCO3)	mg/L	10	-	91	126
Ammonia, Total (as N)	mg/L	0.02	-	0.023	0.126
Chloride (Cl)	mg/L	0.5	-	84.4	83.8
Fluoride (F)	mg/L	0.02	-	0.111	0.1
Nitrate (as N)	mg/L	0.02	-	6.3	4.79
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.5	0.63
Phosphorus, Total	mg/L	0.003	-	0.011	0.0036
Sulfate (SO4)	mg/L	0.3	-	536	157
Dissolved Organic Carbon	mg/L	0.5	-	2.67	4.61
Total Organic Carbon	mg/L	0.5	-	3.28	4
Aluminum (Al)-Total	mg/L	0.01	-	0.011	0.051
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00013	0.00017
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	0.5	-	101	74
Copper (Cu)-Total	mg/L	0.001	0.3	0.0011	0.0011
Iron (Fe)-Total	mg/L	0.05	-	<0.050	0.113
Lead (Pb)-Total	mg/L	0.0001	0.2	0.00011	<0.00010
Magnesium (Mg)-Total	mg/L	0.05	-	101	37.7
Manganese (Mn)-Total	mg/L	0.0005	-	0.202	0.151
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.00173	0.00254
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00152	0.00143
Potassium (K)-Total	mg/L	0.05	-	6.43	4.68
Selenium (Se)-Total	mg/L	0.00005	-	0.00152	0.000369
Sodium (Na)-Total	mg/L	0.5	-	40.6	35.8
Thallium (Tl)-Total	mg/L	0.00001	-	0.00002	0.000017
Uranium (U)-Total	mg/L	0.00001	-	0.00749	0.0361
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.0030	<0.0030
Aluminum (Al)-Dissolved	mg/L	0.005	-	<0.0050	0.0087
Arsenic (As)-Dissolved	mg/L	0.0001	-	0.00011	0.00013
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010
Calcium (Ca)-Dissolved	mg/L	0.05	-	102	69.9
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.00073	0.0011
Iron (Fe)-Dissolved	mg/L	0.01	-	<0.010	<0.010
Lead (Pb)-Dissolved	mg/L	0.00005	-	0.000074	<0.000050
Magnesium (Mg)-Dissolved	mg/L	0.05	-	88.7	40.5
Manganese (Mn)-Dissolved	mg/L	0.0005	-	0.172	0.135
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.00172	0.00237
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.00136	0.00111
Potassium (K)-Dissolved	mg/L	0.05	-	5.84	5.16
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.0016	0.000424
Sodium (Na)-Dissolved	mg/L	0.5	-	37.4	38.1
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.000022	0.000014
Uranium (U)-Dissolved	mg/L	0.00001	-	0.00802	0.0342
Zinc (Zn)-Dissolved	mg/L	0.001	-	<0.0010	<0.0010
Acute Lethality[2,3]	N/A		Non-lethal	-	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.9
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-06

Analyte	Sample ID			MP-0601
	ALS Laboratory Sample ID			L2162554-2
	Sample Date & Time			/10/2018 11:30:00 AM
	QA/QC Sample Type			Field Duplicate
	Units	LOR	Water Licence Criteria[1]	
Hardness (as CaCO3)	mg/L	10	-	347
pH	pH units	0.1	6.0 - 9.5	8.18
Total Suspended Solids	mg/L	2	15	<2.0
Total Dissolved Solids	mg/L	13	-	518
Turbidity	NTU	0.1	-	11.3
Alkalinity, Total (as CaCO3)	mg/L	10	-	128
Ammonia, Total (as N)	mg/L	0.02	-	0.135
Chloride (Cl)	mg/L	0.5	-	83.8
Fluoride (F)	mg/L	0.02	-	0.104
Nitrate (as N)	mg/L	0.02	-	4.79
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.62
Phosphorus, Total	mg/L	0.003	-	0.0052
Sulfate (SO4)	mg/L	0.3	-	157
Dissolved Organic Carbon	mg/L	0.5	-	4.7
Total Organic Carbon	mg/L	0.5	-	3.95
Aluminum (Al)-Total	mg/L	0.01	-	0.055
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00016
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010
Calcium (Ca)-Total	mg/L	0.5	-	68.9
Copper (Cu)-Total	mg/L	0.001	0.3	0.0011
Iron (Fe)-Total	mg/L	0.05	-	0.12
Lead (Pb)-Total	mg/L	0.0001	0.2	<0.00010
Magnesium (Mg)-Total	mg/L	0.05	-	36.8
Manganese (Mn)-Total	mg/L	0.0005	-	0.149
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.00245
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00137
Potassium (K)-Total	mg/L	0.05	-	4.62
Selenium (Se)-Total	mg/L	0.00005	-	0.000357
Sodium (Na)-Total	mg/L	0.5	-	35.7
Thallium (Tl)-Total	mg/L	0.00001	-	0.000019
Uranium (U)-Total	mg/L	0.00001	-	0.0354
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.0030
Aluminum (Al)-Dissolved	mg/L	0.005	-	0.0072
Arsenic (As)-Dissolved	mg/L	0.0001	-	0.00014
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	<0.000010
Calcium (Ca)-Dissolved	mg/L	0.05	-	71.8
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.00101
Iron (Fe)-Dissolved	mg/L	0.01	-	<0.010
Lead (Pb)-Dissolved	mg/L	0.00005	-	<0.000050
Magnesium (Mg)-Dissolved	mg/L	0.05	-	40.7
Manganese (Mn)-Dissolved	mg/L	0.0005	-	0.135
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.00248
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.00114
Potassium (K)-Dissolved	mg/L	0.05	-	5.13
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.00038
Sodium (Na)-Dissolved	mg/L	0.5	-	37.8
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.000013
Uranium (U)-Dissolved	mg/L	0.00001	-	0.034
Zinc (Zn)-Dissolved	mg/L	0.001	-	<0.0010
Acute Lethality[2,3]	N/A		Non-lethal	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.10
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-Q1-01

Analyte	Sample ID			MP-Q1-01	MP-Q1-01	MP-Q1-0102	MP-Q1-01
	ALS Laboratory Sample ID			L2107359-4	L2117043-1	L2117043-2	L2120589-2
	Sample Date & Time			6/4/2018 7:15:00 AM	6/19/2018 7:10:00 PM	6/19/2018 7:10:00 PM	6/25/2018 8:50:00 AM
	QA/QC Sample Type			N/A	N/A	Field Blank	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	238	160	<3.0	-
pH	pH units	0.1	6.0 - 9.5	8	7.99	6.22	8.05
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	**144**	5.8	<2.0	5.3
Total Dissolved Solids	mg/L	10	-	-	-	-	162
Turbidity	NTU	0.1	-	-	-	-	14.8
Ammonia, Total (as N)	mg/L	0.02	-	0.607	0.419	<0.020	-
Nitrate (as N)	mg/L	0.02	-	4.79	3.09	<0.020	-
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	-
Acute Lethality[3,4]	N/A		Non-Lethal	-	Non-Lethal	-	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.10
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-Q1-01

Analyte	Sample ID			MP-Q1-01	MP-Q1-01	MP-Q1-01	MP-Q1-01
	ALS Laboratory Sample ID			L2123843-9	L2128204-8	L2131995-10	L2137113-9
	Sample Date & Time			7/3/2018 9:10:00 AM	7/10/2018 8:30:00 AM	7/17/2018 9:30:00 AM	7/23/2018 2:30:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	262	-	255	-
pH	pH units	0.1	6.0 - 9.5	8.1	7.99	8.03	8.13
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	<2.0	5.2	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	196	-	159
Turbidity	NTU	0.1	-	-	7.87	-	0.96
Ammonia, Total (as N)	mg/L	0.02	-	0.596	-	0.22	-
Nitrate (as N)	mg/L	0.02	-	6.69	-	4.25	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-
Acute Lethality[3,4]	N/A		Non-Lethal	Non-lethal	-	-	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1]Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.10
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-Q1-01

Analyte	Sample ID			MP-Q1-0101	MP-Q1-01	MP-Q1-01	MP-Q1-01
	ALS Laboratory Sample ID			L2137113-3	L2141875-9	L2143614-9	L2148774-2
	Sample Date & Time			7/23/2018 2:30:00 PM	7/30/2018 11:05:00 AM	8/7/2018 6:35:00 PM	8/14/2018 10:20:00 AM
	QA/QC Sample Type			Field Duplicate	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	-	266	279	-
pH	pH units	0.1	6.0 - 9.5	8.09	8.05	8.05	8.02
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	<2.0	<2.0	5.3	2.4
Total Dissolved Solids	mg/L	10	-	151	183	176	200
Turbidity	NTU	0.1	-	0.87	1.18	5.67	0.89
Ammonia, Total (as N)	mg/L	0.02	-	-	0.13	0.299	-
Nitrate (as N)	mg/L	0.02	-	-	2.79	3.11	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	No Visible Sheen	-
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	Non-lethal	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.10
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-Q1-01

Analyte	Sample ID			MP-Q1-01	MP-Q1-01	MP-Q1-01	MP-Q1-01
	ALS Laboratory Sample ID			L2152813-8	L2157679-5	L2160216-8	L2164348-8
	Sample Date & Time			8/21/2018 6:45:00 PM	8/27/2018 9:10:00 AM	9/4/2018 7:00:00 PM	9/10/2018 1:10:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	264	-	322	-
pH	pH units	0.1	6.0 - 9.5	8.2	8.18	8.21	8.12
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	159	191	176	187
Turbidity	NTU	0.1	-	1.54	0.92	1.03	1.03
Ammonia, Total (as N)	mg/L	0.02	-	0.136	-	0.022	-
Nitrate (as N)	mg/L	0.02	-	2.37	-	2.46	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	Non-lethal	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1]Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.10
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-Q1-01

Analyte	Sample ID			MP-Q1-0102
	ALS Laboratory Sample ID			L2164348-10
	Sample Date & Time			9/10/2018 1:10:00 PM
	QA/QC Sample Type			Field Blank
	Units	LOR	Water Licence Criteria[1]	
Conductivity	umhos/cm	3	-	-
pH	pH units	0.1	6.0 - 9.5	6
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	<2.0
Total Dissolved Solids	mg/L	10	-	<10
Turbidity	NTU	0.1	-	0.12
Ammonia, Total (as N)	mg/L	0.02	-	-
Nitrate (as N)	mg/L	0.02	-	-
Oil and Grease, Total	mg/L	2	-	-
	-	-	No Visible Sheen	-
Acute Lethality[3,4]	N/A		Non-Lethal	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.11
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-Q1-02

Analyte	Sample ID			MP-Q1-02	MP-Q1-02	MP-Q1-02	MP-Q1-02
	ALS Laboratory Sample ID			L2108622-1	L2120296-1	L2123843-2	L2128381-1
	Sample Date & Time			6/6/2018 7:50:00 AM	6/26/2018 7:35:00 PM	7/2/2018 8:40:00 AM	7/11/2018 11:15:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	447	430	-	487
pH	pH units	0.1	6.0 - 9.5	8.02	7.99	7.94	8.05
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	**86.1**	16.1	7	5.7
Total Dissolved Solids	mg/L	10	-	-	-	296	-
Turbidity	NTU	0.1	-	-	-	13	-
Ammonia, Total (as N)	mg/L	0.02	-	1.77	2.91	-	3.78
Nitrate (as N)	mg/L	0.02	-	5.63	21.4	-	24.9
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	-	No Visible Sheen
Acute Lethality[3,4]	N/A		Non-Lethal	-	Non-Lethal	-	Non-lethal

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria

[1]Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

Baffinland

TABLE 7.1.11
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-Q1-02

Analyte	Sample ID			MP-Q1-02	MP-Q1-0201	MP-Q1-02	MP-Q1-02
	ALS Laboratory Sample ID			L2131995-2	L2131995-3	L2137113-2	L2141875-2
	Sample Date & Time			7/17/2018 9:15:00 AM	7/17/2018 9:15:00 AM	7/23/2018 2:15:00 PM	7/30/2018 10:50:00 AM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	-	-	554	-
pH	pH units	0.1	6.0 - 9.5	7.95	7.97	8.04	7.92
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0	3.6
Total Dissolved Solids	mg/L	10	-	393	394	-	471
Turbidity	NTU	0.1	-	1.89	1.37	-	2.68
Ammonia, Total (as N)	mg/L	0.02	-	-	-	2.44	-
Nitrate (as N)	mg/L	0.02	-	-	-	31.6	-
Oil and Grease, Total	mg/L	2	-	-	-	<2.0	-
	-	-	No Visible Sheen	-	-	No Visible Sheen	-
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria

[1]Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.11
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-Q1-02

Analyte	Sample ID			MP-Q1-02	MP-Q1-02	MP-Q1-02	MP-Q1-02
	ALS Laboratory Sample ID			L2143614-2	L2148774-9	L2152813-9	L2157679-3
	Sample Date & Time			8/7/2018 1:40:00 PM	8/14/2018 10:19:00 AM	8/21/2018 6:50:00 PM	8/27/2018 9:05:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	720	-	762	-
pH	pH units	0.1	6.0 - 9.5	7.92	7.88	8.07	7.99
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	<2.0	<2.0	4.8	<2.0
Total Dissolved Solids	mg/L	10	-	458	548	597	548
Turbidity	NTU	0.1	-	3.85	0.59	4.95	0.67
Ammonia, Total (as N)	mg/L	0.02	-	4	-	4.09	-
Nitrate (as N)	mg/L	0.02	-	36.7	-	15.6	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria

[1]Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.11
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-Q1-02

Analyte	Sample ID			MP-Q1-0201	MP-Q1-02	MP-Q1-02
	ALS Laboratory Sample ID			L2157679-4	L2160216-9	L2164348-9
	Sample Date & Time			8/27/2018 9:05:00 AM	9/4/2018 7:15:00 PM	9/10/2018 12:50:00 PM
	QA/QC Sample Type			Field Duplicate	N/A	N/A
	Units	LOR	Water Licence Criteria[1]			
Conductivity	umhos/cm	3	-	-	853	-
pH	pH units	0.1	6.0 - 9.5	8.01	8.03	7.96
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	<2.0	<2.0	4.2
Total Dissolved Solids	mg/L	10	-	543	635	636
Turbidity	NTU	0.1	-	0.96	3.95	4.13
Ammonia, Total (as N)	mg/L	0.02	-	-	2.34	-
Nitrate (as N)	mg/L	0.02	-	-	55	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	-
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1]Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for June exceeded maximum average TSS concentration discharge limits

[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.12
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-01

Analyte	Sample ID			MS-01	MS-0101	MS-01	MS-01
	ALS Laboratory Sample ID			L2043727-1	L2043727-3	L2049097-1	L2049095-1
	Sample Date & Time			1/9/2018 3:15:00 PM	1/9/2018 3:15:00 PM	1/21/2018 12:00:00 AM	1/23/2018 12:00:00 AM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
pH	pH units	0.1	6.0 - 9.5	7.5	7.37	-	7.39
Total Suspended Solids	mg/L	2	35	**45.3**	<2.0	<2.0	3.1
Alkalinity, Total (as CaCO3)	mg/L	10	-	64	62	-	83
Ammonia, Total (as N)	mg/L	0.02	4	0.147	0.162	-	0.118
Total Kjeldahl Nitrogen	mg/L	0.15	-	4.35	8	-	4
Phosphorus, Total	mg/L	0.003	4	**4.29**	**4.28**	0.907	0.998
Fecal Coliforms	CFU/100mL	0	1,000	230	150	-	19
BOD	mg/L	2	30	3.8	<2.0	-	<2.0
COD	mg/L	10	-	74	87	-	50
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	-	No Visible Sheen
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.12
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-01

Analyte	Sample ID			MS-01	MS-01	MS-01	MS-01
	ALS Laboratory Sample ID			L2054390-1	L2070900-1	L2076007-1	L2088449-1
	Sample Date & Time			2/6/2018 3:00:00 PM	3/20/2018 3:00:00 PM	4/3/2018 3:00:00 PM	5/1/2018 3:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
pH	pH units	0.1	6.0 - 9.5	7.72	7.75	7.61	7.59
Total Suspended Solids	mg/L	2	35	<2.0	<2.0	<2.0	2.2
Alkalinity, Total (as CaCO3)	mg/L	10	-	124	84	93	74
Ammonia, Total (as N)	mg/L	0.02	4	0.623	0.397	0.424	1.16
Total Kjeldahl Nitrogen	mg/L	0.15	-	5.55	1.9	3.11	4.12
Phosphorus, Total	mg/L	0.003	4	0.743	1.3	1.68	0.853
Fecal Coliforms	CFU/100mL	0	1,000	1	6	106	1
BOD	mg/L	2	30	<2.0	<2.0	2.1	2.6
COD	mg/L	10	-	52	22	38	37
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.12
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-01

Analyte	Sample ID			MS-01	MS-01	MS-01	MS-01
	ALS Laboratory Sample ID			L2107707-1	L2124925-1	L2152761-1	L2168407-1
	Sample Date & Time			6/5/2018 3:00:00 PM	7/4/2018 2:40:00 PM	8/22/2018 3:00:00 PM	9/19/2018 3:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
pH	pH units	0.1	6.0 - 9.5	7.62	7.62	7.79	7.89
Total Suspended Solids	mg/L	2	35	2.1	<2.0	<2.0	2.9
Alkalinity, Total (as CaCO3)	mg/L	10	-	103	89	80	94
Ammonia, Total (as N)	mg/L	0.02	4	1.6	1.24	0.083	0.141
Total Kjeldahl Nitrogen	mg/L	0.15	-	3.81	2.92	3.27	0.83
Phosphorus, Total	mg/L	0.003	4	1.13	1.28	1.13	0.564
Fecal Coliforms	CFU/100mL	0	1,000	24	9	78	45
BOD	mg/L	2	30	2.4	2.3	<2.0	<2.0
COD	mg/L	10	-	38	36	49	50
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	-	Non-lethal

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.12
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-01

Analyte	Sample ID			MS-01	MS-0103	MS-01	MS-0103
	ALS Laboratory Sample ID			L2178004-1	L2178004-3	L2194082-1	L2194082-3
	Sample Date & Time			10/02/2018 2:45:00 PM	10/02/2018 2:45:00 PM	11/6/2018 2:45:00 PM	11/6/2018 2:45:00 PM
	QA/QC Sample Type			N/A	Travel Blank	N/A	Travel Blank
	Units	LOR	Water Licence Criteria[1]				
pH	pH units	0.1	6.0 - 9.5	7.51	6.4	7.55	5.92
Total Suspended Solids	mg/L	2	35	<2.0	<2.0	2.7	<2.0
Alkalinity, Total (as CaCO3)	mg/L	10	-	77	<10	86	<10
Ammonia, Total (as N)	mg/L	0.02	4	0.23	0.069	0.055	<0.020
Total Kjeldahl Nitrogen	mg/L	0.15	-	1.92	<0.15	1.76	<0.15
Phosphorus, Total	mg/L	0.003	4	0.395	0.0099	0.762	<0.0030
Fecal Coliforms	CFU/100mL	0	1,000	1000	0	0	0
BOD	mg/L	2	30	2.2	<2.0	<2.0	<2.0
COD	mg/L	10	-	46	20	37	<10
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.12
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-01

Analyte	Sample ID			MS-01	MS-0101
	ALS Laboratory Sample ID			L2210728-1	L2210728-3
	Sample Date & Time			12/12/2018 3:00:00 PM	12/12/2018 3:00:00 PM
	QA/QC Sample Type			N/A	Field Duplicate
	Units	LOR	Water Licence Criteria[1]		
pH	pH units	0.1	6.0 - 9.5	7.42	7.45
Total Suspended Solids	mg/L	2	35	14.3	13.1
Alkalinity, Total (as CaCO3)	mg/L	10	-	78	79
Ammonia, Total (as N)	mg/L	0.02	4	0.113	0.086
Total Kjeldahl Nitrogen	mg/L	0.15	-	3.7	4.6
Phosphorus, Total	mg/L	0.003	4	1.2	1.19
Fecal Coliforms	CFU/100mL	0	1,000	670	630
BOD	mg/L	2	30	3.2	2.7
COD	mg/L	10	-	41	40
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Lethality[3,4]	N/A		Non-Lethal	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.13
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-01B

Analyte	Sample ID			MS-01B	MS-01B	MS-01B	MS-01B
	ALS Laboratory Sample ID			L2092874-1	L2107710-1	L2124920-1	L2152764-1
	Sample Date & Time			5/9/2018 2:30:00 PM	6/5/2018 2:35:00 PM	7/4/2018 2:30:00 PM	8/22/2018 2:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
pH	pH units	0.1	6.0 - 9.5	7.74	7.54	7.41	7.41
Total Suspended Solids	mg/L	2	35	<2.0	6.7	<2.0	<2.0
Alkalinity, Total (as CaCO3)	mg/L	10	-	47	43	28	23
Ammonia, Total (as N)	mg/L	0.02	4	<0.020	0.137	0.059	0.126
Total Kjeldahl Nitrogen	mg/L	0.15	-	1.58	0.35	0.87	1.52
Phosphorus, Total	mg/L	0.003	4	1.65	2.87	0.0481	0.476
Fecal Coliforms	CFU/100mL	0	1,000	0	0	0	0
BOD	mg/L	2	30	<2.0	<2.0	<2.0	<2.0
COD	mg/L	10	-	25	29	21	30
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Lethality[3,4]	N/A		Non-Lethal	Non-lethal	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.13
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-01B

Analyte	Sample ID			MS-01B	MS-01B	MS-01B	MS-01B
	ALS Laboratory Sample ID			L2168455-1	L2178028-1	L2200739-1	L2210721-1
	Sample Date & Time			9/19/2018 2:15:00 PM	10/2/2018 2:45:00 PM	11/20/2018 2:45:00 PM	12/12/2018 2:45:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
pH	pH units	0.1	6.0 - 9.5	7.71	7.5	7.63	7.21
Total Suspended Solids	mg/L	2	35	<2.0	<2.0	4.8	<2.0
Alkalinity, Total (as CaCO3)	mg/L	10	-	50	51	71	62
Ammonia, Total (as N)	mg/L	0.02	4	<0.020	0.102	0.082	0.479
Total Kjeldahl Nitrogen	mg/L	0.15	-	1.59	1.62	1.45	2.04
Phosphorus, Total	mg/L	0.003	4	1.49	1.42	1.57	1.41
Fecal Coliforms	CFU/100mL	0	1,000	0	1	2	0
BOD	mg/L	2	30	<2.0	<2.0	3.4	<2.0
COD	mg/L	10	-	35	31	29	21
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.14
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-MRY-6

Analyte	Sample ID			MS-MRY-6-20	MS-MRY-6	MS-MRY-6
	ALS Laboratory Sample ID			L2107678-3	L2161343-1	L2160167-1
	Sample Date & Time			6/5/2018 7:45:00 PM	8/25/2018 11:50:00 AM	9/4/2018 12:25:00 PM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]			
pH	pH units	0.1	-	6.44	8.28	7.73
Total Suspended Solids	mg/L	2	-	14	12.2	13.4
Total Dissolved Solids	mg/L	20	-	-	137	857
Turbidity	NTU	0.1	-	-	5.11	16.8
Lead (Pb)-Total	mg/L	0.0001	0.001	<0.00050	0.00036	**0.00127**
Oil and Grease, Total	mg/L	2	15	<2.0	<2.0	6.9
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen
Benzene	ug/L	0.5	370	<0.50	<0.50	0.94
Ethylbenzene	ug/L	0.5	90	<0.50	<0.50	<0.50
Toluene	ug/L	0.5	2	<0.50	<0.50	0.85
o-Xylene	ug/L	0.5	-	<0.50	<0.50	0.61
m+p-Xylenes	ug/L	1	-	<1.0	<0.50	<1.0
Xylenes (Total)	ug/L	1.1	-	<1.1	<1.1	<1.1
4-Bromofluorobenzene	%	Surrogate	-	102	89	99.1
1,4-Difluorobenzene	%	Surrogate	-	102.3	95.6	96.4
F1 (C6-C10)	ug/L	100	-	<100	<100	<100
F1-BTEX	ug/L	100	-	<100	<100	<100
F2 (C10-C16)	ug/L	100	-	<100	<100	210
F3 (C16-C34)	ug/L	250	-	490	<250	510
F4 (C34-C50)	ug/L	250	-	<250	<250	<250
Total Hydrocarbons (C6-C50)	ug/L	380	-	490	<380	720
Chrom. to baseline at nC50		n/a	-	YES	YES	YES
2-Bromobenzotrifluoride	%	Surrogate	-	93.9	88	98.7
3,4-Dichlorotoluene	%	Surrogate	-	99.3	92.5	101.6

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1]Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 8

TABLE 7.1.15
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-06

Analyte	Sample ID			MS-06	MS-06	MS-06	MS-06	MS-06
	ALS Laboratory Sample ID			L2113176-4	L2117069-1	L2118828-1	L2121631-1	L2122094-2
	Sample Date & Time			6/13/2018 2:55:00 PM	6/19/2018 12:00:00 PM	6/24/2018 5:30:00 PM	6/29/2018 10:00:00 AM	7/2/2018 12:20:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MDMER Criteria[1]					
Conductivity	umhos/cm	3	-	-	836	943	1000	1050
Hardness (as CaCO3)	mg/L	10	-	385	430	463	-	-
pH	pH units	0.1	6.0 - 9.5	7.65	7.61	7.52	7.61	7.68
Total Suspended Solids	mg/L	2	15	5.5	2.7	7.6	<2.0	2.8
Total Dissolved Solids	mg/L	13	-	518	648	700	760	763
Turbidity	NTU	0.1	-	15.8	-	-	8.66	17.9
Acidity (as CaCO3)	mg/L	2	-	-	2.8	3.2	<0.0020	<0.0020
Alkalinity, Total (as CaCO3)	mg/L	10	-	31	31	33	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.308	0.444	0.44	-	-
Chloride (Cl)	mg/L	0.5	-	12.8	15.3	16.7	-	-
Fluoride (F)	mg/L	0.02	-	0.035	0.042	0.044	-	-
Nitrate (as N)	mg/L	0.02	-	4.06	4.66	4.88	-	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.61	0.81	0.88	-	-
Phosphorus, Total	mg/L	0.003	-	<0.030	<0.0030	<0.015	-	-
Sulfate (SO4)	mg/L	0.3	-	314	387	426	-	-
Cyanide, Total	mg/L	0.002	1	<0.0020	<0.0020	<0.0020	-	-
Dissolved Organic Carbon	mg/L	0.5	-	1.7	1.5	2.2	-	-
Total Organic Carbon	mg/L	0.5	-	1.5	1.7	1.8	-	-
Aluminum (Al)-Total	mg/L	0.005	-	0.154	0.0628	0.0389	0.0274	0.0497
Antimony (Sb)-Total	mg/L	0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00013	0.00012	0.00011	0.00011	0.00013
Barium (Ba)-Total	mg/L	0.0002	-	-	0.0106	0.0121	0.0125	0.0135
Beryllium (Be)-Total	mg/L	0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	0.00005	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Total	mg/L	0.01	-	-	0.025	0.032	0.03	0.029
Cadmium (Cd)-Total	mg/L	0.00001	-	0.000027	0.000042	0.0000442	0.0000406	0.000041
Calcium (Ca)-Total	mg/L	0.5	-	26.5	34.7	44.8	44.5	47.1
Cesium (Cs)-Total	mg/L	0.00001	-	-	0.000012	0.000013	0.000014	0.000017
Chromium (Cr)-Total	mg/L	0.0005	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt (Co)-Total	mg/L	0.0001	-	-	0.00601	0.00603	0.00514	0.00528
Copper (Cu)-Total	mg/L	0.001	0.3	0.0012	<0.0010	0.0015	<0.0010	<0.0010
Iron (Fe)-Total	mg/L	0.05	-	0.509	0.206	0.127	0.066	0.175
Lead (Pb)-Total	mg/L	0.00005	0.2	0.00028	0.000138	0.00012	0.00007	0.000089
Lithium (Li)-Total	mg/L	0.001	-	-	0.015	0.0181	0.0186	0.0185
Magnesium (Mg)-Total	mg/L	0.05	-	70.2	82.1	98.2	94	96.7
Manganese (Mn)-Total	mg/L	0.0005	-	1.11	1.41	1.58	1.52	1.58
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	<0.000010	<0.000010	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000501	0.000669	0.000789	0.000916	0.000952
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00976	0.00891	0.00939	0.00881	0.00899
Phosphorus (P)-Total	mg/L	0.05	-	-	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Total	mg/L	0.05	-	8.51	9.77	10.7	10.9	11
Rubidium (Rb)-Total	mg/L	0.0002	-	-	0.00504	0.00549	0.00625	0.00686
Selenium (Se)-Total	mg/L	0.00005	-	0.000899	0.00103	0.0011	0.00121	0.00125
Silicon (Si)-Total	mg/L	0.1	-	-	0.45	0.49	0.45	0.43
Silver (Ag)-Total	mg/L	0.00005	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	mg/L	0.5	-	5.39	6.22	7.05	7.03	6.96
Strontium (Sr)-Total	mg/L	0.001	-	-	0.0571	0.063	0.0724	0.0722
Sulfur (S)-Total	mg/L	0.5	-	-	136	168	162	164
Tellurium (Te)-Total	mg/L	0.0002	-	-	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	0.00001	-	0.00002	0.000023	0.000029	0.000029	0.000031
Thorium (Th)-Total	mg/L	0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	mg/L	0.0003	-	-	<0.00080	<0.00040	<0.00055	<0.0007
Tungsten (W)-Total	mg/L	0.0001	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	0.00001	-	0.00191	0.0019	0.00199	0.0018	0.00161
Vanadium (V)-Total	mg/L	0.0005	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	mg/L	0.003	0.5	0.0035	0.0089	0.0103	0.0053	0.0061
Zirconium (Zr)-Total	mg/L	0.0003	-	-	<0.00030	<0.00030	<0.00030	<0.00030
Aluminum (Al)-Dissolved	mg/L	0.005	-	<0.0050	<0.0050	<0.0050	-	-
Antimony (Sb)-Dissolved	mg/L	0.0001	-	-	<0.00010	<0.00010	-	-
Arsenic (As)-Dissolved	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010	-	-
Barium (Ba)-Dissolved	mg/L	0.0001	-	-	0.0103	0.0112	-	-
Beryllium (Be)-Dissolved	mg/L	0.0001	-	-	<0.00010	<0.00010	-	-
Bismuth (Bi)-Dissolved	mg/L	0.00005	-	-	<0.000050	<0.000050	-	-
Boron (B)-Dissolved	mg/L	0.01	-	-	0.024	0.028	-	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	0.000025	0.0000334	0.0000418	-	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	28.6	33.6	40.6	-	-
Cesium (Cs)-Dissolved	mg/L	0.00001	-	-	0.000012	0.000012	-	-
Chromium (Cr)-Dissolved	mg/L	0.0005	-	-	<0.00050	<0.00050	-	-
Cobalt (Co)-Dissolved	mg/L	0.0001	-	-	0.00567	0.00529	-	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.00054	0.00047	0.0005	-	-
Iron (Fe)-Dissolved	mg/L	0.01	-	<0.010	<0.010	<0.010	-	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	0.000077	<0.000050	<0.000050	-	-
Lithium (Li)-Dissolved	mg/L	0.001	-	-	0.0151	0.0173	-	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	76.1	84.1	87.8	-	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	1.14	1.4	1.45	-	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010	<0.000010	-	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.000483	0.000654	0.0008	-	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.0094	0.00859	0.00845	-	-
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	<0.050	<0.050	-	-
Potassium (K)-Dissolved	mg/L	0.05	-	9.2	10.2	10.4	-	-
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	0.00507	0.00578	-	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.000908	0.00101	0.00116	-	-
Silicon (Si)-Dissolved	mg/L	0.05	-	-	0.365	0.387	-	-
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	<0.000050	<0.000050	-	-
Sodium (Na)-Dissolved	mg/L	0.5	-	5.53	6.42	6.26	-	-
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	0.0559	0.0655	-	-
Sulfur (S)-Dissolved	mg/L	0.5	-	-	142	157	-	-
Tellurium (Te)-Dissolved	mg/L	0.0002	-	-	<0.00020	<0.00020	-	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.000018	0.000023	0.000032	-	-
Thorium (Th)-Dissolved	mg/L	0.0001	-	-	<0.00010	<0.00010	-	-
Tin (Sn)-Dissolved	mg/L	0.0001	-	-	<0.00010	<0.00010	-	-
Titanium (Ti)-Dissolved	mg/L	0.0003	-	-	<0.00030	<0.00030	-	-
Tungsten (W)-Dissolved	mg/L	0.0001	-	-	<0.00010	<0.00010	-	-
Uranium (U)-Dissolved	mg/L	0.00001	-	0.00152	0.00174	0.00192	-	-
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	<0.00050	<0.00050	-	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0033	0.0085	0.0091	-	-
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	0.0033	<0.00030	<0.00030	-	-
Ra-226	Bq/L	0.0038	0.37	0.017	0.012	<0.0075	<0.0091	0.016
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	Non-lethal	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1]Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

Baffinland

TABLE 7.1.15
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-06

Analyte	Sample ID			MS-06	MS-0601	MS-06	MS-06	MS-06
	ALS Laboratory Sample ID			L2127561-1	L2127561-2	L2130188-1	L2132032-2	L2136756-1
	Sample Date & Time			7/11/2018 3:10:00 PM	7/11/2018 3:10:00 PM	7/16/2018 3:15:00 PM	7/18/2018 2:10:00 PM	7/26/2018 11:30:00 AM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Water Licence and MDMER Criteria[1]					
Conductivity	umhos/cm	3	-	1040	5460	1130	1140	1160
Hardness (as CaCO3)	mg/L	10	-	-	-	-	-	644
pH	pH units	0.1	6.0 - 9.5	7.78	7.77	7.56	7.76	7.55
Total Suspended Solids	mg/L	2	15	4	4.4	9.6	2.8	2
Total Dissolved Solids	mg/L	13	-	814	832	900	919	895
Turbidity	NTU	0.1	-	13.2	13.5	8.03	5.54	-
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	2.5
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	-	-	-	41
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-	0.159	0.042
Chloride (Cl)	mg/L	0.5	-	-	-	-	-	21.5
Fluoride (F)	mg/L	0.02	-	-	-	-	-	0.06
Nitrate (as N)	mg/L	0.02	-	-	-	-	-	6.17
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	-	-	-	<0.15
Phosphorus, Total	mg/L	0.003	-	-	-	-	-	1.74
Sulfate (SO4)	mg/L	0.3	-	-	-	-	-	572
Cyanide, Total	mg/L	0.002	1	<0.0020	<0.0020	<0.20	<0.0020	<0.0020
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	1.6	1.21
Total Organic Carbon	mg/L	0.5	-	-	-	-	1.4	1.31
Aluminum (Al)-Total	mg/L	0.005	-	0.051	0.0468	0.02	0.0162	<0.050
Antimony (Sb)-Total	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.0010
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00014	0.00014	<0.00010	<0.00010	<0.0010
Barium (Ba)-Total	mg/L	0.0002	-	0.0132	0.0132	0.0149	0.0145	0.0162
Beryllium (Be)-Total	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.0010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.00050
Boron (B)-Total	mg/L	0.01	-	0.032	0.032	0.034	0.034	<0.10
Cadmium (Cd)-Total	mg/L	0.00001	-	0.000035	0.0000409	0.0000456	0.0000439	<0.000050
Calcium (Ca)-Total	mg/L	0.5	-	51.4	50.1	57.8	60.3	60.6
Cesium (Cs)-Total	mg/L	0.00001	-	0.000015	0.000013	0.000012	0.000012	<0.00010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.0050
Cobalt (Co)-Total	mg/L	0.0001	-	0.00453	0.00455	0.00556	0.00524	0.0037
Copper (Cu)-Total	mg/L	0.001	0.3	<0.0010	<0.0010	<0.0010	<0.0010	<0.010
Iron (Fe)-Total	mg/L	0.05	-	0.159	0.15	0.072	0.061	0.11
Lead (Pb)-Total	mg/L	0.00005	0.2	0.000055	0.000061	0.000059	0.000079	<0.00050
Lithium (Li)-Total	mg/L	0.001	-	0.0196	0.0189	0.0214	0.0201	0.022
Magnesium (Mg)-Total	mg/L	0.05	-	108	106	113	116	120
Manganese (Mn)-Total	mg/L	0.0005	-	1.71	1.74	1.95	1.97	1.6
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-	-	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000875	0.000937	0.000967	0.000993	0.00082
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00789	0.00783	0.00879	0.00842	0.007
Phosphorus (P)-Total	mg/L	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.50
Potassium (K)-Total	mg/L	0.05	-	11.1	10.8	11	11.3	12
Rubidium (Rb)-Total	mg/L	0.0002	-	0.00792	0.00786	0.00888	0.00915	0.0105
Selenium (Se)-Total	mg/L	0.00005	-	0.0012	0.0012	0.00142	0.00132	0.00126
Silicon (Si)-Total	mg/L	0.1	-	0.37	0.37	0.29	0.26	<1.0
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.00050
Sodium (Na)-Total	mg/L	0.5	-	7.36	7.22	7.16	7.24	7.69
Strontium (Sr)-Total	mg/L	0.001	-	0.0742	0.0764	0.0869	0.0894	0.087
Sulfur (S)-Total	mg/L	0.5	-	199	201	192	190	207
Tellurium (Te)-Total	mg/L	0.0002	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.0020
Thallium (Tl)-Total	mg/L	0.00001	-	0.00003	0.000032	0.000034	0.000032	<0.00010
Thorium (Th)-Total	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.0010
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.0010
Titanium (Ti)-Total	mg/L	0.0003	-	0.00045	0.00058	<0.00040	<0.00030	<0.0030
Tungsten (W)-Total	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.0010
Uranium (U)-Total	mg/L	0.00001	-	0.00158	0.00163	0.00157	0.00153	0.0013
Vanadium (V)-Total	mg/L	0.0005	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.0050
Zinc (Zn)-Total	mg/L	0.003	0.5	0.0039	0.004	0.0084	0.0072	<0.030
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.00030	<0.00030	<0.00030	<0.00030	<0.0030
Aluminum (Al)-Dissolved	mg/L	0.005	-	-	-	-	-	<0.050
Antimony (Sb)-Dissolved	mg/L	0.0001	-	-	-	-	-	<0.0010
Arsenic (As)-Dissolved	mg/L	0.0001	-	-	-	-	-	<0.0010
Barium (Ba)-Dissolved	mg/L	0.0001	-	-	-	-	-	0.0159
Beryllium (Be)-Dissolved	mg/L	0.0001	-	-	-	-	-	<0.0010
Bismuth (Bi)-Dissolved	mg/L	0.00005	-	-	-	-	-	<0.00050
Boron (B)-Dissolved	mg/L	0.01	-	-	-	-	-	<0.10
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	-	-	-	<0.000050
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	-	-	-	58.9
Cesium (Cs)-Dissolved	mg/L	0.00001	-	-	-	-	-	<0.00010
Chromium (Cr)-Dissolved	mg/L	0.0005	-	-	-	-	-	<0.0050
Cobalt (Co)-Dissolved	mg/L	0.0001	-	-	-	-	-	0.0035
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	-	-	-	<0.0020
Iron (Fe)-Dissolved	mg/L	0.01	-	-	-	-	-	<0.10
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	-	-	-	<0.00050
Lithium (Li)-Dissolved	mg/L	0.001	-	-	-	-	-	0.019
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	-	-	-	121
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	-	-	-	1.54
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	-	-	-	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	-	-	-	0.00089
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	-	-	-	0.0072
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	-	-	-	<0.50
Potassium (K)-Dissolved	mg/L	0.05	-	-	-	-	-	12
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	-	-	-	0.0108
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	-	-	-	0.00116
Silicon (Si)-Dissolved	mg/L	0.05	-	-	-	-	-	<0.50
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	-	-	-	<0.00050
Sodium (Na)-Dissolved	mg/L	0.5	-	-	-	-	-	7.71
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	-	-	-	0.084
Sulfur (S)-Dissolved	mg/L	0.5	-	-	-	-	-	205
Tellurium (Te)-Dissolved	mg/L	0.0002	-	-	-	-	-	<0.0020
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	-	-	-	<0.00010
Thorium (Th)-Dissolved	mg/L	0.0001	-	-	-	-	-	<0.0010
Tin (Sn)-Dissolved	mg/L	0.0001	-	-	-	-	-	<0.0010
Titanium (Ti)-Dissolved	mg/L	0.0003	-	-	-	-	-	<0.0030
Tungsten (W)-Dissolved	mg/L	0.0001	-	-	-	-	-	<0.0010
Uranium (U)-Dissolved	mg/L	0.00001	-	-	-	-	-	0.00114
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	-	-	-	<0.0050
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	-	-	-	<0.010
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	-	-	-	-	<0.0030
Ra-226	Bq/L	0.0038	0.37	0.019	0.042	0.05	0.013	0.0065
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	-	-	Non-lethal

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1]Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.15
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-06

Analyte	Sample ID			MS-06	MS-06	MS-06	MS-06
	ALS Laboratory Sample ID			L2139790-1	L2142460-1	L2151324-1	L2154892-3
	Sample Date & Time			8/1/2018 11:55:00 AM	8/7/2018 5:30:00 PM	8/18/2018 5:10:00 PM	8/28/2018 4:25:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MDMER Criteria[1]				
Conductivity	umhos/cm	3	-	1140	921	1120	1060
Hardness (as CaCO3)	mg/L	10	-	-	-	-	574
pH	pH units	0.1	6.0 - 9.5	7.46	7.3	6.84	7.37
Total Suspended Solids	mg/L	2	15	<2.0	2.8	2.4	4
Total Dissolved Solids	mg/L	13	-	645	740	878	900
Turbidity	NTU	0.1	-	4.85	11	9.77	-
Acidity (as CaCO3)	mg/L	2	-	-	-	-	3
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	-	-	24
Ammonia, Total (as N)	mg/L	0.02	-	0.024	<0.020	0.03	0.04
Chloride (Cl)	mg/L	0.5	-	-	-	-	15.3
Fluoride (F)	mg/L	0.02	-	-	-	-	0.044
Nitrate (as N)	mg/L	0.02	-	-	-	-	4.35
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	-	-	<0.15
Phosphorus, Total	mg/L	0.003	-	-	-	-	<0.030
Sulfate (SO4)	mg/L	0.3	-	-	-	-	539
Cyanide, Total	mg/L	0.002	1	<0.020	<0.0020	<0.0020	<0.0020
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	0.85
Total Organic Carbon	mg/L	0.5	-	-	-	-	1.01
Aluminum (Al)-Total	mg/L	0.005	-	0.025	0.0442	0.0171	0.0842
Antimony (Sb)-Total	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00011	0.00011	0.00011	<0.00010
Barium (Ba)-Total	mg/L	0.0002	-	0.0141	0.0133	0.0175	0.017
Beryllium (Be)-Total	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Total	mg/L	0.01	-	0.03	0.024	0.032	0.023
Cadmium (Cd)-Total	mg/L	0.00001	-	0.0000289	0.0000222	0.0000685	0.0000553
Calcium (Ca)-Total	mg/L	0.5	-	54	45.3	59.9	49.7
Cesium (Cs)-Total	mg/L	0.00001	-	0.000014	0.000013	0.000014	0.000016
Chromium (Cr)-Total	mg/L	0.0005	-	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt (Co)-Total	mg/L	0.0001	-	0.00664	0.00448	0.0168	0.00903
Copper (Cu)-Total	mg/L	0.001	0.3	<0.0010	<0.0010	<0.0010	0.0113
Iron (Fe)-Total	mg/L	0.05	-	0.171	0.176	2.09	0.333
Lead (Pb)-Total	mg/L	0.00005	0.2	<0.000050	<0.000050	<0.000050	0.000572
Lithium (Li)-Total	mg/L	0.001	-	0.0199	0.0148	0.019	0.0142
Magnesium (Mg)-Total	mg/L	0.05	-	103	92.9	109	101
Manganese (Mn)-Total	mg/L	0.0005	-	1.44	1.09	1.9	1.62
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000129	0.0002	0.000084	0.000123
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.0118	0.00827	0.0235	0.0168
Phosphorus (P)-Total	mg/L	0.05	-	<0.050	<0.050	<0.050	<0.050
Potassium (K)-Total	mg/L	0.05	-	9.99	8.77	10.3	8.84
Rubidium (Rb)-Total	mg/L	0.0002	-	0.00895	0.00831	0.0108	0.0114
Selenium (Se)-Total	mg/L	0.00005	-	0.00113	0.00105	0.00103	0.00087
Silicon (Si)-Total	mg/L	0.1	-	0.17	0.15	0.13	0.19
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	mg/L	0.5	-	6.24	5.62	6.13	5.02
Strontium (Sr)-Total	mg/L	0.001	-	0.0761	0.0664	0.077	0.0714
Sulfur (S)-Total	mg/L	0.5	-	182	181	221	181
Tellurium (Te)-Total	mg/L	0.0002	-	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	0.00001	-	0.000034	0.000027	0.000038	0.000035
Thorium (Th)-Total	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.00070	<0.00070	<0.00030	<0.0035
Tungsten (W)-Total	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	0.00001	-	0.000451	0.000314	0.000196	0.00013
Vanadium (V)-Total	mg/L	0.0005	-	<0.00050	<0.00050	<0.00050	<0.00050
Zinc (Zn)-Total	mg/L	0.003	0.5	0.0034	<0.0030	0.004	0.0073
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.00030	<0.00030	<0.00030	<0.00030
Aluminum (Al)-Dissolved	mg/L	0.005	-	-	-	-	<0.0050
Antimony (Sb)-Dissolved	mg/L	0.0001	-	-	-	-	<0.00010
Arsenic (As)-Dissolved	mg/L	0.0001	-	-	-	-	<0.00010
Barium (Ba)-Dissolved	mg/L	0.0001	-	-	-	-	0.0163
Beryllium (Be)-Dissolved	mg/L	0.0001	-	-	-	-	<0.00010
Bismuth (Bi)-Dissolved	mg/L	0.00005	-	-	-	-	<0.000050
Boron (B)-Dissolved	mg/L	0.01	-	-	-	-	0.024
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	-	-	0.0000568
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	-	-	54.9
Cesium (Cs)-Dissolved	mg/L	0.00001	-	-	-	-	0.000013
Chromium (Cr)-Dissolved	mg/L	0.0005	-	-	-	-	<0.00050
Cobalt (Co)-Dissolved	mg/L	0.0001	-	-	-	-	0.00867
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	-	-	0.00038
Iron (Fe)-Dissolved	mg/L	0.01	-	-	-	-	0.013
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	-	-	<0.000050
Lithium (Li)-Dissolved	mg/L	0.001	-	-	-	-	0.0156
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	-	-	106
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	-	-	1.54
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	-	-	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	-	-	0.000096
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	-	-	0.0162
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	-	-	<0.050
Potassium (K)-Dissolved	mg/L	0.05	-	-	-	-	9.37
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	-	-	0.0111
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	-	-	0.00088
Silicon (Si)-Dissolved	mg/L	0.05	-	-	-	-	<0.050
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	-	-	<0.000050
Sodium (Na)-Dissolved	mg/L	0.5	-	-	-	-	5.34
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	-	-	0.0705
Sulfur (S)-Dissolved	mg/L	0.5	-	-	-	-	196
Tellurium (Te)-Dissolved	mg/L	0.0002	-	-	-	-	<0.00020
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	-	-	0.000031
Thorium (Th)-Dissolved	mg/L	0.0001	-	-	-	-	<0.00010
Tin (Sn)-Dissolved	mg/L	0.0001	-	-	-	-	<0.00010
Titanium (Ti)-Dissolved	mg/L	0.0003	-	-	-	-	<0.00030
Tungsten (W)-Dissolved	mg/L	0.0001	-	-	-	-	<0.00010
Uranium (U)-Dissolved	mg/L	0.00001	-	-	-	-	0.000091
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	-	-	<0.00050
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	-	-	0.0047
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	-	-	-	<0.00030
Ra-226	Bq/L	0.0038	0.37	0.011	0.0053	0.012	0.011
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	-	Non-lethal

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1]Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.16
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08

Analyte	Sample ID			MS-08	MS-0801	MS-08	MS-08
	ALS Laboratory Sample ID			L2122068-1	L2122068-2	L2122725-1	L2127393-1
	Sample Date & Time			6/30/2018 3:40:00 PM	6/30/2018 3:40:00 PM	7/3/2018 3:15:00 PM	7/11/2018 10:50:00 AM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A
	Units	LOR	Water Licence and MDMER Criteria[1]				
Conductivity	umhos/cm	3	-	3170	3180	3360	3160
Hardness (as CaCO3)	mg/L	10	-	-	-	2520	-
pH	pH units	0.1	6.0 - 9.5	8.89	8.89	8.88	9.16
Total Suspended Solids	mg/L	2	15	6.4	8	3.6	3.6
Total Dissolved Solids	mg/L	13	-	3220	3140	3950	3220
Turbidity	NTU	0.1	-	12.5	12.7	-	6.78
Acidity (as CaCO3)	mg/L	2	-	-	-	2.2	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	-	37	-
Ammonia, Total (as N)	mg/L	0.02	-	-	-	2.9	-
Chloride (Cl)	mg/L	0.5	-	-	-	6.51	-
Fluoride (F)	mg/L	0.02	-	-	-	0.053	-
Nitrate (as N)	mg/L	0.02	-	-	-	6.5	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	-	3.41	-
Phosphorus, Total	mg/L	0.003	-	-	-	<0.030	-
Sulfate (SO4)	mg/L	0.3	-	-	-	2340	-
Cyanide, Total	mg/L	0.002	1	0.0063	0.0063	0.0093	0.0081
Dissolved Organic Carbon	mg/L	0.5	-	-	-	1.6	-
Total Organic Carbon	mg/L	0.5	-	-	-	1.87	-
Aluminum (Al)-Total	mg/L	0.005	-	0.058	<0.050	<0.050	<0.050
Antimony (Sb)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.0010	<0.0010	<0.0010	<0.0010
Barium (Ba)-Total	mg/L	0.0002	-	0.0186	0.0191	0.0183	0.0141
Beryllium (Be)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.00050	<0.00050	<0.00050	<0.00050
Boron (B)-Total	mg/L	0.01	-	<0.10	<0.10	<0.10	<0.10
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000050	<0.000050	<0.000050	<0.000050
Calcium (Ca)-Total	mg/L	0.5	-	223	221	287	196
Cesium (Cs)-Total	mg/L	0.00001	-	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.0050	<0.0050	<0.0050	<0.0050
Cobalt (Co)-Total	mg/L	0.0001	-	0.0119	0.0119	0.0341	0.0083
Copper (Cu)-Total	mg/L	0.001	0.3	<0.010	<0.010	0.011	<0.010
Iron (Fe)-Total	mg/L	0.05	-	2.19	2.15	1.66	0.73
Lead (Pb)-Total	mg/L	0.00005	0.2	<0.00050	<0.00050	<0.00050	<0.00050
Lithium (Li)-Total	mg/L	0.001	-	0.054	0.051	0.067	0.054
Magnesium (Mg)-Total	mg/L	0.05	-	393	391	440	451
Manganese (Mn)-Total	mg/L	0.0005	-	3.21	3.25	5.59	3.7
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	<0.000010	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	<0.00050	<0.00050	<0.00050	<0.00050
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.0153	0.0145	0.039	0.0114
Phosphorus (P)-Total	mg/L	0.05	-	<0.50	<0.50	<0.50	<0.50
Potassium (K)-Total	mg/L	0.05	-	3.86	3.91	4.01	3.57
Rubidium (Rb)-Total	mg/L	0.0002	-	0.0075	0.0073	0.0086	0.0075
Selenium (Se)-Total	mg/L	0.00005	-	0.00336	0.00395	0.0043	0.00403
Silicon (Si)-Total	mg/L	0.1	-	<1.0	<1.0	<1.0	<1.0
Silver (Ag)-Total	mg/L	0.00005	-	<0.00050	<0.00050	<0.00050	<0.00050
Sodium (Na)-Total	mg/L	0.5	-	6.54	6.57	5.43	51.5
Strontium (Sr)-Total	mg/L	0.001	-	0.476	0.471	0.592	0.305
Sulfur (S)-Total	mg/L	0.5	-	705	725	834	800
Tellurium (Te)-Total	mg/L	0.0002	-	<0.0020	<0.0020	<0.0020	<0.0020
Thallium (Tl)-Total	mg/L	0.00001	-	0.00011	<0.00015	0.00015	0.00011
Thorium (Th)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Tin (Sn)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.0030	<0.0030	<0.0030	<0.0030
Tungsten (W)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Uranium (U)-Total	mg/L	0.00001	-	0.00024	0.00025	0.00014	0.00056
Vanadium (V)-Total	mg/L	0.0005	-	<0.0050	<0.0050	<0.0050	<0.0050
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.030	<0.030	<0.030	<0.030
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.0030	<0.0030	<0.0030	<0.0030
Aluminum (Al)-Dissolved	mg/L	0.005	-	-	-	<0.050	-
Antimony (Sb)-Dissolved	mg/L	0.0001	-	-	-	<0.0010	-
Arsenic (As)-Dissolved	mg/L	0.0001	-	-	-	<0.0010	-
Barium (Ba)-Dissolved	mg/L	0.0001	-	-	-	0.0175	-
Beryllium (Be)-Dissolved	mg/L	0.0001	-	-	-	<0.0010	-
Bismuth (Bi)-Dissolved	mg/L	0.00005	-	-	-	<0.00050	-
Boron (B)-Dissolved	mg/L	0.01	-	-	-	<0.10	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	-	<0.000050	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	-	287	-
Cesium (Cs)-Dissolved	mg/L	0.00001	-	-	-	<0.00010	-
Chromium (Cr)-Dissolved	mg/L	0.0005	-	-	-	<0.0050	-
Cobalt (Co)-Dissolved	mg/L	0.0001	-	-	-	0.0258	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	-	0.0087	-
Iron (Fe)-Dissolved	mg/L	0.01	-	-	-	<0.10	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	-	<0.00050	-
Lithium (Li)-Dissolved	mg/L	0.001	-	-	-	0.07	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	-	438	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	-	5.59	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	-	<0.000010	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	-	<0.00050	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	-	0.0307	-
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	-	<0.50	-
Potassium (K)-Dissolved	mg/L	0.05	-	-	-	4.06	-
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	-	0.0085	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	-	0.00391	-
Silicon (Si)-Dissolved	mg/L	0.05	-	-	-	<0.50	-
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	-	<0.00050	-
Sodium (Na)-Dissolved	mg/L	0.5	-	-	-	5.49	-
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	-	0.609	-
Sulfur (S)-Dissolved	mg/L	0.5	-	-	-	857	-
Tellurium (Te)-Dissolved	mg/L	0.0002	-	-	-	<0.0020	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	-	0.00015	-
Thorium (Th)-Dissolved	mg/L	0.0001	-	-	-	<0.0010	-
Tin (Sn)-Dissolved	mg/L	0.0001	-	-	-	<0.0010	-
Titanium (Ti)-Dissolved	mg/L	0.0003	-	-	-	<0.0030	-
Tungsten (W)-Dissolved	mg/L	0.0001	-	-	-	<0.0010	-
Uranium (U)-Dissolved	mg/L	0.00001	-	-	-	<0.00010	-
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	-	<0.0050	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	-	<0.010	-
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	-	-	<0.0030	-
Ra-226	Bq/L	0.0045	0.37	0.048	0.029	0.029	0.021
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	Non-lethal	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.16
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08

Analyte	Sample ID			MS-0801	MS-08	MS-08	MS-0801
	ALS Laboratory Sample ID			L2127393-2	L2130194-1	L2133777-1	L2133777-2
	Sample Date & Time			7/11/2018 10:50:00 AM	7/16/2018 2:30:00 PM	7/21/2018 1:55:00 PM	7/21/2018 1:55:00 PM
	QA/QC Sample Type			Field Duplicate	N/A	N/A	Field Duplicate
	Units	LOR	Water Licence and MDMER Criteria[1]				
Conductivity	umhos/cm	3	-	3210	3410	3420	3430
Hardness (as CaCO3)	mg/L	10	-	-	-	-	-
pH	pH units	0.1	6.0 - 9.5	9.16	8.33	8.53	8.64
Total Suspended Solids	mg/L	2	15	2.4	<2.0	12.4	13.6
Total Dissolved Solids	mg/L	13	-	3260	3740	3860	3860
Turbidity	NTU	0.1	-	5.9	14.3	19.4	19.1
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	-	2.02	2.07
Chloride (Cl)	mg/L	0.5	-	-	-	-	-
Fluoride (F)	mg/L	0.02	-	-	-	-	-
Nitrate (as N)	mg/L	0.02	-	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	-	-	-
Phosphorus, Total	mg/L	0.003	-	-	-	-	-
Sulfate (SO4)	mg/L	0.3	-	-	-	-	-
Cyanide, Total	mg/L	0.002	1	0.0085	<0.20	0.0053	<0.0020
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	-
Total Organic Carbon	mg/L	0.5	-	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	<0.050	<0.050	0.08	0.08
Antimony (Sb)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.0010	<0.0010	<0.0010	<0.0010
Barium (Ba)-Total	mg/L	0.0002	-	0.014	0.0177	0.0195	0.021
Beryllium (Be)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.00050	<0.00050	<0.00050	<0.00050
Boron (B)-Total	mg/L	0.01	-	<0.10	<0.10	<0.10	<0.10
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000050	<0.000050	<0.000050	<0.000050
Calcium (Ca)-Total	mg/L	0.5	-	195	197	180	183
Cesium (Cs)-Total	mg/L	0.00001	-	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.0050	0.0069	<0.0050	<0.0050
Cobalt (Co)-Total	mg/L	0.0001	-	0.008	0.0345	0.0439	0.0445
Copper (Cu)-Total	mg/L	0.001	0.3	<0.010	0.011	<0.010	0.01
Iron (Fe)-Total	mg/L	0.05	-	0.73	3.31	4.31	4.42
Lead (Pb)-Total	mg/L	0.00005	0.2	<0.00050	<0.00050	<0.00050	<0.00050
Lithium (Li)-Total	mg/L	0.001	-	0.053	0.057	0.052	0.051
Magnesium (Mg)-Total	mg/L	0.05	-	448	524	547	555
Manganese (Mn)-Total	mg/L	0.0005	-	3.59	7.94	8.88	8.83
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	<0.00050	0.00285	<0.00050	<0.00050
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.0112	0.0442	0.056	0.0558
Phosphorus (P)-Total	mg/L	0.05	-	<0.50	<0.50	<0.50	<0.50
Potassium (K)-Total	mg/L	0.05	-	3.57	4.02	4.39	4.5
Rubidium (Rb)-Total	mg/L	0.0002	-	0.0078	0.0084	0.0083	0.0089
Selenium (Se)-Total	mg/L	0.00005	-	0.00381	0.0038	0.00523	0.00496
Silicon (Si)-Total	mg/L	0.1	-	<1.0	<1.0	<1.0	<1.0
Silver (Ag)-Total	mg/L	0.00005	-	<0.00050	<0.00050	<0.00050	<0.00050
Sodium (Na)-Total	mg/L	0.5	-	52.5	16.8	16.9	16.9
Strontium (Sr)-Total	mg/L	0.001	-	0.309	0.369	0.279	0.274
Sulfur (S)-Total	mg/L	0.5	-	804	872	953	982
Tellurium (Te)-Total	mg/L	0.0002	-	<0.0020	<0.0020	<0.0020	<0.0020
Thallium (Tl)-Total	mg/L	0.00001	-	0.00011	0.00013	<0.00020	0.0001
Thorium (Th)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Tin (Sn)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.0030	<0.0030	<0.0030	<0.0030
Tungsten (W)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Uranium (U)-Total	mg/L	0.00001	-	0.00053	0.00045	0.00057	0.0006
Vanadium (V)-Total	mg/L	0.0005	-	<0.0050	<0.0050	<0.0050	<0.0050
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.030	<0.030	<0.030	<0.030
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.0030	<0.0030	<0.0030	<0.0030
Aluminum (Al)-Dissolved	mg/L	0.005	-	-	-	-	-
Antimony (Sb)-Dissolved	mg/L	0.0001	-	-	-	-	-
Arsenic (As)-Dissolved	mg/L	0.0001	-	-	-	-	-
Barium (Ba)-Dissolved	mg/L	0.0001	-	-	-	-	-
Beryllium (Be)-Dissolved	mg/L	0.0001	-	-	-	-	-
Bismuth (Bi)-Dissolved	mg/L	0.00005	-	-	-	-	-
Boron (B)-Dissolved	mg/L	0.01	-	-	-	-	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	-	-	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	-	-	-
Cesium (Cs)-Dissolved	mg/L	0.00001	-	-	-	-	-
Chromium (Cr)-Dissolved	mg/L	0.0005	-	-	-	-	-
Cobalt (Co)-Dissolved	mg/L	0.0001	-	-	-	-	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	-	-	-
Iron (Fe)-Dissolved	mg/L	0.01	-	-	-	-	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	-	-	-
Lithium (Li)-Dissolved	mg/L	0.001	-	-	-	-	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	-	-	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	-	-	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	-	-	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	-	-	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	-	-	-
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	-	-	-
Potassium (K)-Dissolved	mg/L	0.05	-	-	-	-	-
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	-	-	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	-	-	-
Silicon (Si)-Dissolved	mg/L	0.05	-	-	-	-	-
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	-	-	-
Sodium (Na)-Dissolved	mg/L	0.5	-	-	-	-	-
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	-	-	-
Sulfur (S)-Dissolved	mg/L	0.5	-	-	-	-	-
Tellurium (Te)-Dissolved	mg/L	0.0002	-	-	-	-	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	-	-	-
Thorium (Th)-Dissolved	mg/L	0.0001	-	-	-	-	-
Tin (Sn)-Dissolved	mg/L	0.0001	-	-	-	-	-
Titanium (Ti)-Dissolved	mg/L	0.0003	-	-	-	-	-
Tungsten (W)-Dissolved	mg/L	0.0001	-	-	-	-	-
Uranium (U)-Dissolved	mg/L	0.00001	-	-	-	-	-
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	-	-	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	-	-	-
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	-	-	-	-
Ra-226	Bq/L	0.0045	0.37	0.015	0.036	0.018	0.039
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.16
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08

Analyte	Sample ID			MS-08	MS-0801	MS-08	MS-08
	ALS Laboratory Sample ID			L2136309-1	L2136309-2	L2139794-1	L2145073-1
	Sample Date & Time			7/24/2018 8:50:00 AM	7/24/2018 8:50:00 AM	8/1/2018 8:55:00 AM	8/10/2018 1:55:00 PM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A
	Units	LOR	Water Licence and MDMER Criteria[1]				
Conductivity	umhos/cm	3	-	3450	3460	2360	5010
Hardness (as CaCO3)	mg/L	10	-	-	-	-	4120
pH	pH units	0.1	6.0 - 9.5	8.28	8.28	8.83	9.23
Total Suspended Solids	mg/L	2	15	14.8	6.8	4.4	**19.3**
Total Dissolved Solids	mg/L	13	-	3780	3790	2580	6370
Turbidity	NTU	0.1	-	10.1	8.69	4.91	-
Acidity (as CaCO3)	mg/L	2	-	-	-	-	<2.0
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	-	-	57
Ammonia, Total (as N)	mg/L	0.02	-	1.94	2.02	1.32	2.98
Chloride (Cl)	mg/L	0.5	-	-	-	-	12
Fluoride (F)	mg/L	0.02	-	-	-	-	<0.20
Nitrate (as N)	mg/L	0.02	-	-	-	-	18.7
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	-	-	3.5
Phosphorus, Total	mg/L	0.003	-	-	-	-	<0.0030
Sulfate (SO4)	mg/L	0.3	-	-	-	-	4930
Cyanide, Total	mg/L	0.002	1	0.005	0.0051	0.0121	0.022
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	2.04
Total Organic Carbon	mg/L	0.5	-	-	-	-	2.4
Aluminum (Al)-Total	mg/L	0.005	-	<0.050	<0.050	<0.050	0.088
Antimony (Sb)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.0010	<0.0010	<0.0010	<0.0010
Barium (Ba)-Total	mg/L	0.0002	-	0.0178	0.018	0.0221	0.0201
Beryllium (Be)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.00050	<0.00050	<0.00050	<0.00050
Boron (B)-Total	mg/L	0.01	-	<0.10	<0.10	<0.10	<0.10
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000050	<0.000050	0.000142	<0.000050
Calcium (Ca)-Total	mg/L	0.5	-	195	198	109	321
Cesium (Cs)-Total	mg/L	0.00001	-	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.0050	<0.0050	<0.0050	<0.0050
Cobalt (Co)-Total	mg/L	0.0001	-	0.0155	0.0152	0.0317	0.0271
Copper (Cu)-Total	mg/L	0.001	0.3	<0.010	<0.010	<0.010	0.034
Iron (Fe)-Total	mg/L	0.05	-	1.23	1.12	1.16	4.04
Lead (Pb)-Total	mg/L	0.00005	0.2	<0.00050	<0.00050	<0.00050	<0.00050
Lithium (Li)-Total	mg/L	0.001	-	0.054	0.056	0.03	0.061
Magnesium (Mg)-Total	mg/L	0.05	-	551	573	346	800
Manganese (Mn)-Total	mg/L	0.0005	-	4.54	4.71	7.27	6.92
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	<0.00050	<0.00050	<0.00050	<0.00050
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.0201	0.0193	0.0436	0.028
Phosphorus (P)-Total	mg/L	0.05	-	<0.50	<0.50	<0.50	<0.50
Potassium (K)-Total	mg/L	0.05	-	4.46	4.66	4.13	4.76
Rubidium (Rb)-Total	mg/L	0.0002	-	0.0085	0.0088	0.0057	0.0092
Selenium (Se)-Total	mg/L	0.00005	-	0.00494	0.00491	0.00413	0.00956
Silicon (Si)-Total	mg/L	0.1	-	<1.0	<1.0	<1.0	<1.0
Silver (Ag)-Total	mg/L	0.00005	-	<0.00050	<0.00050	<0.00050	<0.00050
Sodium (Na)-Total	mg/L	0.5	-	17	17.2	6.89	4.75
Strontium (Sr)-Total	mg/L	0.001	-	0.295	0.305	0.146	0.655
Sulfur (S)-Total	mg/L	0.5	-	951	981	542	1530
Tellurium (Te)-Total	mg/L	0.0002	-	<0.0020	<0.0020	<0.0020	<0.0020
Thallium (Tl)-Total	mg/L	0.00001	-	0.00011	0.00012	<0.00010	0.00017
Thorium (Th)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Tin (Sn)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.0030	<0.0030	<0.0030	<0.0030
Tungsten (W)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Uranium (U)-Total	mg/L	0.00001	-	0.00037	0.00039	0.00033	0.00073
Vanadium (V)-Total	mg/L	0.0005	-	<0.0050	<0.0050	<0.0050	<0.0050
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.030	<0.030	<0.030	<0.030
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.0030	<0.0030	<0.0030	<0.0030
Aluminum (Al)-Dissolved	mg/L	0.005	-	-	-	-	<0.050
Antimony (Sb)-Dissolved	mg/L	0.0001	-	-	-	-	<0.0010
Arsenic (As)-Dissolved	mg/L	0.0001	-	-	-	-	<0.0010
Barium (Ba)-Dissolved	mg/L	0.0001	-	-	-	-	0.0206
Beryllium (Be)-Dissolved	mg/L	0.0001	-	-	-	-	<0.0010
Bismuth (Bi)-Dissolved	mg/L	0.00005	-	-	-	-	<0.00050
Boron (B)-Dissolved	mg/L	0.01	-	-	-	-	<0.10
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	-	-	<0.000050
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	-	-	316
Cesium (Cs)-Dissolved	mg/L	0.00001	-	-	-	-	<0.00010
Chromium (Cr)-Dissolved	mg/L	0.0005	-	-	-	-	<0.0050
Cobalt (Co)-Dissolved	mg/L	0.0001	-	-	-	-	0.0047
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	-	-	0.0323
Iron (Fe)-Dissolved	mg/L	0.01	-	-	-	-	<0.10
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	-	-	<0.00050
Lithium (Li)-Dissolved	mg/L	0.001	-	-	-	-	0.054
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	-	-	809
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	-	-	6.33
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	-	-	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	-	-	<0.00050
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	-	-	0.006
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	-	-	<0.50
Potassium (K)-Dissolved	mg/L	0.05	-	-	-	-	4.66
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	-	-	0.0087
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	-	-	0.00859
Silicon (Si)-Dissolved	mg/L	0.05	-	-	-	-	<0.50
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	-	-	<0.00050
Sodium (Na)-Dissolved	mg/L	0.5	-	-	-	-	4.74
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	-	-	0.616
Sulfur (S)-Dissolved	mg/L	0.5	-	-	-	-	1460
Tellurium (Te)-Dissolved	mg/L	0.0002	-	-	-	-	<0.0020
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	-	-	0.00016
Thorium (Th)-Dissolved	mg/L	0.0001	-	-	-	-	<0.0010
Tin (Sn)-Dissolved	mg/L	0.0001	-	-	-	-	<0.0010
Titanium (Ti)-Dissolved	mg/L	0.0003	-	-	-	-	<0.0030
Tungsten (W)-Dissolved	mg/L	0.0001	-	-	-	-	<0.0010
Uranium (U)-Dissolved	mg/L	0.00001	-	-	-	-	0.00036
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	-	-	<0.0050
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	-	-	<0.010
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	-	-	-	<0.0030
Ra-226	Bq/L	0.0045	0.37	0.017	0.03	0.019	0.041
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	-	Non-lethal

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.16
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08

Analyte	Sample ID			MS-0801	MS-08	MS-08	MS-0801
	ALS Laboratory Sample ID			L2145073-2	L2148404-1	L2150213-1	L2150213-2
	Sample Date & Time			8/10/2018 1:55:00 PM	8/15/2018 5:00:00 PM	8/21/2018 9:00:00 AM	8/21/2018 9:00:00 AM
	QA/QC Sample Type			Field Duplicate	N/A	N/A	Field Duplicate
	Units	LOR	Water Licence and MDMER Criteria[1]				
Conductivity	umhos/cm	3	-	5030	5290	3890	3960
Hardness (as CaCO3)	mg/L	10	-	4310	-	2760	2550
pH	pH units	0.1	6.0 - 9.5	9.27	8.57	8.83	8.85
Total Suspended Solids	mg/L	2	15	14.9	12	7.2	6
Total Dissolved Solids	mg/L	13	-	5040	7000	3920	3800
Turbidity	NTU	0.1	-	-	13	-	-
Acidity (as CaCO3)	mg/L	2	-	<2.0	-	<2.0	<2.0
Alkalinity, Total (as CaCO3)	mg/L	10	-	55	-	48	50
Ammonia, Total (as N)	mg/L	0.02	-	2.99	3.49	1.52	1.58
Chloride (Cl)	mg/L	0.5	-	10.1	-	7.9	8.6
Fluoride (F)	mg/L	0.02	-	<0.20	-	<0.20	<0.20
Nitrate (as N)	mg/L	0.02	-	15.6	-	9.76	10.3
Total Kjeldahl Nitrogen	mg/L	0.15	-	3.86	-	2.19	2.17
Phosphorus, Total	mg/L	0.003	-	<0.0030	-	<0.030	<0.030
Sulfate (SO4)	mg/L	0.3	-	4100	-	2700	2830
Cyanide, Total	mg/L	0.002	1	0.0234	0.48	<0.020	0.0145
Dissolved Organic Carbon	mg/L	0.5	-	1.9	-	2.94	3
Total Organic Carbon	mg/L	0.5	-	2.75	-	3.18	3.08
Aluminum (Al)-Total	mg/L	0.005	-	0.091	0.072	0.057	0.06
Antimony (Sb)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.0010	<0.0010	<0.0010	<0.0010
Barium (Ba)-Total	mg/L	0.0002	-	0.0206	0.022	0.0182	0.0178
Beryllium (Be)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.00050	<0.00050	<0.00050	<0.00050
Boron (B)-Total	mg/L	0.01	-	<0.10	<0.10	<0.10	<0.10
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000050	<0.000050	<0.000050	<0.000050
Calcium (Ca)-Total	mg/L	0.5	-	330	365	206	214
Cesium (Cs)-Total	mg/L	0.00001	-	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.0050	<0.0050	<0.0050	<0.0050
Cobalt (Co)-Total	mg/L	0.0001	-	0.0284	0.0348	0.0189	0.0191
Copper (Cu)-Total	mg/L	0.001	0.3	0.034	0.027	0.012	0.012
Iron (Fe)-Total	mg/L	0.05	-	4.18	2.71	1.71	1.7
Lead (Pb)-Total	mg/L	0.00005	0.2	<0.00050	<0.00050	<0.00050	<0.00050
Lithium (Li)-Total	mg/L	0.001	-	0.058	0.063	0.04	0.041
Magnesium (Mg)-Total	mg/L	0.05	-	829	986	617	620
Manganese (Mn)-Total	mg/L	0.0005	-	7.07	10.5	5.61	5.72
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	-	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	<0.00050	<0.00050	0.00063	0.00057
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.0297	0.0402	0.0242	0.0247
Phosphorus (P)-Total	mg/L	0.05	-	<0.50	<0.50	<0.50	<0.50
Potassium (K)-Total	mg/L	0.05	-	4.78	5.6	4.99	5.05
Rubidium (Rb)-Total	mg/L	0.0002	-	0.0091	0.0095	0.007	0.0072
Selenium (Se)-Total	mg/L	0.00005	-	0.00935	0.01	0.0062	0.0066
Silicon (Si)-Total	mg/L	0.1	-	<1.0	<1.0	<1.0	<1.0
Silver (Ag)-Total	mg/L	0.00005	-	<0.00050	<0.00050	<0.00050	<0.00050
Sodium (Na)-Total	mg/L	0.5	-	4.78	5.81	4.76	4.78
Strontium (Sr)-Total	mg/L	0.001	-	0.667	0.751	0.379	0.39
Sulfur (S)-Total	mg/L	0.5	-	1500	1780	1010	1030
Tellurium (Te)-Total	mg/L	0.0002	-	<0.0020	<0.0020	<0.0020	<0.0020
Thallium (Tl)-Total	mg/L	0.00001	-	0.00017	0.00017	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Tin (Sn)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.0030	<0.0030	<0.0030	<0.0030
Tungsten (W)-Total	mg/L	0.0001	-	<0.0010	<0.0010	<0.0010	<0.0010
Uranium (U)-Total	mg/L	0.00001	-	0.00066	0.00061	0.00061	0.00063
Vanadium (V)-Total	mg/L	0.0005	-	<0.0050	<0.0050	<0.0050	<0.0050
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.030	<0.030	<0.030	<0.030
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.0030	<0.0030	<0.0030	<0.0030
Aluminum (Al)-Dissolved	mg/L	0.005	-	<0.050	-	<0.050	<0.050
Antimony (Sb)-Dissolved	mg/L	0.0001	-	<0.0010	-	<0.0010	<0.0010
Arsenic (As)-Dissolved	mg/L	0.0001	-	<0.0010	-	<0.0010	<0.0010
Barium (Ba)-Dissolved	mg/L	0.0001	-	0.0194	-	0.0155	0.0144
Beryllium (Be)-Dissolved	mg/L	0.0001	-	<0.0010	-	<0.0010	<0.0010
Bismuth (Bi)-Dissolved	mg/L	0.00005	-	<0.00050	-	<0.00050	<0.00050
Boron (B)-Dissolved	mg/L	0.01	-	<0.10	-	<0.10	<0.10
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	<0.000050	-	<0.000050	<0.000050
Calcium (Ca)-Dissolved	mg/L	0.05	-	328	-	194	177
Cesium (Cs)-Dissolved	mg/L	0.00001	-	<0.00010	-	<0.00010	<0.00010
Chromium (Cr)-Dissolved	mg/L	0.0005	-	<0.0050	-	<0.0050	<0.0050
Cobalt (Co)-Dissolved	mg/L	0.0001	-	0.0049	-	0.006	0.0054
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.0331	-	0.0103	0.0092
Iron (Fe)-Dissolved	mg/L	0.01	-	<0.10	-	<0.10	<0.10
Lead (Pb)-Dissolved	mg/L	0.00005	-	<0.00050	-	<0.00050	<0.00050
Lithium (Li)-Dissolved	mg/L	0.001	-	0.06	-	0.04	0.034
Magnesium (Mg)-Dissolved	mg/L	0.05	-	846	-	553	512
Manganese (Mn)-Dissolved	mg/L	0.0005	-	6.5	-	4.47	4.09
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	-	<0.000010	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	<0.00050	-	0.00062	0.00063
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.0065	-	0.0091	0.008
Phosphorus (P)-Dissolved	mg/L	0.05	-	<0.50	-	<0.50	<0.50
Potassium (K)-Dissolved	mg/L	0.05	-	4.79	-	4.56	4.05
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	0.0094	-	0.0067	0.0062
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.00846	-	0.00571	0.00504
Silicon (Si)-Dissolved	mg/L	0.05	-	<0.50	-	<0.50	<0.50
Silver (Ag)-Dissolved	mg/L	0.00005	-	<0.00050	-	<0.00050	<0.00050
Sodium (Na)-Dissolved	mg/L	0.5	-	4.83	-	4.38	3.96
Strontium (Sr)-Dissolved	mg/L	0.001	-	0.65	-	0.355	0.324
Sulfur (S)-Dissolved	mg/L	0.5	-	1460	-	913	848
Tellurium (Te)-Dissolved	mg/L	0.0002	-	<0.0020	-	<0.0020	<0.0020
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.00017	-	<0.00010	<0.00010
Thorium (Th)-Dissolved	mg/L	0.0001	-	<0.0010	-	<0.0010	<0.0010
Tin (Sn)-Dissolved	mg/L	0.0001	-	<0.0010	-	<0.0010	<0.0010
Titanium (Ti)-Dissolved	mg/L	0.0003	-	<0.0030	-	<0.0030	<0.0030
Tungsten (W)-Dissolved	mg/L	0.0001	-	<0.0010	-	<0.0010	<0.0010
Uranium (U)-Dissolved	mg/L	0.00001	-	0.00033	-	0.00036	0.00033
Vanadium (V)-Dissolved	mg/L	0.0005	-	<0.0050	-	<0.0050	<0.0050
Zinc (Zn)-Dissolved	mg/L	0.001	-	<0.010	-	<0.010	<0.010
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	<0.0030	-	<0.0030	<0.0030
Ra-226	Bq/L	0.0045	0.37	0.045	0.033	0.02	0.026
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.16
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08

Analyte	Sample ID			MS-08	MS-08
	ALS Laboratory Sample ID			L2153611-1	L2158111-1
	Sample Date & Time			8/27/2018 11:05:00 AM	9/4/2018 5:00:00 PM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence and MDMER Criteria[1]		
Conductivity	umhos/cm	3	-	5460	8970
Hardness (as CaCO3)	mg/L	10	-	-	9570
pH	pH units	0.1	6.0 - 9.5	8.78	8.76
Total Suspended Solids	mg/L	2	15	9.6	10.8
Total Dissolved Solids	mg/L	13	-	6710	12700
Turbidity	NTU	0.1	-	1.81	-
Acidity (as CaCO3)	mg/L	2	-	-	<2.0
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	79
Ammonia, Total (as N)	mg/L	0.02	-	2.89	4.29
Chloride (Cl)	mg/L	0.5	-	-	23
Fluoride (F)	mg/L	0.02	-	-	<0.40
Nitrate (as N)	mg/L	0.02	-	-	29.9
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	4.32
Phosphorus, Total	mg/L	0.003	-	-	<0.0030
Sulfate (SO4)	mg/L	0.3	-	-	10600
Cyanide, Total	mg/L	0.002	1	<0.020	<0.20
Dissolved Organic Carbon	mg/L	0.5	-	-	5.1
Total Organic Carbon	mg/L	0.5	-	-	3.5
Aluminum (Al)-Total	mg/L	0.005	-	0.116	<0.50
Antimony (Sb)-Total	mg/L	0.0001	-	<0.0010	<0.010
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.0010	<0.010
Barium (Ba)-Total	mg/L	0.0002	-	0.0209	0.021
Beryllium (Be)-Total	mg/L	0.0001	-	<0.0010	<0.010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.00050	<0.0050
Boron (B)-Total	mg/L	0.01	-	<0.10	<1.0
Cadmium (Cd)-Total	mg/L	0.00001	-	0.000055	<0.00050
Calcium (Ca)-Total	mg/L	0.5	-	304	623
Cesium (Cs)-Total	mg/L	0.00001	-	<0.00010	<0.0010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.0050	<0.050
Cobalt (Co)-Total	mg/L	0.0001	-	0.0344	0.02
Copper (Cu)-Total	mg/L	0.001	0.3	0.018	<0.10
Iron (Fe)-Total	mg/L	0.05	-	3.57	1.9
Lead (Pb)-Total	mg/L	0.00005	0.2	<0.00050	<0.0050
Lithium (Li)-Total	mg/L	0.001	-	0.067	<0.10
Magnesium (Mg)-Total	mg/L	0.05	-	931	1930
Manganese (Mn)-Total	mg/L	0.0005	-	9.44	19.5
Mercury (Hg)-Total	mg/L	0.00001	-	-	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	<0.00050	<0.0050
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.0437	<0.050
Phosphorus (P)-Total	mg/L	0.05	-	<0.50	<5.0
Potassium (K)-Total	mg/L	0.05	-	5.43	6.8
Rubidium (Rb)-Total	mg/L	0.0002	-	0.0097	<0.020
Selenium (Se)-Total	mg/L	0.00005	-	0.0108	0.0161
Silicon (Si)-Total	mg/L	0.1	-	<1.0	<10
Silver (Ag)-Total	mg/L	0.00005	-	<0.00050	<0.0050
Sodium (Na)-Total	mg/L	0.5	-	5.37	7.8
Strontium (Sr)-Total	mg/L	0.001	-	0.576	1.15
Sulfur (S)-Total	mg/L	0.5	-	1620	3070
Tellurium (Te)-Total	mg/L	0.0002	-	<0.0020	<0.020
Thallium (Tl)-Total	mg/L	0.00001	-	0.00015	<0.0010
Thorium (Th)-Total	mg/L	0.0001	-	<0.0010	<0.010
Tin (Sn)-Total	mg/L	0.0001	-	<0.0010	<0.010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.0030	<0.030
Tungsten (W)-Total	mg/L	0.0001	-	<0.0010	<0.010
Uranium (U)-Total	mg/L	0.00001	-	0.00055	0.0025
Vanadium (V)-Total	mg/L	0.0005	-	<0.0050	<0.050
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.030	<0.30
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.0030	<0.030
Aluminum (Al)-Dissolved	mg/L	0.005	-	-	<0.50
Antimony (Sb)-Dissolved	mg/L	0.0001	-	-	<0.010
Arsenic (As)-Dissolved	mg/L	0.0001	-	-	<0.010
Barium (Ba)-Dissolved	mg/L	0.0001	-	-	0.022
Beryllium (Be)-Dissolved	mg/L	0.0001	-	-	<0.010
Bismuth (Bi)-Dissolved	mg/L	0.00005	-	-	<0.0050
Boron (B)-Dissolved	mg/L	0.01	-	-	<1.0
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	<0.00050
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	609
Cesium (Cs)-Dissolved	mg/L	0.00001	-	-	<0.0010
Chromium (Cr)-Dissolved	mg/L	0.0005	-	-	<0.050
Cobalt (Co)-Dissolved	mg/L	0.0001	-	-	0.013
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	0.032
Iron (Fe)-Dissolved	mg/L	0.01	-	-	<1.0
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	<0.0050
Lithium (Li)-Dissolved	mg/L	0.001	-	-	<0.10
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	1950
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	20.3
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	<0.0050
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	<0.050
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	<5.0
Potassium (K)-Dissolved	mg/L	0.05	-	-	6.4
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	<0.020
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	0.0173
Silicon (Si)-Dissolved	mg/L	0.05	-	-	<5.0
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	<0.0050
Sodium (Na)-Dissolved	mg/L	0.5	-	-	7.5
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	1.15
Sulfur (S)-Dissolved	mg/L	0.5	-	-	3130
Tellurium (Te)-Dissolved	mg/L	0.0002	-	-	<0.020
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	<0.0010
Thorium (Th)-Dissolved	mg/L	0.0001	-	-	<0.010
Tin (Sn)-Dissolved	mg/L	0.0001	-	-	<0.010
Titanium (Ti)-Dissolved	mg/L	0.0003	-	-	<0.030
Tungsten (W)-Dissolved	mg/L	0.0001	-	-	<0.010
Uranium (U)-Dissolved	mg/L	0.00001	-	-	0.0023
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	<0.050
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	<0.10
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	-	<0.030
Ra-226	Bq/L	0.0045	0.37	0.034	0.032
Acute Lethality[2,3]	N/A		Non-Lethal	-	Non-lethal

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

Baffinland

TABLE 7.1.17
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-MRY-13A

Analyte	Sample ID			MS-MRY-13A	MS-MRY-13A	MS-MRY-13A	MS-MRY-13A	MS-MRY-13A	MS-MRY-13A	MS-MRY-13A	MS-MRY-13A
	ALS Laboratory Sample ID			L2098315-7	L2101788-6	L2107717-10	L2112089-11	L2116590-11	L2120528-11	L2124774-11	L2126016-7
	Sample Date & Time			5/21/2018 6:35:00 PM	5/28/2018 9:40:00 AM	6/4/2018 3:30:00 PM	6/11/2018 4:35:00 PM	6/18/2018 5:15:00 PM	6/25/2018 4:40:00 PM	7/4/2018 10:55:00 AM	7/9/2018 3:20:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]								
Conductivity	umhos/cm	3	-	74.5	-	518	1310	1080	-	640	-
pH	pH units	0.1	6.0 - 9.5	7.53	7.25	7.44	7.8	7.92	8.18	7.95	7.77
Total Suspended Solids	mg/L	2	15	14.8	<2.0	<2.0	<2.0	<2.0	<2.0	3.7	<2.0
Total Dissolved Solids	mg/L	10	-	50	27	-	893	728	513	429	333
Turbidity	NTU	0.1	-	-	11	-	-	-	1.32	-	0.88
Alkalinity, Total (as CaCO3)	mg/L	10	-	21	-	<0.020	62	78	-	121	-
Dissolved Organic Carbon	mg/L	1	-	3.7	-	0.129	4.2	4.9	-	3.52	-
Total Organic Carbon	mg/L	1	-	4.4	-	<2.0	5.3	5.2	-	3.92	-
Aluminum (Al)-Total	mg/L	0.005	-	0.825	-	-	0.0269	0.0362	-	0.0646	-
Antimony (Sb)-Total	mg/L	0.0001	-	0.00041	-	-	0.00063	0.0003	-	0.00013	-
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00026	-	-	0.00018	0.00015	-	0.00014	-
Barium (Ba)-Total	mg/L	0.0002	-	0.00881	-	-	0.0947	0.0676	-	0.0374	-
Beryllium (Be)-Total	mg/L	0.0001	-	<0.00010	-	-	<0.00010	<0.00010	-	<0.00010	-
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.000050	-	-	<0.000050	<0.000050	-	<0.000050	-
Boron (B)-Total	mg/L	0.01	-	0.013	-	-	0.064	0.031	-	0.029	-
Cadmium (Cd)-Total	mg/L	0.00001	-	0.000013	-	-	0.0000503	0.000027	-	0.0000121	-
Calcium (Ca)-Total	mg/L	0.5	-	5.86	-	-	163	122	-	58.3	-
Cesium (Cs)-Total	mg/L	0.00001	-	0.000105	-	-	-	-	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	0.00216	-	-	<0.00050	<0.00050	-	0.00053	-
Cobalt (Co)-Total	mg/L	0.0001	-	0.00099	-	-	<0.00010	0.00011	-	0.00012	-
Copper (Cu)-Total	mg/L	0.001	0.3	0.0026	-	-	0.0011	0.0012	-	0.0011	-
Iron (Fe)-Total	mg/L	0.05	-	1.37	-	-	0.042	0.044	-	0.055	-
Lead (Pb)-Total	mg/L	0.00005	0.2	0.000868	-	-	0.000053	0.000064	-	0.000051	-
Lithium (Li)-Total	mg/L	0.001	-	0.0027	-	-	0.0243	0.0139	-	0.0061	-
Magnesium (Mg)-Total	mg/L	0.05	-	4.36	-	-	35.1	50.8	-	31.6	-
Manganese (Mn)-Total	mg/L	0.0005	-	0.038	-	-	0.00407	0.00446	-	0.00703	-
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	-	-	<0.000010	<0.000010	-	<0.000010	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000652	-	-	0.00188	0.000855	-	0.000418	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.005	-	-	0.0127	0.0115	-	0.0092	-
Phosphorus (P)-Total	mg/L	0.05	-	<0.050	-	-	-	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	1.48	-	-	6.99	4.59	-	2.18	-
Rubidium (Rb)-Total	mg/L	0.0002	-	0.0038	-	-	-	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	0.000062	-	-	<0.000050	<0.000050	-	<0.000050	-
Silicon (Si)-Total	mg/L	0.1	-	1.77	-	-	1.85	2.85	-	3.34	-
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	-	-	<0.000050	<0.000050	-	<0.000050	-
Sodium (Na)-Total	mg/L	0.5	-	0.757	-	-	17.4	15.2	-	8.88	-
Strontium (Sr)-Total	mg/L	0.001	-	0.0072	-	-	0.253	0.155	-	0.0594	-
Sulfur (S)-Total	mg/L	0.5	-	3.35	-	-	-	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	<0.00020	-	-	-	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	0.000018	-	-	0.000039	0.000021	-	0.000012	-
Thorium (Th)-Total	mg/L	0.0001	-	0.00046	-	-	-	-	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	-	-	<0.00010	<0.00010	-	<0.00010	-
Titanium (Ti)-Total	mg/L	0.0003	-	0.0274	-	-	0.00112	0.0014	-	0.00206	-
Tungsten (W)-Total	mg/L	0.0001	-	<0.00010	-	-	0.0004	0.0002	-	0.00012	-
Uranium (U)-Total	mg/L	0.00001	-	0.000271	-	-	0.00105	0.000888	-	0.000645	-
Vanadium (V)-Total	mg/L	0.0005	-	0.00134	-	-	<0.00050	<0.00050	-	<0.00050	-
Zinc (Zn)-Total	mg/L	0.003	0.5	0.0057	-	-	0.031	0.0169	-	0.0065	-
Zirconium (Zr)-Total	mg/L	0.0003	-	0.00047	-	-	<0.00030	<0.00030	-	<0.00030	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	-	<2.0	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-
Phenols (4AAP)	mg/L	0.001	-	<0.0010	-	-	<0.0010	0.0012	-	<0.0010	-
F1 (C6-C10)	ug/L	100	-	<100	-	-	<100	<100	-	<100	-
F2 (C10-C16)	ug/L	100	-	<100	-	-	<100	<100	-	<100	-
F3 (C16-C34)	ug/L	250	-	<250	-	-	<250	<250	-	<250	-
F4 (C34-C50)	ug/L	250	-	<250	-	-	<250	<250	-	<250	-
Total Hydrocarbons (C6-C50)	ug/L	380	-	<380	-	-	<380	<380	-	<380	-
Chrom. to baseline at nC50		n/a	-	YES	-	-	YES	YES	-	YES	-
2-Bromobenzotrifluoride	%	Surrogate	-	88.5	-	-	81.4	79.2	-	89.9	-
3,4-Dichlorotoluene	%	Surrogate	-	103.1	-	-	94.4	92.1	-	80.7	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 7

Baffinland

TABLE 7.1.17
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-MRY-13A

Analyte	Sample ID			MS-MRY-13A	MS-MRY-13A	MS-MRY-13A
	ALS Laboratory Sample ID			L2131286-9	L2145415-2	L2148365-6
	Sample Date & Time			7/16/2018 10:40:00 AM	8/9/2018 4:30:00 PM	8/13/2018 11:55:00 AM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]			
Conductivity	umhos/cm	3	-	700	730	-
pH	pH units	0.1	6.0 - 9.5	7.96	8.1	8.06
Total Suspended Solids	mg/L	2	15	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	432	460	560
Turbidity	NTU	0.1	-	-	-	0.44
Alkalinity, Total (as CaCO3)	mg/L	10	-	137	145	-
Dissolved Organic Carbon	mg/L	1	-	3.98	4.98	-
Total Organic Carbon	mg/L	1	-	4.37	5.33	-
Aluminum (Al)-Total	mg/L	0.005	-	0.0176	0.0272	-
Antimony (Sb)-Total	mg/L	0.0001	-	0.00016	0.00011	-
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00018	0.00017	-
Barium (Ba)-Total	mg/L	0.0002	-	0.0407	0.0504	-
Beryllium (Be)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.000050	<0.000050	-
Boron (B)-Total	mg/L	0.01	-	0.025	0.02	-
Cadmium (Cd)-Total	mg/L	0.00001	-	0.0000093	0.0000144	-
Calcium (Ca)-Total	mg/L	0.5	-	58.4	63.2	-
Cesium (Cs)-Total	mg/L	0.00001	-	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	<0.00050	0.00072	-
Cobalt (Co)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-
Copper (Cu)-Total	mg/L	0.001	0.3	0.0012	0.0014	-
Iron (Fe)-Total	mg/L	0.05	-	0.028	0.04	-
Lead (Pb)-Total	mg/L	0.00005	0.2	<0.000050	0.00011	-
Lithium (Li)-Total	mg/L	0.001	-	0.0049	0.007	-
Magnesium (Mg)-Total	mg/L	0.05	-	39.7	41.2	-
Manganese (Mn)-Total	mg/L	0.0005	-	0.00257	0.00171	-
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	<0.000010	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000402	0.000363	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00978	0.00971	-
Phosphorus (P)-Total	mg/L	0.05	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	2.14	2.05	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	<0.000050	0.00005	-
Silicon (Si)-Total	mg/L	0.1	-	3.6	4.22	-
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	<0.000050	-
Sodium (Na)-Total	mg/L	0.5	-	10	10.9	-
Strontium (Sr)-Total	mg/L	0.001	-	0.0603	0.0691	-
Sulfur (S)-Total	mg/L	0.5	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	0.000017	0.000013	-
Thorium (Th)-Total	mg/L	0.0001	-	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-
Titanium (Ti)-Total	mg/L	0.0003	-	0.00086	0.00138	-
Tungsten (W)-Total	mg/L	0.0001	-	0.00011	0.00013	-
Uranium (U)-Total	mg/L	0.00001	-	0.00084	0.00136	-
Vanadium (V)-Total	mg/L	0.0005	-	<0.00050	<0.00050	-
Zinc (Zn)-Total	mg/L	0.003	0.5	0.0057	0.0054	-
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.00030	<0.00030	-
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	-
Phenols (4AAP)	mg/L	0.001	-	<0.0010	0.0019	-
F1 (C6-C10)	ug/L	100	-	<100	<100	-
F2 (C10-C16)	ug/L	100	-	<100	<100	-
F3 (C16-C34)	ug/L	250	-	<250	<250	-
F4 (C34-C50)	ug/L	250	-	<250	<250	-
Total Hydrocarbons (C6-C50)	ug/L	380	-	<380	<380	-
Chrom. to baseline at nC50		n/a	-	YES	YES	-
2-Bromobenzotrifluoride	%	Surrogate	-	99.9	84.2	-
3,4-Dichlorotoluene	%	Surrogate	-	89	99.8	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 7

Baffinland

TABLE 7.1.18
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-MRY-13B

Analyte	Sample ID			MS-MRY-13B	MS-MRY-13B	MS-MRY-13B01	MS-MRY-13B	MS-MRY-13B	MS-MRY-13B	MS-MRY-13B	MS-MRY-13B	MS-MRY-13B
	ALS Laboratory Sample ID			L2098315-8	L2101788-7	L2101788-9	L2107717-11	L2112089-12	L2116590-12	L2120528-12	L2124774-12	L2126016-8
	Sample Date & Time			5/21/2018 6:00:00 PM	5/28/2018 9:25:00 AM	5/28/2018 9:25:00 AM	6/4/2018 3:05:00 PM	6/11/2018 4:15:00 PM	6/18/2018 4:50:00 PM	6/25/2018 4:25:00 PM	7/4/2018 10:35:00 AM	7/9/2018 3:10:00 PM
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]									
Conductivity	umhos/cm	3	-	317	-	-	513	1150	1040	-	866	-
pH	pH units	0.1	6.0 - 9.5	7.73	7.56	7.53	7.53	7.94	7.99	8.25	8.14	8.2
Total Suspended Solids	mg/L	2	15	**20**	2.4	<2.0	<2.0	<2.0	<2.0	3	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	190	55	59	-	805	700	729	592	367
Turbidity	NTU	0.1	-	-	14.9	15.2	-	-	-	1.54	-	1.93
Alkalinity, Total (as CaCO3)	mg/L	10	-	38	-	-	<0.020	62	85	-	123	-
Dissolved Organic Carbon	mg/L	1	-	10.3	-	-	0.085	3.9	4.8	-	4.45	-
Total Organic Carbon	mg/L	1	-	11.9	-	-	<2.0	4.1	5	-	4.64	-
Aluminum (Al)-Total	mg/L	0.005	-	0.316	-	-	-	0.0053	0.0299	-	<0.0050	-
Antimony (Sb)-Total	mg/L	0.0001	-	0.00025	-	-	-	0.00045	0.00018	-	0.0001	-
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00018	-	-	-	0.00015	0.00018	-	0.00016	-
Barium (Ba)-Total	mg/L	0.0002	-	0.0168	-	-	-	0.0905	0.0693	-	0.0467	-
Beryllium (Be)-Total	mg/L	0.0001	-	<0.00010	-	-	-	<0.00010	<0.00010	-	<0.00010	-
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.000050	-	-	-	<0.000050	<0.000050	-	<0.000050	-
Boron (B)-Total	mg/L	0.01	-	0.02	-	-	-	0.049	0.033	-	0.058	-
Cadmium (Cd)-Total	mg/L	0.00001	-	0.00001	-	-	-	0.0000156	0.0000146	-	0.0000092	-
Calcium (Ca)-Total	mg/L	0.5	-	19.2	-	-	-	128	121	-	81.7	-
Cesium (Cs)-Total	mg/L	0.00001	-	0.000033	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	0.00083	-	-	-	<0.00050	<0.00050	-	<0.00050	-
Cobalt (Co)-Total	mg/L	0.0001	-	0.00065	-	-	-	<0.00010	<0.00010	-	<0.00010	-
Copper (Cu)-Total	mg/L	0.001	0.3	0.002	-	-	-	<0.0010	0.0013	-	0.0012	-
Iron (Fe)-Total	mg/L	0.05	-	0.623	-	-	-	0.013	0.058	-	0.027	-
Lead (Pb)-Total	mg/L	0.00005	0.2	0.000287	-	-	-	<0.000050	0.000051	-	<0.000050	-
Lithium (Li)-Total	mg/L	0.001	-	0.0091	-	-	-	0.0232	0.031	-	0.0273	-
Magnesium (Mg)-Total	mg/L	0.05	-	13	-	-	-	37.8	51.8	-	41.9	-
Manganese (Mn)-Total	mg/L	0.0005	-	0.0463	-	-	-	0.00096	0.0023	-	0.00154	-
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	-	-	-	<0.000010	<0.000010	-	<0.000010	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.00063	-	-	-	0.00107	0.000726	-	0.000311	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00444	-	-	-	0.00831	0.00818	-	0.00785	-
Phosphorus (P)-Total	mg/L	0.05	-	<0.050	-	-	-	-	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	3.19	-	-	-	5.17	3.55	-	2.17	-
Rubidium (Rb)-Total	mg/L	0.0002	-	0.00478	-	-	-	-	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	0.000141	-	-	-	<0.000050	<0.000050	-	<0.000050	-
Silicon (Si)-Total	mg/L	0.1	-	1.06	-	-	-	1.77	2.69	-	3.45	-
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	-	-	-	<0.000050	<0.000050	-	<0.000050	-
Sodium (Na)-Total	mg/L	0.5	-	2.8	-	-	-	14.7	14.9	-	12.6	-
Strontium (Sr)-Total	mg/L	0.001	-	0.0186	-	-	-	0.19	0.143	-	0.0864	-
Sulfur (S)-Total	mg/L	0.5	-	9.17	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	<0.00020	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	0.000012	-	-	-	0.000036	0.000018	-	0.000012	-
Thorium (Th)-Total	mg/L	0.0001	-	0.0001	-	-	-	-	-	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	-	-	-	<0.00010	<0.00010	-	<0.00010	-
Titanium (Ti)-Total	mg/L	0.0003	-	0.012	-	-	-	<0.00030	0.00131	-	0.00053	-
Tungsten (W)-Total	mg/L	0.0001	-	<0.00010	-	-	-	0.00017	<0.00010	-	<0.00010	-
Uranium (U)-Total	mg/L	0.00001	-	0.000362	-	-	-	0.00061	0.00108	-	0.00132	-
Vanadium (V)-Total	mg/L	0.0005	-	<0.00050	-	-	-	<0.00050	<0.00050	-	<0.00050	-
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.0030	-	-	-	<0.0030	0.0036	-	<0.0030	-
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.00030	-	-	-	<0.00030	<0.00030	-	<0.00030	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	-	-	<2.0	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-
Phenols (4AAP)	mg/L	0.001	-	0.0011	-	-	-	<0.0010	<0.0010	-	<0.0010	-
F1 (C6-C10)	ug/L	100	-	<100	-	-	-	<100	<100	-	<100	-
F2 (C10-C16)	ug/L	100	-	<100	-	-	-	<100	<100	-	<100	-
F3 (C16-C34)	ug/L	250	-	<250	-	-	-	<250	<250	-	<250	-
F4 (C34-C50)	ug/L	250	-	<250	-	-	-	<250	<250	-	<250	-
Total Hydrocarbons (C6-C50)	ug/L	380	-	<380	-	-	-	<380	<380	-	<380	-
Chrom. to baseline at nC50		n/a	-	YES	-	-	-	YES	YES	-	YES	-
2-Bromobenzotrifluoride	%	Surrogate	-	95	-	-	-	90.7	68.9	-	84.1	-
3,4-Dichlorotoluene	%	Surrogate	-	97.3	-	-	-	92.3	93.4	-	90.2	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 7

Baffinland

TABLE 7.1.18
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-MRY-13B

Analyte	Sample ID			MS-MRY-13B	MS-MRY-13B	MS-MRY-13B	MS-MRY-13B	MS-MRY-13B02	MS-MRY-13B	MS-MRY-13B01	MS-MRY-13B	MS-MRY-13B
	ALS Laboratory Sample ID			L2131286-10	L2136320-10	L2145415-1	L2148365-16	L2148365-10	L2157682-17	L2157682-19	L2160173-5	L2163303-7
	Sample Date & Time			7/16/2018 10:15:00 AM	7/23/2018 2:45:00 PM	8/9/2018 4:00:00 PM	8/13/2018 11:45:00 AM	8/13/2018 11:45:00 AM	8/27/2018 5:40:00 PM	8/27/2018 5:40:00 PM	9/4/2018 9:45:00 AM	9/10/2018 6:15:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Field Blank	N/A	Field Duplicate	N/A	N/A
	Units	LOR	Water Licence Criteria[1]									
Conductivity	umhos/cm	3	-	757	-	1180	-	-	-	-	2290	-
pH	pH units	0.1	6.0 - 9.5	8.21	8.24	8.15	8	5.97	8.06	8.06	8.03	8.02
Total Suspended Solids	mg/L	2	15	2.8	2.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	475	576	820	1100	<20	1300	1360	1280	1280
Turbidity	NTU	0.1	-	-	2.32	-	0.32	0.18	0.19	0.52	-	0.15
Alkalinity, Total (as CaCO3)	mg/L	10	-	132	-	115	-	-	-	-	124	-
Dissolved Organic Carbon	mg/L	1	-	4.89	-	5.4	-	-	-	-	5.26	-
Total Organic Carbon	mg/L	1	-	5.88	-	5.07	-	-	-	-	6.09	-
Aluminum (Al)-Total	mg/L	0.005	-	0.0164	-	0.0063	-	-	-	-	0.035	-
Antimony (Sb)-Total	mg/L	0.0001	-	0.00011	-	<0.00010	-	-	-	-	<0.00010	-
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00016	-	0.00014	-	-	-	-	0.00015	-
Barium (Ba)-Total	mg/L	0.0002	-	0.0429	-	0.0868	-	-	-	-	0.161	-
Beryllium (Be)-Total	mg/L	0.0001	-	<0.00010	-	<0.00010	-	-	-	-	<0.00010	-
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.000050	-	<0.000050	-	-	-	-	<0.000050	-
Boron (B)-Total	mg/L	0.01	-	0.052	-	0.037	-	-	-	-	0.052	-
Cadmium (Cd)-Total	mg/L	0.00001	-	0.0000084	-	0.0000113	-	-	-	-	0.0000232	-
Calcium (Ca)-Total	mg/L	0.5	-	68.2	-	113	-	-	-	-	249	-
Cesium (Cs)-Total	mg/L	0.00001	-	-	-	-	-	-	-	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	<0.00050	-	0.00052	-	-	-	-	0.00083	-
Cobalt (Co)-Total	mg/L	0.0001	-	<0.00010	-	<0.00010	-	-	-	-	0.00017	-
Copper (Cu)-Total	mg/L	0.001	0.3	0.0014	-	0.0012	-	-	-	-	0.0014	-
Iron (Fe)-Total	mg/L	0.05	-	0.04	-	0.019	-	-	-	-	0.067	-
Lead (Pb)-Total	mg/L	0.00005	0.2	<0.000050	-	<0.000050	-	-	-	-	0.000051	-
Lithium (Li)-Total	mg/L	0.001	-	0.0164	-	0.0226	-	-	-	-	0.0582	-
Magnesium (Mg)-Total	mg/L	0.05	-	39.5	-	60.6	-	-	-	-	93.1	-
Manganese (Mn)-Total	mg/L	0.0005	-	0.00157	-	0.00104	-	-	-	-	0.00321	-
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	-	<0.000010	-	-	-	-	<0.000010	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000246	-	0.000172	-	-	-	-	0.000137	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00844	-	0.00784	-	-	-	-	0.0106	-
Phosphorus (P)-Total	mg/L	0.05	-	-	-	-	-	-	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	2.01	-	2.26	-	-	-	-	3.33	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-	-	-	-	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	<0.000050	-	0.000054	-	-	-	-	0.000056	-
Silicon (Si)-Total	mg/L	0.1	-	3.76	-	3.68	-	-	-	-	4.45	-
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	-	<0.000050	-	-	-	-	<0.000050	-
Sodium (Na)-Total	mg/L	0.5	-	11.5	-	13.1	-	-	-	-	27.3	-
Strontium (Sr)-Total	mg/L	0.001	-	0.0717	-	0.128	-	-	-	-	0.296	-
Sulfur (S)-Total	mg/L	0.5	-	-	-	-	-	-	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	-	-	-	-	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	0.000015	-	0.000012	-	-	-	-	0.000022	-
Thorium (Th)-Total	mg/L	0.0001	-	-	-	-	-	-	-	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	-	<0.00010	-	-	-	-	0.00014	-
Titanium (Ti)-Total	mg/L	0.0003	-	0.00079	-	<0.00030	-	-	-	-	0.00203	-
Tungsten (W)-Total	mg/L	0.0001	-	<0.00010	-	<0.00010	-	-	-	-	<0.00010	-
Uranium (U)-Total	mg/L	0.00001	-	0.00126	-	0.0012	-	-	-	-	0.00357	-
Vanadium (V)-Total	mg/L	0.0005	-	<0.00050	-	<0.00050	-	-	-	-	<0.00050	-
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.0030	-	<0.0030	-	-	-	-	<0.0030	-
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.00030	-	<0.00030	-	-	-	-	<0.00030	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-	-	-	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	-	-	-	No Visible Sheen	-
Phenols (4AAP)	mg/L	0.001	-	0.0011	-	0.0012	-	-	-	-	<0.0010	-
F1 (C6-C10)	ug/L	100	-	<100	-	<100	-	-	-	-	<100	-
F2 (C10-C16)	ug/L	100	-	<100	-	<100	-	-	-	-	<100	-
F3 (C16-C34)	ug/L	250	-	<250	-	<250	-	-	-	-	<250	-
F4 (C34-C50)	ug/L	250	-	<250	-	<250	-	-	-	-	<250	-
Total Hydrocarbons (C6-C50)	ug/L	380	-	<380	-	<380	-	-	-	-	<380	-
Chrom. to baseline at nC50		n/a	-	YES	-	YES	-	-	-	-	YES	-
2-Bromobenzotrifluoride	%	Surrogate	-	85	-	89.7	-	-	-	-	94.5	-
3,4-Dichlorotoluene	%	Surrogate	-	93	-	95.7	-	-	-	-	106.8	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 7

Baffinland

TABLE 7.1.19
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-A

Analyte	Sample ID			MS-C-A	MS-C-A	MS-C-A	MS-C-A02	MS-C-A
	ALS Laboratory Sample ID			L2098315-1	L2101788-1	L2107717-5	L2107717-6	L2112089-6
	Sample Date & Time			5/21/2018 3:20:00 PM	5/28/2018 11:25:00 AM	6/4/2018 10:15:00 AM	6/4/2018 10:15:00 AM	6/11/2018 1:40:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	Field Blank	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	74.7	-	57	<3.0	-
pH	pH units	0.1	6.0 - 9.5	7.37	7.43	7.62	6.27	7.64
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	5.2	2.4	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	45	-	-	59
Turbidity	NTU	0.1	-	-	16.4	-	-	19.7
Ammonia, Total (as N)	mg/L	0.02	-	0.029	-	<0.02	<0.02	-
Nitrate (as N)	mg/L	0.02	-	0.15	-	0.029	<0.02	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

Baffinland

TABLE 7.1.19
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-A

Analyte	Sample ID			MS-C-A	MS-C-A	MS-C-A	MS-C-A	MS-C-A
	ALS Laboratory Sample ID			L2116590-6	L2120528-6	L2124774-6	L2126016-3	L2131286-6
	Sample Date & Time			6/18/2018 11:00:00 AM	6/25/2018 8:40:00 AM	7/3/2018 4:45:00 PM	7/9/2018 8:40:00 AM	7/16/2018 1:55:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	128	-	177	-	182
pH	pH units	0.1	6.0 - 9.5	7.75	7.95	7.87	7.72	7.91
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	106	-	129	-
Turbidity	NTU	0.1	-	-	1.08	-	0.43	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	<0.020	-	<0.020
Nitrate (as N)	mg/L	0.02	-	0.124	-	0.156	-	0.214
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

Baffinland

TABLE 7.1.19
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-A

Analyte	Sample ID			MS-C-A	MS-C-A	MS-C-A	MS-C-A01	MS-C-A
	ALS Laboratory Sample ID			L2136320-11	L2145426-7	L2148365-9	L2148365-12	L2152561-4
	Sample Date & Time			7/24/2018 8:10:00 AM	8/10/2018 9:40:00 AM	8/13/2018 10:00:00 AM	8/13/2018 10:00:00 AM	8/23/2018 10:20:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	-	160	-	-	190
pH	pH units	0.1	6.0 - 9.5	7.94	7.92	7.88	7.85	7.93
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	2.8	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	116	90	104	105	80
Turbidity	NTU	0.1	-	0.52	6.55	3.3	3.16	1.59
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	-	-	<0.020
Nitrate (as N)	mg/L	0.02	-	-	0.26	-	-	0.232
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	-	<2.0
	-	-	No Visible Sheen	-	No Visible Sheen	-	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.19
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-A

Analyte	Sample ID			MS-C-A	MS-C-A	MS-C-A
	ALS Laboratory Sample ID			L2157682-6	L2160173-6	L2163303-5
	Sample Date & Time			8/28/2018 9:25:00 AM	9/4/2018 2:55:00 PM	9/10/2018 2:20:00 PM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]			
Conductivity	umhos/cm	3	-	-	200	-
pH	pH units	0.1	6.0 - 9.5	7.9	7.97	7.99
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	108	105	126
Turbidity	NTU	0.1	-	0.65	0.75	0.49
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	-	0.219	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.20
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-B

Analyte	Sample ID			MS-C-B	MS-C-B01	MS-C-B	MS-C-B	MS-C-B
	ALS Laboratory Sample ID			L2098315-2	L2098315-3	L2101788-2	L2107717-7	L2112089-4
	Sample Date & Time			5/21/2018 3:40:00 PM	5/21/2018 3:40:00 PM	5/28/2018 11:40:00 AM	6/4/2018 11:00:00 AM	6/11/2018 1:55:00 PM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	71	70.9	-	54.3	-
pH	pH units	0.1	6.0 - 9.5	7.24	7.35	7.48	7.41	7.55
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	4	4	2	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	35	-	60
Turbidity	NTU	0.1	-	-	-	16.4	-	21.5
Ammonia, Total (as N)	mg/L	0.02	-	<0.02	<0.02	-	<0.02	-
Nitrate (as N)	mg/L	0.02	-	0.173	0.161	-	0.032	-
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

Baffinland

TABLE 7.1.20
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-B

Analyte	Sample ID			MS-C-B	MS-C-B	MS-C-B	MS-C-B	MS-C-B
	ALS Laboratory Sample ID			L2116590-4	L2120528-4	L2124774-4	L2126016-1	L2131286-7
	Sample Date & Time			6/18/2018 11:35:00 AM	6/25/2018 9:20:00 AM	7/3/2018 5:35:00 PM	7/9/2018 9:05:00 AM	7/16/2018 3:25:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	122	-	177	-	182
pH	pH units	0.1	6.0 - 9.5	7.72	7.92	7.85	7.7	7.85
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	2	<2.0
Total Dissolved Solids	mg/L	10	-	-	96	-	100	-
Turbidity	NTU	0.1	-	-	1.54	-	0.63	-
Ammonia, Total (as N)	mg/L	0.02	-	0.041	-	<0.020	-	0.024
Nitrate (as N)	mg/L	0.02	-	0.126	-	0.17	-	0.229
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.20
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-B

Analyte	Sample ID			MS-C-B	MS-C-B	MS-C-B	MS-C-B	MS-C-B
	ALS Laboratory Sample ID			L2136320-12	L2145426-8	L2148365-18	L2152561-3	L2157682-8
	Sample Date & Time			7/24/2018 8:30:00 AM	8/10/2018 10:30:00 AM	8/13/2018 10:20:00 AM	8/23/2018 10:50:00 AM	8/28/2018 9:50:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	-	177	-	181	-
pH	pH units	0.1	6.0 - 9.5	7.84	7.92	7.84	7.92	7.91
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	114	90	105	81	123
Turbidity	NTU	0.1	-	0.44	7.33	3.45	1.77	0.72
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	-	0.279	-	0.259	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.20
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-B

Analyte	Sample ID			MS-C-B	MS-C-B
	ALS Laboratory Sample ID			L2160173-8	L2163303-6
	Sample Date & Time			9/4/2018 11:30:00 AM	9/10/2018 2:50:00 PM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence Criteria[1]		
Conductivity	umhos/cm	3	-	198	-
pH	pH units	0.1	6.0 - 9.5	7.97	8.05
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	151	120
Turbidity	NTU	0.1	-	0.6	0.5
Ammonia, Total (as N)	mg/L	0.02	-	0.075	-
Nitrate (as N)	mg/L	0.02	-	0.227	-
Oil and Grease, Total	mg/L	2	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.21
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-C

Analyte	Sample ID			MS-C-C	MS-C-C	MS-C-C	MS-C-C	MS-C-C
	ALS Laboratory Sample ID			L2107717-15	L2112089-14	L2116590-14	L2120528-14	L2124774-15
	Sample Date & Time			6/4/2018 2:25:00 PM	6/11/2018 2:50:00 PM	6/18/2018 3:30:00 PM	6/25/2018 10:10:00 AM	7/4/2018 9:55:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	405	-	438	-	661
pH	pH units	0.1	6.0 - 9.5	7.87	7.92	7.91	8.13	7.95
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	4.2	<2.0	8.2	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	197	-	419	-
Turbidity	NTU	0.1	-	-	2.01	-	1.05	-
Ammonia, Total (as N)	mg/L	0.02	-	0.239	-	<0.020	-	<0.020
Nitrate (as N)	mg/L	0.02	-	1.64	-	2.36	-	2.85
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.21
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-C

Analyte	Sample ID			MS-C-C	MS-C-C	MS-C-C	MS-C-C	MS-C-C
	ALS Laboratory Sample ID			L2126016-11	L2131286-2	L2136320-7	L2145426-6	L2148365-7
	Sample Date & Time			7/9/2018 10:45:00 AM	7/16/2018 5:15:00 PM	7/23/2018 4:35:00 PM	8/10/2018 9:10:00 AM	8/13/2018 11:20:05 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	-	858	-	781	-
pH	pH units	0.1	6.0 - 9.5	7.82	7.89	8.1	7.98	7.93
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	490	-	647	545	677
Turbidity	NTU	0.1	-	2.54	-	1.4	0.9	0.24
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	-	3.86	-	4.17	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.21
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-C

Analyte	Sample ID			MS-C-C	MS-C-C03	MS-C-C	MS-C-C	MS-C-C
	ALS Laboratory Sample ID			L2153239-2	L2153239-3	L2157682-14	L2160173-2	L2163303-15
	Sample Date & Time			8/24/2018 10:45:00 AM	8/24/2018 10:45:00 AM	8/28/2018 10:35:00 AM	9/4/2018 9:25:00 AM	9/11/2018 12:10:00 PM
	QA/QC Sample Type			N/A	Travel Blank	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	1020	<3.0	-	1230	-
pH	pH units	0.1	6.0 - 9.5	8.01	5.77	8.09	7.98	7.94
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	3.1	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	725	<20	786	901	1050
Turbidity	NTU	0.1	-	0.21	<0.10	0.54	0.22	0.18
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	4.93	<0.020	-	5.98	-
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.22
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-D

Analyte	Sample ID			MS-C-D	MS-C-D	MS-C-D	MS-C-D	MS-C-D
	ALS Laboratory Sample ID			L2098315-6	L2101788-5	L2107717-14	L2112089-10	L2116590-10
	Sample Date & Time			5/21/2018 4:55:00 PM	5/28/2018 10:25:00 AM	6/4/2018 1:55:00 PM	6/11/2018 2:35:00 PM	6/18/2018 3:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	348	-	279	-	516
pH	pH units	0.1	6.0 - 9.5	7.7	7.75	7.88	7.99	8.1
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	13.6	6.4	2.7	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	100	-	179	-
Turbidity	NTU	0.1	-	-	22.2	-	9.23	-
Ammonia, Total (as N)	mg/L	0.02	-	0.564	-	0.23	-	0.122
Nitrate (as N)	mg/L	0.02	-	0.726	-	0.784	-	1.83
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.22
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-D

Analyte	Sample ID			MS-C-D	MS-C-D	MS-C-D	MS-C-D02	MS-C-D
	ALS Laboratory Sample ID			L2120528-10	L2124774-10	L2126016-6	L2126016-4	L2132023-8
	Sample Date & Time			6/25/2018 9:55:00 AM	7/4/2018 9:40:00 AM	7/9/2018 10:30:00 AM	7/9/2018 10:30:00 AM	7/18/2018 1:40:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	Field Blank	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	-	671	-	-	798
pH	pH units	0.1	6.0 - 9.5	8.25	8.14	8.16	5.69	8.37
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	428	-	433	<20	-
Turbidity	NTU	0.1	-	2.94	-	1.9	<0.10	-
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	-	-	<0.020
Nitrate (as N)	mg/L	0.02	-	-	2.19	-	-	3.23
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	-	<2.0
	-	-	No Visible Sheen	-	No Visible Sheen	-	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.22
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-D

Analyte	Sample ID			MS-C-D	MS-C-D	MS-C-D	MS-C-D	MS-C-D
	ALS Laboratory Sample ID			L2136320-2	L2145426-10	L2148365-8	L2152561-2	L2157682-9
	Sample Date & Time			7/23/2018 4:25:00 PM	8/10/2018 9:00:00 AM	8/13/2018 11:10:00 AM	8/23/2018 4:35:00 PM	8/28/2018 10:20:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	-	684	-	888	-
pH	pH units	0.1	6.0 - 9.5	8.33	8.34	8.29	8.36	8.26
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	3	2	2.8	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	559	450	490	575	597
Turbidity	NTU	0.1	-	5.13	5.47	5.77	2.34	1.82
Ammonia, Total (as N)	mg/L	0.02	-	-	0.02	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	-	3.87	-	4.33	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.22
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-D

Analyte	Sample ID			MS-C-D02	MS-C-D	MS-C-D
	ALS Laboratory Sample ID			L2157682-7	L2160173-9	L2163303-14
	Sample Date & Time			8/28/2018 10:20:00 AM	9/4/2018 9:10:00 AM	9/11/2018 11:40:00 AM
	QA/QC Sample Type			Field Blank	N/A	N/A
	Units	LOR	Water Licence Criteria[1]			
Conductivity	umhos/cm	3	-	-	957	-
pH	pH units	0.1	6.0 - 9.5	6	8.22	8.38
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	11	652	760
Turbidity	NTU	0.1	-	0.2	1.5	1
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	-	4.8	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.23
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-E

Analyte	Sample ID			MS-C-E	MS-C-E	MS-C-E	MS-C-E03	MS-C-E
	ALS Laboratory Sample ID			L2098315-5	L2101788-4	L2107717-8	L2107717-9	L2112089-7
	Sample Date & Time			5/21/2018 4:10:00 PM	5/28/2018 10:15:00 AM	6/4/2018 11:50:00 AM	6/4/2018 11:50:00 AM	6/11/2018 2:25:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	Travel Blank	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	206	-	180	<3.0	-
pH	pH units	0.1	6.0 - 9.5	7.67	7.54	7.78	6.08	8
Total Suspended Solids[2]	mg/L	2	Grab 30 and Average 15	**42.8**	16.8	5.3	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	76	-	-	163
Turbidity	NTU	0.1	-	-	26.3	-	-	2.98
Ammonia, Total (as N)	mg/L	0.02	-	0.251	-	0.041	<0.02	-
Nitrate (as N)	mg/L	0.02	-	0.39	-	0.419	<0.02	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	No Visible Sheen	-

Notes:

Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for May exceeded maximum average TSS concentration discharge limits

TABLE 7.1.23
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-E

Analyte	Sample ID			MS-C-E01	MS-C-E	MS-C-E	MS-C-E	MS-C-E
	ALS Laboratory Sample ID			L2112089-5	L2116590-5	L2120528-5	L2124774-5	L2126016-2
	Sample Date & Time			6/11/2018 2:25:00 PM	6/18/2018 2:35:00 PM	6/25/2018 5:35:00 PM	7/4/2018 9:00:00 AM	7/9/2018 10:15:00 AM
	QA/QC Sample Type			Field Duplicate	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	-	430	-	635	-
pH	pH units	0.1	6.0 - 9.5	7.99	8.03	8.25	8.1	7.93
Total Suspended Solids[2]	mg/L	2	Grab 30 and Average 15	9.7	<2.0	4.5	<2.0	2.4
Total Dissolved Solids	mg/L	10	-	171	-	357	-	395
Turbidity	NTU	0.1	-	6.21	-	2.13	-	3.47
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	-	1.21	-	1.7	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for May exceeded maximum average TSS concentration discharge limits

TABLE 7.1.23
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-E

Analyte	Sample ID			MS-C-E	MS-C-E	MS-C-E	MS-C-E	MS-C-E
	ALS Laboratory Sample ID			L2131286-1	L2136320-9	L2145426-9	L2148365-11	L2152561-1
	Sample Date & Time			7/16/2018 4:35:00 PM	7/23/2018 4:10:00 PM	8/10/2018 7:50:00 AM	8/13/2018 10:55:00 AM	8/23/2018 4:05:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	629	-	1380	-	1380
pH	pH units	0.1	6.0 - 9.5	8.14	8.21	7.66	7.83	7.97
Total Suspended Solids[2]	mg/L	2	Grab 30 and Average 15	25.2	<2.0	<2.0	2.8	<2.0
Total Dissolved Solids	mg/L	10	-	-	508	1200	1130	1040
Turbidity	NTU	0.1	-	-	1.76	2.93	1.42	0.61
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	0.334	-	0.154
Nitrate (as N)	mg/L	0.02	-	1.8	-	4.69	-	5.75
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Average TSS for May exceeded maximum average TSS concentration discharge limits

TABLE 7.1.23
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-E

Analyte	Sample ID			MS-C-E	MS-C-E
	ALS Laboratory Sample ID			L2160173-7	L2163303-13
	Sample Date & Time			9/4/2018 8:55:00 AM	9/11/2018 10:50:00 AM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence Criteria[1]		
Conductivity	umhos/cm	3	-	1250	-
pH	pH units	0.1	6.0 - 9.5	8.05	7.9
Total Suspended Solids[2]	mg/L	2	Grab 30 and Average 15	<2.0	2
Total Dissolved Solids	mg/L	10	-	928	970
Turbidity	NTU	0.1	-	0.47	0.27
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	5.44	-
Oil and Grease, Total	mg/L	2	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11
[2] Average TSS for May exceeded maximum average TSS concentration discharge limits

TABLE 7.1.24
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-F

Analyte	Sample ID			MS-C-F	MS-C-F	MS-C-F02	MS-C-F	MS-C-F03
	ALS Laboratory Sample ID			L2107717-2	L2112089-9	L2112089-8	L2116590-9	L2116590-8
	Sample Date & Time			6/4/2018 5:35:00 PM	6/11/2018 5:45:00 PM	6/11/2018 5:45:00 PM	6/18/2018 12:10:00 PM	6/18/2018 12:10:00 PM
	QA/QC Sample Type			N/A	N/A	Field Blank	N/A	Travel Blank
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	50.7	-	-	167	<3.0
pH	pH units	0.1	6.0 - 9.5	7.38	7.58	6.15	7.7	5.85
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	2.1	2	<2.0	4.1	<2.0
Total Dissolved Solids	mg/L	13	-	-	61	<10	-	-
Turbidity	NTU	0.1	-	-	24.8	0.8	-	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.02	-	-	<0.020	0.021
Nitrate (as N)	mg/L	0.02	-	0.033	-	-	0.215	<0.020
Oil and Grease, Total	mg/L	2	-	<2.0	-	-	<2.0	<2.0
	-	-	No Visible Sheen	No Visible Sheen	-	-	No Visible Sheen	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.24
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-F

Analyte	Sample ID			MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F
	ALS Laboratory Sample ID			L2120528-9	L2124774-9	L2126016-5	L2131286-8	L2136320-8
	Sample Date & Time			6/25/2018 2:10:00 PM	7/4/2018 1:45:00 PM	7/9/2018 12:15:00 PM	7/16/2018 4:15:00 PM	7/23/2018 5:05:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	-	205	-	197	-
pH	pH units	0.1	6.0 - 9.5	7.91	7.99	7.92	8.02	8.07
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	3.2	<2.0
Total Dissolved Solids	mg/L	13	-	151	-	105	-	133
Turbidity	NTU	0.1	-	7.61	-	1.74	-	3.25
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	-	0.022	-
Nitrate (as N)	mg/L	0.02	-	-	0.183	-	0.295	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.24
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-F

Analyte	Sample ID			MS-C-F	MS-C-F01	MS-C-F	MS-C-F	MS-C-F
	ALS Laboratory Sample ID			L2145426-11	L2145426-12	L2148365-2	L2152564-1	L2157682-18
	Sample Date & Time			8/10/2018 6:05:00 PM	8/10/2018 6:05:00 PM	8/13/2018 6:10:00 PM	8/22/2018 12:10:00 PM	8/27/2018 6:10:00 PM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	189	188	-	195	-
pH	pH units	0.1	6.0 - 9.5	7.96	7.97	7.89	7.93	7.98
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	3.6	3.2	4	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	105	95	100	80	110
Turbidity	NTU	0.1	-	28.2	32.8	17	6.98	4.48
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020	-	0.026	-
Nitrate (as N)	mg/L	0.02	-	0.378	0.396	-	0.327	-
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.24
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-F

Analyte	Sample ID			MS-C-F	MS-C-F	MS-C-F02
	ALS Laboratory Sample ID			L2160173-4	L2163303-11	L2163303-12
	Sample Date & Time			9/4/2018 11:00:00 AM	9/11/2018 9:30:00 AM	9/11/2018 9:30:00 AM
	QA/QC Sample Type			N/A	N/A	Field Blank
	Units	LOR	Water Licence Criteria[1]			
Conductivity	umhos/cm	3	-	205	-	-
pH	pH units	0.1	6.0 - 9.5	8.03	8.11	5.87
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	113	140	<20
Turbidity	NTU	0.1	-	4.18	2.39	<0.10
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	-
Nitrate (as N)	mg/L	0.02	-	0.285	-	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	-
	-	-	No Visible Sheen	No Visible Sheen	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.25
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-G

Analyte	Sample ID			MS-C-G	MS-C-G	MS-C-G	MS-C-G01	MS-C-G
	ALS Laboratory Sample ID			L2107717-12	L2120528-15	L2124774-14	L2124774-8	L2126016-10
	Sample Date & Time			6/4/2018 5:00:00 PM	6/25/2018 11:45:00 AM	7/4/2018 11:30:00 AM	7/4/2018 11:30:00 AM	7/9/2018 3:45:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	77.9	152	162	160	-
pH	pH units	0.1	6.0 - 9.5	7.62	8.07	7.99	7.98	7.9
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	2.6	6.9	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	-	-	-	-	105
Turbidity	NTU	0.1	-	-	-	-	-	0.55
Ammonia, Total (as N)	mg/L	0.02	-	0.187	<0.020	<0.020	<0.020	-
Nitrate (as N)	mg/L	0.02	-	0.277	0.093	0.198	0.202	-
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

Baffinland

TABLE 7.1.25
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-G

Analyte	Sample ID			MS-C-G	MS-C-G02	MS-C-G	MS-C-G	MS-C-G
	ALS Laboratory Sample ID			L2131286-5	L2131286-4	L2136320-3	L2145415-5	L2148365-3
	Sample Date & Time			7/16/2018 9:45:00 AM	7/16/2018 9:45:00 AM	7/23/2018 2:00:00 PM	8/9/2018 2:40:00 PM	8/13/2018 5:15:00 PM
	QA/QC Sample Type			N/A	Field Blank	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	170	<3.0	-	177	-
pH	pH units	0.1	6.0 - 9.5	7.89	6.1	8	8.21	7.96
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	-	-	116	105	119
Turbidity	NTU	0.1	-	-	-	0.8	0.23	0.22
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	0.551	<0.020	-	1.25	-
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

Baffinland

TABLE 7.1.25
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-G

Analyte	Sample ID			MS-C-G	MS-C-G	MS-C-G	MS-C-G	MS-C-G03
	ALS Laboratory Sample ID			L2152561-5	L2157682-16	L2160173-3	L2163303-8	L2163303-9
	Sample Date & Time			8/23/2018 12:10:00 PM	8/27/2018 4:50:00 PM	9/3/2018 3:35:00 PM	9/11/2018 8:40:00 AM	9/11/2018 8:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Travel Blank
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	194	-	221	-	-
pH	pH units	0.1	6.0 - 9.5	8	8	8.01	8.08	5.79
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	70	112	114	143	45
Turbidity	NTU	0.1	-	1.86	0.26	0.33	0.14	0.1
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	0.021	-	-
Nitrate (as N)	mg/L	0.02	-	1.27	-	3.01	-	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.26
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-H

Analyte	Sample ID			MS-C-H	MS-C-H	MS-C-H	MS-C-H	MS-C-H
	ALS Laboratory Sample ID			L2107717-13	L2112089-13	L2116590-13	L2120528-13	L2124774-13
	Sample Date & Time			6/4/2018 4:15:00 PM	6/11/2018 5:10:00 PM	6/19/2018 9:45:00 AM	6/25/2018 12:00:00 PM	7/4/2018 11:50:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	59.6	-	126	-	185
pH	pH units	0.1	6.0 - 9.5	7.58	7.76	7.93	8.08	7.98
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	33	-	109	-
Turbidity	NTU	0.1	-	-	13.3	-	0.88	-
Ammonia, Total (as N)	mg/L	0.02	-	0.028	-	<0.020	-	<0.020
Nitrate (as N)	mg/L	0.02	-	0.112	-	0.473	-	0.106
Oil and Grease, Total	mg/L	2	-					
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.26
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-H

Analyte	Sample ID			MC-C-H01	MS-C-H	MS-C-H	MS-C-H	MS-C-H
	ALS Laboratory Sample ID			L2124774-7	L2126016-9	L2131286-3	L2136320-4	L2145415-3
	Sample Date & Time			7/4/2018 11:50:00 AM	7/9/2018 4:10:00 PM	7/16/2018 9:10:00 AM	7/23/2018 2:20:00 PM	8/9/2018 3:20:00 PM
	QA/QC Sample Type			Field Duplicate	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	186	-	175	-	192
pH	pH units	0.1	6.0 - 9.5	8	8.12	8.13	8.12	8.23
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	95	-	142	105
Turbidity	NTU	0.1	-	-	0.51	-	0.82	0.19
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	<0.020	-	<0.020
Nitrate (as N)	mg/L	0.02	-	0.114	-	0.027	-	0.246
Oil and Grease, Total	mg/L	2	-					
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

Baffinland

TABLE 7.1.26
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-H

Analyte	Sample ID			MS-C-H	MS-C-H	MS-C-H01	MS-C-H	MS-C-H
	ALS Laboratory Sample ID			L2148365-1	L2152561-6	L2152561-7	L2157682-12	L2160173-11
	Sample Date & Time			8/13/2018 5:40:00 PM	8/23/2018 11:40:00 AM	8/23/2018 11:40:00 AM	8/27/2018 5:10:00 PM	9/3/2018 4:00:00 PM
	QA/QC Sample Type			N/A	N/A	Field Duplicate	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	-	216	215	-	230
pH	pH units	0.1	6.0 - 9.5	8.13	8.21	8.2	8.13	8.17
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	121	125	95	118	126
Turbidity	NTU	0.1	-	0.22	1.84	1.55	0.26	0.62
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	<0.020	-	<0.020
Nitrate (as N)	mg/L	0.02	-	-	0.057	0.057	-	0.033
Oil and Grease, Total	mg/L	2	-					
	-	-	No Visible Sheen	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

TABLE 7.1.26
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-H

Analyte	Sample ID			MS-C-H
	ALS Laboratory Sample ID			L2163303-10
	Sample Date & Time			9/11/2018 9:00:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Water Licence Criteria[1]	
Conductivity	umhos/cm	3	-	-
pH	pH units	0.1	6.0 - 9.5	8.2
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0
Total Dissolved Solids	mg/L	10	-	150
Turbidity	NTU	0.1	-	0.18
Ammonia, Total (as N)	mg/L	0.02	-	-
Nitrate (as N)	mg/L	0.02	-	-
Oil and Grease, Total	mg/L	2	-	
	-	-	No Visible Sheen	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

Baffinland

TABLE 7.1.27
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-A

Analyte	Sample ID			MQ-C-A	MQ-C-A	MQ-C-A	MQ-C-A	MQ-C-A
	ALS Laboratory Sample ID			L2103396-1	L2107717-1	L2112089-2	L2116590-2	L2120528-2
	Sample Date & Time			5/29/2018 8:40:00 AM	6/4/2018 8:15:00 AM	6/11/2018 10:45:00 AM	6/18/2018 9:25:00 AM	6/25/2018 10:35:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	53.8	86.2	-	170	-
pH	pH units	0.1	6.0 - 9.5	7.5	7.64	7.84	8.01	8.08
Total Suspended Solids	mg/L	2	Grab 30, Average 15	3.1	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	-	-	40	-	82
Turbidity	NTU	0.1	-	-	-	5.36	-	0.57
Ammonia, Total (as N)	mg/L	0.02	-	0.125	0.031	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	0.574	0.101	-	0.033	-
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-
Acute Lethality[2,3]	N/A		Non-Lethal	Non-lethal	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

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TABLE 7.1.27
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-A

Analyte	Sample ID			MQ-C-A01	MQ-C-A	MQ-C-A	MQ-C-A	MQ-C-A
	ALS Laboratory Sample ID			L2120528-7	L2124774-2	L2127409-7	L2131286-12	L2136320-1
	Sample Date & Time			6/25/2018 10:35:00 AM	7/4/2018 5:10:00 PM	7/10/2018 12:15:00 PM	7/16/2018 11:38:00 AM	7/23/2018 9:15:00 AM
	QA/QC Sample Type			Field Duplicate	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	-	179	-	233	-
pH	pH units	0.1	6.0 - 9.5	8.08	8.15	8.15	8.16	8.18
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	89	-	118	-	173
Turbidity	NTU	0.1	-	0.84	-	0.46	-	0.31
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	-	0.021	-	<0.020	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen	-
Acute Lethality[2,3]	N/A		Non-Lethal	-	Non-lethal	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.27
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-A

Analyte	Sample ID			MQ-C-A	MQ-C-A	MQ-C-A	MQ-C-A	MQ-C-A01
	ALS Laboratory Sample ID			L2145415-4	L2148365-17	L2152564-4	L2157682-5	L2157682-4
	Sample Date & Time			8/9/2018 12:10:00 PM	8/13/2018 9:25:00 AM	8/22/2018 10:50:00 AM	8/28/2018 8:25:00 AM	8/28/2018 8:25:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Field Duplicate
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	231	-	269	-	-
pH	pH units	0.1	6.0 - 9.5	8.26	8.14	8.18	8.16	8.17
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0	7	<2.0
Total Dissolved Solids	mg/L	13	-	140	157	141	174	183
Turbidity	NTU	0.1	-	0.27	0.43	0.31	0.21	0.28
Ammonia, Total (as N)	mg/L	0.02	-	0.047	-	0.036	-	-
Nitrate (as N)	mg/L	0.02	-	<0.020	-	<0.020	-	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	-
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.27
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-A

Analyte	Sample ID			MQ-C-A	MQ-C-A
	ALS Laboratory Sample ID			L2160173-12	L2163303-1
	Sample Date & Time			9/5/2018 2:50:00 PM	9/10/2018 1:10:00 PM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence Criteria[1]		
Conductivity	umhos/cm	3	-	291	-
pH	pH units	0.1	6.0 - 9.5	8.21	8.23
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	155	155
Turbidity	NTU	0.1	-	0.45	0.14
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	<0.020	-
Oil and Grease, Total	mg/L	2	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-
Acute Lethality[2,3]	N/A		Non-Lethal	Non-lethal	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.

[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11

[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)

[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.28
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-B

Analyte	Sample ID			MQ-C-B	MQ-C-B	MQ-C-B02	MQ-C-B
	ALS Laboratory Sample ID			L2112089-1	L2116590-1	L2116590-7	L2120528-1
	Sample Date & Time			6/11/2018 11:15:00 AM	6/18/2018 10:30:00 AM	6/18/2018 10:30:00 AM	6/25/2018 3:00:00 PM
	QA/QC Sample Type			N/A	N/A	Field Blank	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	-	167	<3.0	-
pH	pH units	0.1	6.0 - 9.5	7.74	7.89	5.91	8.11
Total Suspended Solids	mg/L	2	Grab 30, Average 15	8	22.3	<2.0	2.2
Total Dissolved Solids	mg/L	10	-	48	-	-	148
Turbidity	NTU	0.1	-	35.8	-	-	7.6
Ammonia, Total (as N)	mg/L	0.02	-	-	0.58	<0.020	-
Nitrate (as N)	mg/L	0.02	-	-	2.85	<0.020	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	No Visible Sheen	-
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.28
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-B

Analyte	Sample ID			MQ-C-B02	MQ-C-B	MQ-C-B	MQ-C-B
	ALS Laboratory Sample ID			L2120528-8	L2124774-1	L2127409-6	L2131286-11
	Sample Date & Time			6/25/2018 3:00:00 PM	7/3/2018 4:15:00 PM	7/10/2018 12:40:00 PM	7/16/2018 12:30:00 PM
	QA/QC Sample Type			Field Blank	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	-	209	-	296
pH	pH units	0.1	6.0 - 9.5	6.04	8.03	8.15	8.18
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	11.1	<2.0	2.4
Total Dissolved Solids	mg/L	10	-	<10	-	129	-
Turbidity	NTU	0.1	-	0.69	-	3.97	-
Ammonia, Total (as N)	mg/L	0.02	-	-	0.181	-	0.222
Nitrate (as N)	mg/L	0.02	-	-	1.31	-	3.23
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	<2.0
	-	-	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.28
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-B

Analyte	Sample ID			MQ-C-B01	MQ-C-B	MQ-C-B02	MQ-C-B
	ALS Laboratory Sample ID			L2131286-13	L2132023-6	L2132023-7	L2136320-5
	Sample Date & Time			7/16/2018 12:30:00 PM	7/18/2018 2:10:00 PM	7/18/2018 2:10:00 PM	7/23/2018 3:55:00 PM
	QA/QC Sample Type			Field Duplicate	N/A	Field Blank	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	297	320	3.7	-
pH	pH units	0.1	6.0 - 9.5	8.16	8.26	6.12	8.2
Total Suspended Solids	mg/L	2	Grab 30, Average 15	3.2	5.6	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	-	230
Turbidity	NTU	0.1	-	-	-	-	2.49
Ammonia, Total (as N)	mg/L	0.02	-	0.234	0.314	<0.020	-
Nitrate (as N)	mg/L	0.02	-	3.22	4.24	<0.020	-
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	No Visible Sheen	-
Acute Lethality[2,3]	N/A		Non-Lethal	-	Non-lethal	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.28
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-B

Analyte	Sample ID			MQ-C-B	MQ-C-B01	MQ-C-B	MQ-C-B
	ALS Laboratory Sample ID			L2145415-6	L2145415-7	L2148365-19	L2148408-1
	Sample Date & Time			8/9/2018 5:10:00 PM	8/9/2018 5:10:00 PM	8/14/2018 2:15:00 PM	8/15/2018 2:55:00 PM
	QA/QC Sample Type			N/A	Field Duplicate	N/A	N/A
	Units	LOR	Water Licence Criteria[1]				
Conductivity	umhos/cm	3	-	291	289	-	368
pH	pH units	0.1	6.0 - 9.5	8.28	8.27	8.21	8.2
Total Suspended Solids	mg/L	2	Grab 30, Average 15	2	2.4	2	<2.0
Total Dissolved Solids	mg/L	10	-	175	180	210	223
Turbidity	NTU	0.1	-	5.25	4.87	1.28	1.75
Ammonia, Total (as N)	mg/L	0.02	-	0.278	0.258	-	3.42
Nitrate (as N)	mg/L	0.02	-	3.47	3.46	-	5.79
Oil and Grease, Total	mg/L	2	-	<2.0	<2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen	No Visible Sheen	-	No Visible Sheen
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	-	Non-lethal

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.28
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-B

Analyte	Sample ID			MQ-C-B	MQ-C-B	MQ-C-B	MQ-C-B	MQ-C-B01
	ALS Laboratory Sample ID			L2152564-3	L2157682-10	L2160173-10	L2163303-3	L2163303-4
	Sample Date & Time			8/22/2018 11:45:00 AM	8/28/2018 9:05:00 AM	9/3/2018 3:05:00 PM	9/10/2018 2:00:00 PM	9/10/2018 2:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Field Duplicate
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	354	-	375	-	-
pH	pH units	0.1	6.0 - 9.5	8.16	8.13	8.13	8.2	8.21
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	198	239	201	210	196
Turbidity	NTU	0.1	-	1.11	0.99	2.24	0.68	0.63
Ammonia, Total (as N)	mg/L	0.02	-	0.258	-	0.189	-	-
Nitrate (as N)	mg/L	0.02	-	4.61	-	4.51	-	-
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-	-
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	-
Acute Lethality[2,3]	N/A		Non-Lethal	-	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11
[2] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[3] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.29
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-D

Analyte	Sample ID			MQ-C-D	MQ-C-D	MQ-C-D	MQ-C-D	MQ-C-D
	ALS Laboratory Sample ID			L2098315-4	L2101788-3	L2107717-3	L2112089-3	L2116590-3
	Sample Date & Time			5/21/2018 2:05:00 PM	5/28/2018 1:55:00 PM	6/4/2018 9:00:00 AM	6/11/2018 10:55:00 AM	6/19/2018 4:15:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	264	-	192	-	157
pH	pH units	0.1	6.0 - 9.5	7.67	7.71	7.89	7.8	8.39
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	25.2	**36.4**	3.9	4.2	2.9
Total Dissolved Solids	mg/L	10	-	-	86	-	95	-
Turbidity	NTU	0.1	-	-	70.1	-	33.8	-
Ammonia, Total (as N)	mg/L	0.02	-	0.173	-	0.129	-	0.288
Nitrate (as N)	mg/L	0.02	-	0.682	-	0.579	-	1.43
Oil and Grease, Total	mg/L	2	-	<2.0	-	<2.0	-	<2.0
	-	-	No Visible Sheen	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	-	-	Non-Lethal

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11
[2] Average TSS for May exceeded maximum average TSS concentration discharge limits
[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.29
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-D

Analyte	Sample ID			MQ-C-D	MQ-C-D	MQ-C-D	MQ-C-D01	MQ-C-D
	ALS Laboratory Sample ID			L2120528-3	L2124774-3	L2127409-5	L2127409-1	L2131286-14
	Sample Date & Time			6/25/2018 3:30:00 PM	7/3/2018 3:50:00 PM	7/10/2018 12:20:00 PM	7/10/2018 12:20:00 PM	7/16/2018 11:50:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	Field Duplicate	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	-	183	-	-	237
pH	pH units	0.1	6.0 - 9.5	8.02	7.97	8.03	8.01	8.2
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	7.5	2.8	7.2	10	5.6
Total Dissolved Solids	mg/L	10	-	137	-	119	126	-
Turbidity	NTU	0.1	-	44.7	-	21.5	22	-
Ammonia, Total (as N)	mg/L	0.02	-	-	0.349	-	-	0.294
Nitrate (as N)	mg/L	0.02	-	-	1.89	-	-	3.34
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	-	<2.0
	-	-	No Visible Sheen	-	No Visible Sheen	-	-	No Visible Sheen
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11
[2] Average TSS for May exceeded maximum average TSS concentration discharge limits
[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.29
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-D

Analyte	Sample ID			MQ-C-D	MQ-C-D	MQ-C-D	MQ-C-D	MQ-C-D
	ALS Laboratory Sample ID			L2136320-6	L2145415-8	L2148365-13	L2152564-2	L2157682-15
	Sample Date & Time			7/23/2018 9:55:00 AM	8/9/2018 12:20:00 PM	8/13/2018 9:35:00 AM	8/22/2018 11:10:00 PM	8/28/2018 8:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria[1]					
Conductivity	umhos/cm	3	-	-	306	-	335	-
pH	pH units	0.1	6.0 - 9.5	8.07	8.26	8.11	8.07	8.09
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	2.1	6.4	9.6	3.2	<2.0
Total Dissolved Solids	mg/L	10	-	183	195	190	176	196
Turbidity	NTU	0.1	-	4.74	38	17.7	11.2	7.53
Ammonia, Total (as N)	mg/L	0.02	-	-	0.268	-	0.12	-
Nitrate (as N)	mg/L	0.02	-	-	3.85	-	3.5	-
Oil and Grease, Total	mg/L	2	-	-	<2.0	-	<2.0	-
	-	-	No Visible Sheen	-	No Visible Sheen	-	No Visible Sheen	-
Acute Lethality[3,4]	N/A		Non-Lethal	-	-	-	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11
[2] Average TSS for May exceeded maximum average TSS concentration discharge limits
[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

TABLE 7.1.29
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-D

Analyte	Sample ID			MQ-C-D	MQ-C-D
	ALS Laboratory Sample ID			L2160173-1	L2163303-2
	Sample Date & Time			9/3/2018 2:40:00 PM	9/10/2018 1:25:00 PM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence Criteria[1]		
Conductivity	umhos/cm	3	-	358	-
pH	pH units	0.1	6.0 - 9.5	8.11	8.16
Total Suspended Solids[2]	mg/L	2	Grab 30, Average 15	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	187	210
Turbidity	NTU	0.1	-	5.75	3.14
Ammonia, Total (as N)	mg/L	0.02	-	0.131	-
Nitrate (as N)	mg/L	0.02	-	3.72	-
Oil and Grease, Total	mg/L	2	-	<2.0	-
	-	-	No Visible Sheen	No Visible Sheen	-
Acute Lethality[3,4]	N/A		Non-Lethal	-	-

Notes:
Bold highlight indicate results that exceeded the applicable water quality criteria.
[1] Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11
[2] Average TSS for May exceeded maximum average TSS concentration discharge limits
[3] Acute lethality to Rainbow trout (as per Environment Canada Method EPS/1/RM/13)
[4] Acute lethality to Daphnia magna (as per Environment Canada Method EPS/1/RM/14)

Baffinland

TABLE 7.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
FIELD QA/QC WATER QUALITY DATA ANALYSES -
FIELD DUPLICATES, FIELD BLANKS, AND TRAVEL BLANKS - 2018

FIELD DUPLICATES
% Difference Comparison

Parameter	MDL	Units	Laboratory	L2043724-1 MP-01 9-Jan-18	L2043724-3 MP-0101 9-Jan-18	% Difference
pH	0.1	pH units	ALS	7.9	7.85	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	2.1	--
Alkalinity, Total (as CaCO3)	10	mg/L	ALS	156	158	1.3
Ammonia, Total (as N)	0.020	mg/L	ALS	0.078	0.057	26.9
Total Kjeldahl Nitrogen	0.150	mg/L	ALS	2.09	2.13	1.9
Phosphorus, Total	0.0030	mg/L	ALS	9.99	9.93	0.6
Fecal Coliforms	0	CFU/100mL	ALS	0	0	--
BOD	2	mg/L	ALS	<2.0	2.4	--
COD	10	mg/L	ALS	39	37	5.1
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L2194088-1 MP-01 6-Nov-18	L2194088-2 MP-0101 6-Nov-18	**% Difference**
pH	0.1	pH units	ALS	7.07	7.06	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Alkalinity, Total (as CaCO3)	10	mg/L	ALS	58	59	1.7
Ammonia, Total (as N)	0.02	mg/L	ALS	0.04	0.036	10.0
Total Kjeldahl Nitrogen	0.15	mg/L	ALS	2.03	2.13	4.9
Phosphorus, Total	0.003	mg/L	ALS	7.14	7.16	0.3
Fecal Coliforms	0	CFU/100mL	ALS	0	0	--
BOD	2	mg/L	ALS	<2.0	<2.0	--
COD	10	mg/L	ALS	40	40	0.0
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L2043724-1 MP-01 12-Dec-18	L2043724-3 MP-0101 12-Dec-18	**% Difference**
pH	0.1	pH units	ALS	7.9	7.85	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	2.1	--
Alkalinity, Total (as CaCO3)	10	mg/L	ALS	156	158	1.3
Ammonia, Total (as N)	0.020	mg/L	ALS	0.078	0.057	26.9
Total Kjeldahl Nitrogen	0.150	mg/L	ALS	2.09	2.13	1.9
Phosphorus, Total	0.0030	mg/L	ALS	9.99	9.93	0.6
Fecal Coliforms	0	CFU/100mL	ALS	0	0	--
BOD	2	mg/L	ALS	<2.0	2.4	--
COD	10	mg/L	ALS	39	37	5.1
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--

Baffinland

TABLE 7.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
FIELD QA/QC WATER QUALITY DATA ANALYSES -
FIELD DUPLICATES, FIELD BLANKS, AND TRAVEL BLANKS - 2018

FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2111033-3 MP-C-B01 11-Jun-18	L2111033-4 MP-C-B0101 11-Jun-18	% Difference
pH	0.1	pH units	ALS	8.03	8.04	N/A
Total Suspended Solids	2	mg/L	ALS	46.1	52.4	13.7
Total Dissolved Solids	10	mg/L	ALS	369	364	1.4
Turbidity	0.1	NTU	ALS	115	116	0.9
Parameter	**MDL**	**Units**	**Laboratory**	L2120589-5 MP-C-B01 25-Jun-18	L2120589-6 MP-C-B0101 25-Jun-18	**% Difference**
Conductivity	3	umhos/cm	ALS	467	465	0.4
pH	0.10	pH units	ALS	8.17	8.19	N/A
Total Suspended Solids	2	mg/L	ALS	3.2	2.8	12.5
Ammonia, Total (as N)	0.02	mg/L	ALS	1.37	1.37	--
Nitrate (as N)	0.02	mg/L	ALS	6.53	6.3	3.5
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L2143614-6 MP-C-B01 7-Aug-18	L2143614-3 MP-C-B0101 7-Aug-18	**% Difference**
Conductivity	3	umhos/cm	ALS	532	529	0.6
pH	0.10	pH units	ALS	8.15	8.15	N/A
Total Suspended Solids	2	mg/L	ALS	6.7	5.7	14.9
Total Dissolved Solids	10	mg/L	ALS	322	314	2.5
Turbidity	0.10	NTU	ALS	24.9	24.5	1.6
Ammonia, Total (as N)	0.02	mg/L	ALS	0.644	0.698	8.4
Nitrate (as N)	0.02	mg/L	ALS	5.19	5.12	1.3
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L1957697-3 MP-C-H 4-Jun-18	L1957697-4 MP-C-H01 4-Jun-18	**% Difference**
Conductivity	3	umhos/cm	ALS	1140	1150	0.9
pH	0.10	pH units	ALS	7.9	7.9	N/A
Total Suspended Solids	2	mg/L	ALS	3.6	7.2	**100.0**
Ammonia, Total (as N)	0.02	mg/L	ALS	0.059	0.056	5.1
Nitrate (as N)	0.02	mg/L	ALS	0.294	0.277	5.8
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2128204-1 MP-C-H 10-Jul-18	L2128204-2 MP-C-H01 10-Jul-18	% Difference
pH	0.1	pH units	ALS	8.05	8.05	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	121	118	2.5
Turbidity	0.1	NTU	ALS	0.89	0.42	**52.8**
Parameter	**MDL**	**Units**	**Laboratory**	L2148774-7 MP-C-H 14-Aug-18	L2148774-8 MP-C-H01 14-Aug-18	**% Difference**
pH	0.1	pH units	ALS	8.22	8.23	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	161	157	2.5
Turbidity	0.1	NTU	ALS	0.34	0.54	**58.8**
Parameter	**MDL**	**Units**	**Laboratory**	L2152813-6 MP-C-H 21-Aug-18	L2152813-7 MP-C-H01 21-Aug-18	**% Difference**
Conductivity	3	umhos/cm	ALS	247	247	0.0
pH	0.10	pH units	ALS	8.28	8.29	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	150	142	5.3
Turbidity	0.10	NTU	ALS	0.31	0.23	25.8
Ammonia, Total (as N)	0.02	mg/L	ALS	0.029	0.031	6.9
Nitrate (as N)	0.02	mg/L	ALS	0.029	0.03	3.4
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L2123842-1 MP-05 3-Jul-18	L2123842-2 MP-0501 3-Jul-18	**% Difference**
Hardness (as CaCO3)	10	mg/L	ALS	351	350	0.3
pH	0.10	pH units	ALS	8.22	8.23	N/A
Total Suspended Solids	2	mg/L	ALS	3.2	3.2	--
Total Dissolved Solids	13	mg/L	ALS	669	663	0.9
Turbidity	0.10	NTU	ALS	14.3	13.6	4.9
Alkalinity, Total (as CaCO3)	10	mg/L	ALS	109	112	2.8
Ammonia, Total (as N)	0.02	mg/L	ALS	0.042	0.041	2.4
Chloride (Cl)	0.50	mg/L	ALS	199	199	0.0
Fluoride (F)	0.02	mg/L	ALS	0.221	0.25	13.1
Nitrate (as N)	0.02	mg/L	ALS	8.82	8.79	0.3
Total Kjeldahl Nitrogen	0.15	mg/L	ALS	0.57	0.54	5.3
Phosphorus, Total	0.0030	mg/L	ALS	0.0077	0.0095	23.4
Sulfate (SO4)	0.30	mg/L	ALS	126	125	0.8
Dissolved Organic Carbon	1.0	mg/L	ALS	4.32	3.55	17.8
Total Organic Carbon	1.0	mg/L	ALS	3.63	3.97	9.4

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2123842-1 MP-05 3-Jul-18	L2123842-2 MP-0501 3-Jul-18	% Difference
Aluminum (Al)-Total	0.01	mg/L	ALS	0.215	0.167	22.3
Arsenic (As)-Total	0.00010	mg/L	ALS	0.00023	0.00023	0.0
Cadmium (Cd)-Total	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Calcium (Ca)-Total	0.50	mg/L	ALS	65.3	65.9	0.9
Copper (Cu)-Total	0.0010	mg/L	ALS	0.0016	0.0015	6.3
Iron (Fe)-Total	0.05	mg/L	ALS	0.261	0.199	23.8
Lead (Pb)-Total	0.00005	mg/L	ALS	0.00025	0.00024	4.0
Magnesium (Mg)-Total	0.05	mg/L	ALS	16	41.8	**161.3**
Manganese (Mn)-Total	0.00050	mg/L	ALS	0.241	0.0228	**90.5**
Mercury (Hg)-Total	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Molybdenum (Mo)-Total	0.00005	mg/L	ALS	0.00566	0.00579	2.3
Nickel (Ni)-Total	0.00050	mg/L	ALS	0.0062	0.00118	**81.0**
Potassium (K)-Total	0.05	mg/L	ALS	11.2	11	1.8
Selenium (Se)-Total	0.00005	mg/L	ALS	0.000201	0.000188	6.5
Sodium (Na)-Total	0.50	mg/L	ALS	87.8	88.6	0.9
Thallium (Tl)-Total	0.00001	mg/L	ALS	0.000022	0.000019	13.6
Uranium (U)-Total	0.00001	mg/L	ALS	0.0325	0.0336	3.4
Zinc (Zn)-Total	0.00300	mg/L	ALS	0.0043	0.0041	4.7
Aluminum (Al)-Dissolved	0.01	mg/L	ALS	0.0194	0.0211	8.8
Arsenic (As)-Dissolved	0.00010	mg/L	ALS	0.00021	0.0002	4.8
Cadmium (Cd)-Dissolved	0.000010	mg/L	ALS	<0.000010	<0.000010	--
Calcium (Ca)-Dissolved	0.05	mg/L	ALS	67.8	66.3	2.2
Copper (Cu)-Dissolved	0.00020	mg/L	ALS	0.00128	0.00129	0.8
Iron (Fe)-Dissolved	0.01	mg/L	ALS	<0.010	<0.010	--
Lead (Pb)-Dissolved	0.00005	mg/L	ALS	<0.000050	<0.000050	--
Magnesium (Mg)-Dissolved	0.05	mg/L	ALS	44.2	44.7	1.1
Manganese (Mn)-Dissolved	0.00050	mg/L	ALS	0.00671	0.00685	2.1
Mercury (Hg)-Dissolved	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Molybdenum (Mo)-Dissolved	0.00005	mg/L	ALS	0.0055	0.00554	0.7
Nickel (Ni)-Dissolved	0.00050	mg/L	ALS	0.00079	0.00081	2.5
Potassium (K)-Dissolved	0.05	mg/L	ALS	11.8	11.9	0.8
Selenium (Se)-Dissolved	0.00005	mg/L	ALS	0.000205	0.000201	2.0
Sodium (Na)-Dissolved	0.50	mg/L	ALS	94.4	92.6	1.9
Thallium (Tl)-Dissolved	0.00001	mg/L	ALS	0.00002	0.000017	15.0
Uranium (U)-Dissolved	0.00001	mg/L	ALS	0.0328	0.0333	1.5
Zinc (Zn)-Dissolved	0.001	mg/L	ALS	0.0022	0.0024	9.1

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FIELD DUPLICATES, FIELD BLANKS, AND TRAVEL BLANKS - 2018

FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2160180-1 MP-05 5-Sep-18	L2160180-2 MP-0501 5-Sep-18	% Difference
Hardness (as CaCO3)	10	mg/L	ALS	561	582	3.7
pH	0.10	pH units	ALS	8.26	8.28	N/A
Total Suspended Solids	2	mg/L	ALS	4.2	4.9	16.7
Total Dissolved Solids	13	mg/L	ALS	1000	1030	3.0
Turbidity	0.1	NTU	ALS	11.2	12.3	9.8
Alkalinity, Total (as CaCO3)	10	mg/L	ALS	185	185	0.0
Ammonia, Total (as N)	0.02	mg/L	ALS	0.076	0.092	21.1
Chloride (Cl)	0.50	mg/L	ALS	291	291	0.0
Fluoride (F)	0.02	mg/L	ALS	0.167	0.168	0.6
Nitrate (as N)	0.02	mg/L	ALS	5.83	5.85	0.3
Total Kjeldahl Nitrogen	0.15	mg/L	ALS	0.53	0.57	7.5
Phosphorus, Total	0.003	mg/L	ALS	0.0104	0.0124	19.2
Sulfate (SO4)	0.30	mg/L	ALS	177	178	0.6
Dissolved Organic Carbon	1	mg/L	ALS	9.99	10.3	3.1
Total Organic Carbon	1	mg/L	ALS	10.6	10.9	2.8
Aluminum (Al)-Total	0.01	mg/L	ALS	0.169	0.181	7.1
Arsenic (As)-Total	0.00010	mg/L	ALS	0.00026	0.00027	3.8
Cadmium (Cd)-Total	0.000010	mg/L	ALS	<0.000010	<0.000010	--
Calcium (Ca)-Total	0.50	mg/L	ALS	119	119	0.0
Copper (Cu)-Total	0.0010	mg/L	ALS	0.002	0.0021	5.0
Iron (Fe)-Total	0.05	mg/L	ALS	0.297	0.315	6.1
Lead (Pb)-Total	0.00005	mg/L	ALS	0.00025	0.00028	12.0
Magnesium (Mg)-Total	0.05	mg/L	ALS	65	65.7	1.1
Manganese (Mn)-Total	0.00050	mg/L	ALS	0.288	0.292	1.4
Mercury (Hg)-Total	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Molybdenum (Mo)-Total	0.00005	mg/L	ALS	0.00247	0.00246	0.4
Nickel (Ni)-Total	0.00050	mg/L	ALS	0.00155	0.00154	0.6
Potassium (K)-Total	0.1	mg/L	ALS	9.24	9.29	0.5
Selenium (Se)-Total	0.00005	mg/L	ALS	0.000381	0.000358	6.0
Sodium (Na)-Total	0.5	mg/L	ALS	87.2	88.7	1.7
Thallium (Tl)-Total	0.00001	mg/L	ALS	0.000014	0.000016	14.3
Uranium (U)-Total	0.00001	mg/L	ALS	0.0157	0.0162	3.2
Zinc (Zn)-Total	0.003000	mg/L	ALS	0.0196	0.0192	2.0
Aluminum (Al)-Dissolved	0.005	mg/L	ALS	0.0102	0.011	7.8
Arsenic (As)-Dissolved	0.00010	mg/L	ALS	0.00022	0.00023	4.5
Cadmium (Cd)-Dissolved	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Calcium (Ca)-Dissolved	0.05	mg/L	ALS	117	125	6.8
Copper (Cu)-Dissolved	0.0002	mg/L	ALS	0.00198	0.00181	8.6
Iron (Fe)-Dissolved	0.01	mg/L	ALS	<0.010	<0.010	--
Lead (Pb)-Dissolved	0.00005	mg/L	ALS	<0.000050	<0.000050	--

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2160180-1 MP-05 5-Sep-18	L2160180-2 MP-0501 5-Sep-18	% Difference
Magnesium (Mg)-Dissolved	0.05	mg/L	ALS	65.3	65.5	0.3
Manganese (Mn)-Dissolved	0.0005	mg/L	ALS	0.253	0.257	1.6
Mercury (Hg)-Dissolved	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Molybdenum (Mo)-Dissolved	0.00005	mg/L	ALS	0.00233	0.00245	5.2
Nickel (Ni)-Dissolved	0.00050	mg/L	ALS	0.00125	0.00126	0.8
Potassium (K)-Dissolved	0.05	mg/L	ALS	9.78	9.54	2.5
Selenium (Se)-Dissolved	0.00005	mg/L	ALS	0.000387	0.000371	4.1
Sodium (Na)-Dissolved	0.50	mg/L	ALS	88.7	93.5	5.4
Thallium (Tl)-Dissolved	0.00001	mg/L	ALS	0.00001	0.000011	10.0
Uranium (U)-Dissolved	0.00001	mg/L	ALS	0.015	0.0151	0.7
Zinc (Zn)-Dissolved	0.0010	mg/L	ALS	0.0139	0.0143	2.9
Parameter	**MDL**	**Units**	**Laboratory**	L2116369-1 MP-06 19-Jun-18	L2116369-2 MP-0601 19-Jun-18	**% Difference**
Hardness (as CaCO3)	10	mg/L	ALS	507	507	--
pH	0.1	pH units	ALS	7.96	7.9	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	4.8	--
Total Dissolved Solids	13	mg/L	ALS	822	845	2.8
Turbidity	0.10	NTU	ALS	8.82	10.2	15.6
Alkalinity, Total (as CaCO3)	10	mg/L	ALS	59	59	0.0
Ammonia, Total (as N)	0.02	mg/L	ALS	0.894	0.879	1.7
Chloride (Cl)	0.50	mg/L	ALS	65.2	64.7	0.8
Fluoride (F)	0.02	mg/L	ALS	0.078	0.078	0.0
Nitrate (as N)	0.02	mg/L	ALS	3.76	3.76	0.0
Total Kjeldahl Nitrogen	0.15	mg/L	ALS	1.3	1.29	0.8
Phosphorus, Total	0.003	mg/L	ALS	<0.030	<0.030	--
Sulfate (SO4)	0.3	mg/L	ALS	427	426	0.2
Dissolved Organic Carbon	1	mg/L	ALS	2.8	2.3	17.9
Total Organic Carbon	1	mg/L	ALS	2.5	2.3	8.0
Aluminum (Al)-Total	0.01	mg/L	ALS	0.045	0.061	**35.6**
Arsenic (As)-Total	0.00010	mg/L	ALS	0.00014	0.00013	7.1
Cadmium (Cd)-Total	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Calcium (Ca)-Total	0.50	mg/L	ALS	70.9	71.5	0.8
Copper (Cu)-Total	0.0010	mg/L	ALS	<0.0010	<0.0010	--
Iron (Fe)-Total	0.05	mg/L	ALS	0.122	0.18	**47.5**
Lead (Pb)-Total	0.00005	mg/L	ALS	<0.00010	0.00011	--
Magnesium (Mg)-Total	0.05	mg/L	ALS	83.6	82.3	1.6
Manganese (Mn)-Total	0.00050	mg/L	ALS	1.86	1.76	5.4
Mercury (Hg)-Total	0.00001	mg/L	ALS	<0.000010	<0.000010	--

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2116369-1 MP-06 19-Jun-18	L2116369-2 MP-0601 19-Jun-18	% Difference
Molybdenum (Mo)-Total	0.00005	mg/L	ALS	0.00157	0.00159	1.3
Nickel (Ni)-Total	0.00050	mg/L	ALS	0.00338	0.00343	1.5
Potassium (K)-Total	0.05	mg/L	ALS	4.92	4.81	2.2
Selenium (Se)-Total	0.00	mg/L	ALS	0.00133	0.00135	1.5
Sodium (Na)-Total	0.50	mg/L	ALS	28.6	28	2.1
Thallium (Tl)-Total	0.00001	mg/L	ALS	0.000026	0.000026	0.0
Uranium (U)-Total	0.00001	mg/L	ALS	0.00667	0.00703	5.4
Zinc (Zn)-Total	0.003	mg/L	ALS	<0.0030	<0.0030	--
Aluminum (Al)-Dissolved	0.01	mg/L	ALS	<0.0050	<0.0050	--
Arsenic (As)-Dissolved	0.00010	mg/L	ALS	<0.00010	<0.00010	--
Cadmium (Cd)-Dissolved	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Calcium (Ca)-Dissolved	0.05	mg/L	ALS	71.3	72.2	1.3
Copper (Cu)-Dissolved	0.00020	mg/L	ALS	0.00055	0.00054	1.8
Iron (Fe)-Dissolved	0.01	mg/L	ALS	<0.010	<0.010	--
Lead (Pb)-Dissolved	0.00005	mg/L	ALS	<0.000050	<0.000050	--
Magnesium (Mg)-Dissolved	0.05	mg/L	ALS	79.8	79.3	0.6
Manganese (Mn)-Dissolved	0.00050	mg/L	ALS	1.69	1.71	1.2
Mercury (Hg)-Dissolved	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Molybdenum (Mo)-Dissolved	0.00005	mg/L	ALS	0.00158	0.00156	1.3
Nickel (Ni)-Dissolved	0.00050	mg/L	ALS	0.00304	0.00303	0.3
Potassium (K)-Dissolved	0.05	mg/L	ALS	4.77	4.56	4.4
Selenium (Se)-Dissolved	0.00005	mg/L	ALS	0.00135	0.00134	0.7
Sodium (Na)-Dissolved	0.5	mg/L	ALS	27.3	26.4	3.3
Thallium (Tl)-Dissolved	0.00001	mg/L	ALS	0.000028	0.000026	7.1
Uranium (U)-Dissolved	0.00001	mg/L	ALS	0.00686	0.00695	1.3
Zinc (Zn)-Dissolved	0.001	mg/L	ALS	0.0013	0.0013	0.0
Parameter	**MDL**	**Units**	**Laboratory**	L2162554-1 MP-06 10-Sep-18	L2162554-2 MP-0601 10-Sep-18	**% Difference**
Hardness (as CaCO3)	10	mg/L	ALS	341	347	1.8
pH	0.10	pH units	ALS	8.17	8.18	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	13	mg/L	ALS	499	518	3.8
Turbidity	0.10	NTU	ALS	11	11.3	2.7
Alkalinity, Total (as CaCO3)	10	mg/L	ALS	126	128	1.6
Ammonia, Total (as N)	0.02	mg/L	ALS	0.126	0.135	7.1
Chloride (Cl)	0.50	mg/L	ALS	83.8	83.8	0.0
Fluoride (F)	0.02	mg/L	ALS	0.1	0.104	4.0
Nitrate (as N)	0.02	mg/L	ALS	4.79	4.79	0.0

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2162554-1 MP-06 10-Sep-18	L2162554-2 MP-0601 10-Sep-18	% Difference
Total Kjeldahl Nitrogen	0.15	mg/L	ALS	0.63	0.62	1.6
Phosphorus, Total	0.003	mg/L	ALS	0.0036	0.0052	**44.4**
Sulfate (SO4)	0.3	mg/L	ALS	157	157	0.0
Dissolved Organic Carbon	1	mg/L	ALS	4.61	4.7	2.0
Total Organic Carbon	1	mg/L	ALS	4	3.95	1.3
Aluminum (Al)-Total	0.01	mg/L	ALS	0.051	0.055	7.8
Arsenic (As)-Total	0.0001	mg/L	ALS	0.00017	0.00016	5.9
Cadmium (Cd)-Total	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Calcium (Ca)-Total	0.50	mg/L	ALS	74	68.9	6.9
Copper (Cu)-Total	0.0010	mg/L	ALS	0.0011	0.0011	0.0
Iron (Fe)-Total	0.05	mg/L	ALS	0.113	0.12	6.2
Lead (Pb)-Total	0.00005	mg/L	ALS	<0.00010	<0.00010	--
Magnesium (Mg)-Total	0.05	mg/L	ALS	37.7	36.8	2.4
Manganese (Mn)-Total	0.00050	mg/L	ALS	0.151	0.149	1.3
Mercury (Hg)-Total	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Molybdenum (Mo)-Total	0.00005	mg/L	ALS	0.00254	0.00245	3.5
Nickel (Ni)-Total	0.00050	mg/L	ALS	0.00143	0.00137	4.2
Potassium (K)-Total	0.05	mg/L	ALS	4.68	4.62	1.3
Selenium (Se)-Total	0.000050	mg/L	ALS	0.000369	0.000357	3.3
Sodium (Na)-Total	0.50	mg/L	ALS	35.8	35.7	0.3
Thallium (Tl)-Total	0.000010	mg/L	ALS	0.000017	0.000019	11.8
Uranium (U)-Total	0.000010	mg/L	ALS	0.0361	0.0354	1.9
Zinc (Zn)-Total	0.003000	mg/L	ALS	<0.0030	<0.0030	--
Aluminum (Al)-Dissolved	0.005	mg/L	ALS	0.0087	0.0072	17.2
Arsenic (As)-Dissolved	0.00010	mg/L	ALS	0.00013	0.00014	7.7
Cadmium (Cd)-Dissolved	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Calcium (Ca)-Dissolved	0.05	mg/L	ALS	69.9	71.8	2.7
Copper (Cu)-Dissolved	0.00020	mg/L	ALS	0.0011	0.00101	8.2
Iron (Fe)-Dissolved	0.01	mg/L	ALS	<0.010	<0.010	--
Lead (Pb)-Dissolved	0.00005	mg/L	ALS	<0.000050	<0.000050	--
Magnesium (Mg)-Dissolved	0.05	mg/L	ALS	40.5	40.7	0.5
Manganese (Mn)-Dissolved	0.00050	mg/L	ALS	0.135	0.135	0.0
Mercury (Hg)-Dissolved	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Molybdenum (Mo)-Dissolved	0.00005	mg/L	ALS	0.00237	0.00248	4.6
Nickel (Ni)-Dissolved	0.00050	mg/L	ALS	0.00111	0.00114	2.7
Potassium (K)-Dissolved	0.05	mg/L	ALS	5.16	5.13	0.6
Selenium (Se)-Dissolved	0.00005	mg/L	ALS	0.000424	0.00038	10.4
Sodium (Na)-Dissolved	0.50	mg/L	ALS	38.1	37.8	0.8
Thallium (Tl)-Dissolved	0.00001	mg/L	ALS	0.000014	0.000013	7.1
Uranium (U)-Dissolved	0.00001	mg/L	ALS	0.0342	0.034	0.6

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TABLE 7.2

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FIELD DUPLICATES, FIELD BLANKS, AND TRAVEL BLANKS - 2018

FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2162554-1 MP-06 10-Sep-18	L2162554-2 MP-0601 10-Sep-18	% Difference
Zinc (Zn)-Dissolved	0.0010	mg/L	ALS	<0.0010	<0.0010	--
Parameter	**MDL**	**Units**	**Laboratory**	L2137113-9 MP-Q1-01 23-Jul-18	L2137113-3 MP-Q1-0101 23-Jul-18	**% Difference**
pH	0.1	pH units	ALS	8.13	8.09	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	159	151	5.0
Turbidity	0.1	NTU	ALS	0.96	0.87	9.4
Parameter	**MDL**	**Units**	**Laboratory**	L2131995-2 MP-Q1-02 17-Jul-18	L2131995-3 MP-Q1-0201 17-Jul-18	**% Difference**
pH	0.1	pH units	ALS	7.95	7.97	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	393	394	0.3
Turbidity	0.1	NTU	ALS	1.89	1.37	27.5
Parameter	**MDL**	**Units**	**Laboratory**	L2157679-3 MP-Q1-02 27-Aug-18	L2157679-4 MP-Q1-0201 27-Aug-18	**% Difference**
pH	0.1	pH units	ALS	7.99	8.01	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	548	543	0.9
Turbidity	0.1	NTU	ALS	0.67	0.96	**43.3**
Parameter	**MDL**	**Units**	**Laboratory**	L2043727-1 MS-01 9-Jan-18	L2043727-3 MS-0101 9-Jan-18	**% Difference**
pH	0.1	pH units	ALS	7.5	7.37	N/A
Total Suspended Solids	2	mg/L	ALS	45.3	<2.0	--
Alkalinity, Total (as CaCO3)	10	mg/L	ALS	64	62	3.1
Ammonia, Total (as N)	0.02	mg/L	ALS	0.147	0.162	10.2
Total Kjeldahl Nitrogen	0.2	mg/L	ALS	4.35	8	**83.9**
Phosphorus, Total	0.003	mg/L	ALS	4.29	4.28	0.2
Fecal Coliforms	0	CFU/100mL	ALS	230	150	**34.8**
BOD	2	mg/L	ALS	3.8	<2.0	--
COD	10	mg/L	ALS	74	87	17.6
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2210728-1 MS-01 12-Dec-18	L2210728-3 MS-0101 12-Dec-18	% Difference
pH	0.1	pH units	ALS	7.42	7.45	N/A
Total Suspended Solids	2	mg/L	ALS	14.3	13.1	8.4
Alkalinity, Total (as CaCO3)	10	mg/L	ALS	78	79	1.3
Ammonia, Total (as N)	0.02	mg/L	ALS	0.113	0.086	23.9
Total Kjeldahl Nitrogen	0.2	mg/L	ALS	3.7	4.6	24.3
Phosphorus, Total	0.003	mg/L	ALS	1.2	1.19	0.8
Fecal Coliforms	0	CFU/100mL	ALS	670	630	6.0
BOD	2	mg/L	ALS	3.2	2.7	15.6
COD	10	mg/L	ALS	41	40	2.4
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L2127561-1 MS-06 11-Jul-18	L2127561-2 MS-0601 11-Jul-18	**% Difference**
Conductivity	3	umhos/cm	ALS	1040	5460	**425.0**
pH	0.10	pH units	ALS	7.78	7.77	N/A
Total Suspended Solids	2	mg/L	ALS	4	4.4	10.0
Total Dissolved Solids	13	mg/L	ALS	814	832	2.2
Turbidity	0.10	NTU	ALS	13.2	13.5	2.3
Cyanide, Total	0.0020	mg/L	ALS	<0.0020	<0.0020	--
Aluminum (Al)-Total	0.005	mg/L	ALS	0.051	0.0468	8.2
Antimony (Sb)-Total	0.0001	mg/L	ALS	<0.00010	<0.00010	--
Arsenic (As)-Total	0.0001	mg/L	ALS	0.00014	0.00014	--
Barium (Ba)-Total	0.0002	mg/L	ALS	0.0132	0.0132	--
Beryllium (Be)-Total	0.0001	mg/L	ALS	<0.00010	<0.00010	--
Bismuth (Bi)-Total	0.00005	mg/L	ALS	<0.000050	<0.000050	--
Boron (B)-Total	0.01	mg/L	ALS	0.032	0.032	--
Cadmium (Cd)-Total	0.00001	mg/L	ALS	0.000035	0.0000409	16.9
Calcium (Ca)-Total	0.50	mg/L	ALS	51.4	50.1	2.5
Cesium (Cs)-Total	0.0000	mg/L	ALS	0.000015	0.000013	13.3
Chromium (Cr)-Total	0.0005	mg/L	ALS	<0.00050	<0.00050	--
Cobalt (Co)-Total	0.0001	mg/L	ALS	0.00453	0.00455	0.4
Copper (Cu)-Total	0.0010	mg/L	ALS	<0.0010	<0.0010	--
Iron (Fe)-Total	0.05	mg/L	ALS	0.159	0.15	5.7
Lead (Pb)-Total	0.0001	mg/L	ALS	0.000055	0.000061	10.9
Lithium (Li)-Total	0.0010	mg/L	ALS	0.0196	0.0189	3.6
Magnesium (Mg)-Total	0.05	mg/L	ALS	108	106	1.9
Manganese (Mn)-Total	0.0005	mg/L	ALS	1.71	1.74	1.8
Molybdenum (Mo)-Total	0.0001	mg/L	ALS	0.000875	0.000937	7.1
Nickel (Ni)-Total	0.0005	mg/L	ALS	0.00789	0.00783	0.8
Phosphorus (P)-Total	0.05	mg/L	ALS	<0.050	<0.050	--
Potassium (K)-Total	0.05	mg/L	ALS	11.1	10.8	2.7

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2127561-1 MS-06 11-Jul-18	L2127561-2 MS-0601 11-Jul-18	% Difference
Rubidium (Rb)-Total	0.00020	mg/L	ALS	0.00792	0.00786	0.8
Selenium (Se)-Total	0.00005	mg/L	ALS	0.0012	0.0012	0.0
Silicon (Si)-Total	0.1	mg/L	ALS	0.37	0.37	0.0
Silver (Ag)-Total	0.00005	mg/L	ALS	<0.000050	<0.000050	--
Sodium (Na)-Total	0.5	mg/L	ALS	7.36	7.22	1.9
Strontium (Sr)-Total	0.001	mg/L	ALS	0.0742	0.0764	3.0
Sulfur (S)-Total	0.50	mg/L	ALS	199	201	1.0
Tellurium (Te)-Total	0.0002	mg/L	ALS	<0.00020	<0.00020	--
Thallium (Tl)-Total	0.00001	mg/L	ALS	0.00003	0.000032	6.7
Thorium (Th)-Total	0.0001	mg/L	ALS	<0.00010	<0.00010	--
Tin (Sn)-Total	0.0001	mg/L	ALS	<0.00010	<0.00010	--
Titanium (Ti)-Total	0.0003	mg/L	ALS	0.00045	0.00058	28.9
Tungsten (W)-Total	0.0001	mg/L	ALS	<0.00010	<0.00010	--
Uranium (U)-Total	0.00001	mg/L	ALS	0.00158	0.00163	3.2
Vanadium (V)-Total	0.0005	mg/L	ALS	<0.00050	<0.00050	--
Zinc (Zn)-Total	0.003	mg/L	ALS	0.0039	0.004	2.6
Zirconium (Zr)-Total	0.0003	mg/L	ALS	<0.00030	<0.00030	--
Ra-226	0.0038	Bq/L	ALS	0.019	0.042	**121.1**
Parameter	**MDL**	**Units**	**Laboratory**	L2122068-1 MS-08 30-Jun-18	L2122068-2 MS-0801 30-Jun-18	**% Difference**
Conductivity	3	umhos/cm	ALS	3170	3180	0.3
pH	0.1	pH units	ALS	8.89	8.89	N/A
Total Suspended Solids	2	mg/L	ALS	6.4	8	25.0
Total Dissolved Solids	13	mg/L	ALS	3220	3140	2.5
Turbidity	0.1	NTU	ALS	12.5	12.7	1.6
Cyanide, Total	0.002	mg/L	ALS	0.0063	0.0063	0.0
Aluminum (Al)-Total	0.01	mg/L	ALS	0.058	<0.050	--
Antimony (Sb)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Arsenic (As)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Barium (Ba)-Total	0.0002	mg/L	ALS	0.0186	0.0191	2.7
Beryllium (Be)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Bismuth (Bi)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Boron (B)-Total	0.01	mg/L	ALS	<0.10	<0.10	--
Cadmium (Cd)-Total	0.00001	mg/L	ALS	<0.000050	<0.000050	--
Calcium (Ca)-Total	0.50	mg/L	ALS	223	221	0.9
Cesium (Cs)-Total	0.00001	mg/L	ALS	<0.00010	<0.00010	--
Chromium (Cr)-Total	0.00050	mg/L	ALS	<0.0050	<0.0050	--
Cobalt (Co)-Total	0.00010	mg/L	ALS	0.0119	0.0119	0.0
Copper (Cu)-Total	0.00100	mg/L	ALS	<0.010	<0.010	--
Iron (Fe)-Total	0.05	mg/L	ALS	2.19	2.15	1.8

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2122068-1 MS-08 30-Jun-18	L2122068-2 MS-0801 30-Jun-18	% Difference
Lead (Pb)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Lithium (Li)-Total	0.00100	mg/L	ALS	0.054	0.051	5.6
Magnesium (Mg)-Total	0.05	mg/L	ALS	393	391	0.5
Manganese (Mn)-Total	0.00050	mg/L	ALS	3.21	3.25	1.2
Molybdenum (Mo)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Nickel (Ni)-Total	0.00050	mg/L	ALS	0.0153	0.0145	5.2
Phosphorus (P)-Total	0.05	mg/L	ALS	<0.50	<0.50	--
Potassium (K)-Total	0.05	mg/L	ALS	3.86	3.91	1.3
Rubidium (Rb)-Total	0.00020	mg/L	ALS	0.0075	0.0073	2.7
Selenium (Se)-Total	0.00005	mg/L	ALS	0.00336	0.00395	17.6
Silicon (Si)-Total	0.10	mg/L	ALS	<1.0	<1.0	--
Silver (Ag)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Sodium (Na)-Total	0.5	mg/L	ALS	6.54	6.57	0.5
Strontium (Sr)-Total	0.001	mg/L	ALS	0.476	0.471	1.1
Sulfur (S)-Total	0.5	mg/L	ALS	705	725	2.8
Tellurium (Te)-Total	0.0002	mg/L	ALS	<0.0020	<0.0020	--
Thallium (Tl)-Total	0.00001	mg/L	ALS	0.00011	<0.00015	--
Thorium (Th)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Tin (Sn)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Titanium (Ti)-Total	0.0003	mg/L	ALS	<0.0030	<0.0030	--
Tungsten (W)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Uranium (U)-Total	0.00001	mg/L	ALS	0.00024	0.00025	4.2
Vanadium (V)-Total	0.0005	mg/L	ALS	<0.0050	<0.0050	--
Zinc (Zn)-Total	0.003	mg/L	ALS	<0.030	<0.030	--
Zirconium (Zr)-Total	0.0003	mg/L	ALS	<0.0030	<0.0030	--
Ra-226	0.0038	Bq/L	ALS	0.048	0.029	**39.6**
Parameter	**MDL**	**Units**	**Laboratory**	L2127393-1 MS-08 11-Jul-18	L2127393-2 MS-0801 11-Jul-18	**% Difference**
Conductivity	3	umhos/cm	ALS	3160	3210	1.6
pH	0.1	pH units	ALS	9.16	9.16	N/A
Total Suspended Solids	2	mg/L	ALS	3.6	2.4	**33.3**
Total Dissolved Solids	13	mg/L	ALS	3220	3260	1.2
Turbidity	0.10	NTU	ALS	6.78	5.9	13.0
Cyanide, Total	0.002	mg/L	ALS	0.0081	0.0085	4.9
Aluminum (Al)-Total	0.01	mg/L	ALS	<0.050	<0.050	--
Antimony (Sb)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Arsenic (As)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Barium (Ba)-Total	0.00020	mg/L	ALS	0.0141	0.014	0.7
Beryllium (Be)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Bismuth (Bi)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--

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Parameter	MDL	Units	Laboratory	L2127393-1 MS-08 11-Jul-18	L2127393-2 MS-0801 11-Jul-18	% Difference
Boron (B)-Total	0.01	mg/L	ALS	<0.10	<0.10	--
Cadmium (Cd)-Total	0.00001	mg/L	ALS	<0.000050	<0.000050	--
Calcium (Ca)-Total	0.50	mg/L	ALS	196	195	0.5
Cesium (Cs)-Total	0.00001	mg/L	ALS	<0.00010	<0.00010	--
Chromium (Cr)-Total	0.00050	mg/L	ALS	<0.0050	<0.0050	--
Cobalt (Co)-Total	0.00010	mg/L	ALS	0.0083	0.008	3.6
Copper (Cu)-Total	0.001	mg/L	ALS	<0.010	<0.010	--
Iron (Fe)-Total	0.05	mg/L	ALS	0.73	0.73	0.0
Lead (Pb)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Lithium (Li)-Total	0.001	mg/L	ALS	0.054	0.053	1.9
Magnesium (Mg)-Total	0.05	mg/L	ALS	451	448	0.7
Manganese (Mn)-Total	0.00050	mg/L	ALS	3.7	3.59	3.0
Molybdenum (Mo)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Nickel (Ni)-Total	0.00050	mg/L	ALS	0.0114	0.0112	1.8
Phosphorus (P)-Total	0.05	mg/L	ALS	<0.50	<0.50	--
Potassium (K)-Total	0.05	mg/L	ALS	3.57	3.57	0.0
Rubidium (Rb)-Total	0.0002	mg/L	ALS	0.0075	0.0078	4.0
Selenium (Se)-Total	0.00005	mg/L	ALS	0.00403	0.00381	5.5
Silicon (Si)-Total	0.1	mg/L	ALS	<1.0	<1.0	--
Silver (Ag)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Sodium (Na)-Total	0.5	mg/L	ALS	51.5	52.5	1.9
Strontium (Sr)-Total	0.001	mg/L	ALS	0.305	0.309	1.3
Sulfur (S)-Total	0.5	mg/L	ALS	800	804	0.5
Tellurium (Te)-Total	0.0002	mg/L	ALS	<0.0020	<0.0020	--
Thallium (Tl)-Total	0.00001	mg/L	ALS	0.00011	0.00011	--
Thorium (Th)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Tin (Sn)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Titanium (Ti)-Total	0.0003	mg/L	ALS	<0.0030	<0.0030	--
Tungsten (W)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Uranium (U)-Total	0.00001	mg/L	ALS	0.00056	0.00053	5.4
Vanadium (V)-Total	0.0005	mg/L	ALS	<0.0050	<0.0050	--
Zinc (Zn)-Total	0.003	mg/L	ALS	<0.030	<0.030	--
Zirconium (Zr)-Total	0.0003	mg/L	ALS	<0.0030	<0.0030	--
Ra-226	0.0038	Bq/L	ALS	0.021	0.015	28.6
Parameter	**MDL**	**Units**	**Laboratory**	L2133777-1 MS-08 21-Jul-18	L2133777-2 MS-0801 21-Jul-18	**% Difference**
Conductivity	3	umhos/cm	ALS	3420	3430	0.3
pH	0.10	pH units	ALS	8.53	8.64	N/A
Total Suspended Solids	2	mg/L	ALS	12.4	13.6	9.7
Total Dissolved Solids	13	mg/L	ALS	3860	3860	0.0

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Parameter	MDL	Units	Laboratory	L2133777-1 MS-08 21-Jul-18	L2133777-2 MS-0801 21-Jul-18	% Difference
Turbidity	0.10	NTU	ALS	19.4	19.1	1.5
Ammonia, Total (as N)	0.02	mg/L	ALS	2.02	2.07	2.5
Cyanide, Total	0.002	mg/L	ALS	0.0053	<0.0020	--
Aluminum (Al)-Total	0.01	mg/L	ALS	0.08	0.08	--
Antimony (Sb)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Arsenic (As)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Barium (Ba)-Total	0.00020	mg/L	ALS	0.0195	0.021	7.7
Beryllium (Be)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Bismuth (Bi)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Boron (B)-Total	0.01	mg/L	ALS	<0.10	<0.10	--
Cadmium (Cd)-Total	0.00001	mg/L	ALS	<0.000050	<0.000050	--
Calcium (Ca)-Total	0.50	mg/L	ALS	180	183	1.7
Cesium (Cs)-Total	0.00001	mg/L	ALS	<0.00010	<0.00010	--
Chromium (Cr)-Total	0.0005	mg/L	ALS	<0.0050	<0.0050	--
Cobalt (Co)-Total	0.00010	mg/L	ALS	0.0439	0.0445	1.4
Copper (Cu)-Total	0.001	mg/L	ALS	<0.010	0.01	--
Iron (Fe)-Total	0.05	mg/L	ALS	4.31	4.42	2.6
Lead (Pb)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Lithium (Li)-Total	0.001	mg/L	ALS	0.052	0.051	1.9
Magnesium (Mg)-Total	0.05	mg/L	ALS	547	555	1.5
Manganese (Mn)-Total	0.0005	mg/L	ALS	8.88	8.83	0.6
Molybdenum (Mo)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Nickel (Ni)-Total	0.0005	mg/L	ALS	0.056	0.0558	0.4
Phosphorus (P)-Total	0.05	mg/L	ALS	<0.50	<0.50	--
Potassium (K)-Total	0.05	mg/L	ALS	4.39	4.5	2.5
Rubidium (Rb)-Total	0.0002	mg/L	ALS	0.0083	0.0089	7.2
Selenium (Se)-Total	0.00005	mg/L	ALS	0.00523	0.00496	5.2
Silicon (Si)-Total	0.1	mg/L	ALS	<1.0	<1.0	--
Silver (Ag)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Sodium (Na)-Total	0.50	mg/L	ALS	16.9	16.9	0.0
Strontium (Sr)-Total	0.001	mg/L	ALS	0.279	0.274	1.8
Sulfur (S)-Total	0.50	mg/L	ALS	953	982	3.0
Tellurium (Te)-Total	0.0002	mg/L	ALS	<0.0020	<0.0020	--
Thallium (Tl)-Total	0.00001	mg/L	ALS	<0.00020	0.0001	--
Thorium (Th)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Tin (Sn)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Titanium (Ti)-Total	0.0003	mg/L	ALS	<0.0030	<0.0030	--
Tungsten (W)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Uranium (U)-Total	0.00001	mg/L	ALS	0.00057	0.0006	5.3
Vanadium (V)-Total	0.00050	mg/L	ALS	<0.0050	<0.0050	--
Zinc (Zn)-Total	0.003	mg/L	ALS	<0.030	<0.030	--

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FIELD QA/QC WATER QUALITY DATA ANALYSES -
FIELD DUPLICATES, FIELD BLANKS, AND TRAVEL BLANKS - 2018

FIELD DUPLICATES						
Parameter	**MDL**	**Units**	**Laboratory**	L2133777-1 MS-08 21-Jul-18	L2133777-2 MS-0801 21-Jul-18	**% Difference**
Zirconium (Zr)-Total	0.00030	mg/L	ALS	<0.0030	<0.0030	--
Ra-226	0.00380	Bq/L	ALS	0.018	0.039	**116.7**
Parameter	**MDL**	**Units**	**Laboratory**	L2136309-1 MS-08 24-Jul-18	L2136309-2 MS-0801 24-Jul-18	**% Difference**
Conductivity	3	umhos/cm	ALS	3450	3460	0.3
pH	0.10	pH units	ALS	8.28	8.28	N/A
Total Suspended Solids	2	mg/L	ALS	14.8	6.8	**54.1**
Total Dissolved Solids	13	mg/L	ALS	3780	3790	0.3
Turbidity	0.10	NTU	ALS	10.1	8.69	14.0
Ammonia, Total (as N)	0.02	mg/L	ALS	1.94	2.02	4.1
Cyanide, Total	0.0020	mg/L	ALS	0.005	0.0051	2.0
Aluminum (Al)-Total	0.01	mg/L	ALS	<0.050	<0.050	--
Antimony (Sb)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Arsenic (As)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Barium (Ba)-Total	0.00020	mg/L	ALS	0.0178	0.018	1.1
Beryllium (Be)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Bismuth (Bi)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Boron (B)-Total	0.01	mg/L	ALS	<0.10	<0.10	--
Cadmium (Cd)-Total	0.00001	mg/L	ALS	<0.000050	<0.000050	--
Calcium (Ca)-Total	0.50	mg/L	ALS	195	198	1.5
Cesium (Cs)-Total	0.0000	mg/L	ALS	<0.00010	<0.00010	--
Chromium (Cr)-Total	0.0005	mg/L	ALS	<0.0050	<0.0050	--
Cobalt (Co)-Total	0.0001	mg/L	ALS	0.0155	0.0152	1.9
Copper (Cu)-Total	0.0010	mg/L	ALS	<0.010	<0.010	--
Iron (Fe)-Total	0.05	mg/L	ALS	1.23	1.12	8.9
Lead (Pb)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Lithium (Li)-Total	0.001	mg/L	ALS	0.054	0.056	3.7
Magnesium (Mg)-Total	0.05	mg/L	ALS	551	573	4.0
Manganese (Mn)-Total	0.0005	mg/L	ALS	4.54	4.71	3.7
Molybdenum (Mo)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Nickel (Ni)-Total	0.0005	mg/L	ALS	0.0201	0.0193	4.0
Phosphorus (P)-Total	0.05	mg/L	ALS	<0.50	<0.50	--
Potassium (K)-Total	0.05	mg/L	ALS	4.46	4.66	4.5
Rubidium (Rb)-Total	0.0002	mg/L	ALS	0.0085	0.0088	3.5
Selenium (Se)-Total	0.00005	mg/L	ALS	0.00494	0.00491	0.6
Silicon (Si)-Total	0.1	mg/L	ALS	<1.0	<1.0	--
Silver (Ag)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Sodium (Na)-Total	0.5	mg/L	ALS	17	17.2	1.2
Strontium (Sr)-Total	0.00100	mg/L	ALS	0.295	0.305	3.4
Sulfur (S)-Total	0.5	mg/L	ALS	951	981	3.2

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TABLE 7.2

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2136309-1 MS-08 24-Jul-18	L2136309-2 MS-0801 24-Jul-18	% Difference
Tellurium (Te)-Total	0.00020	mg/L	ALS	<0.0020	<0.0020	--
Thallium (Tl)-Total	0.00001	mg/L	ALS	0.00011	0.00012	--
Thorium (Th)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Tin (Sn)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Titanium (Ti)-Total	0.00030	mg/L	ALS	<0.0030	<0.0030	--
Tungsten (W)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Uranium (U)-Total	0.00001	mg/L	ALS	0.00037	0.00039	5.4
Vanadium (V)-Total	0.00050	mg/L	ALS	<0.0050	<0.0050	--
Zinc (Zn)-Total	0.00300	mg/L	ALS	<0.030	<0.030	--
Zirconium (Zr)-Total	0.00030	mg/L	ALS	<0.0030	<0.0030	--
Ra-226	0.00380	Bq/L	ALS	0.017	0.03	**76.5**
Parameter	**MDL**	**Units**	**Laboratory**	L2145073-1 MS-08 10-Aug-18	L2145073-2 MS-0801 10-Aug-18	**% Difference**
Conductivity	3	umhos/cm	ALS	5010	5030	0.4
Hardness (as CaCO3)	10	mg/L	ALS	4120	4310	4.6
pH	0.10	pH units	ALS	9.23	9.27	N/A
Total Suspended Solids	2	mg/L	ALS	19.3	14.9	22.8
Total Dissolved Solids	13	mg/L	ALS	6370	5040	20.9
Acidity (as CaCO3)	2.0	mg/L	ALS	<2.0	<2.0	--
Alkalinity, Total (as CaCO3)	10	mg/L	ALS	57	55	3.5
Ammonia, Total (as N)	0.02	mg/L	ALS	2.98	2.99	0.3
Chloride (Cl)	0.50	mg/L	ALS	12	10.1	15.8
Fluoride (F)	0.02	mg/L	ALS	<0.20	<0.20	--
Nitrate (as N)	0.02	mg/L	ALS	18.7	15.6	16.6
Total Kjeldahl Nitrogen	0.15	mg/L	ALS	3.5	3.86	10.3
Phosphorus, Total	0.003	mg/L	ALS	<0.0030	<0.0030	--
Sulfate (SO4)	0.30	mg/L	ALS	4930	4100	16.8
Cyanide, Total	0.002	mg/L	ALS	0.022	0.0234	6.4
Dissolved Organic Carbon	0.50	mg/L	ALS	2.04	1.9	6.9
Total Organic Carbon	0.50	mg/L	ALS	2.4	2.75	14.6
Aluminum (Al)-Total	0.005	mg/L	ALS	0.088	0.091	3.4
Antimony (Sb)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Arsenic (As)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Barium (Ba)-Total	0.0002	mg/L	ALS	0.0201	0.0206	2.5
Beryllium (Be)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Bismuth (Bi)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Boron (B)-Total	0.01	mg/L	ALS	<0.10	<0.10	--
Cadmium (Cd)-Total	0.00001	mg/L	ALS	<0.000050	<0.000050	--
Calcium (Ca)-Total	0.50	mg/L	ALS	321	330	2.8
Cesium (Cs)-Total	0.00001	mg/L	ALS	<0.00010	<0.00010	--

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TABLE 7.2

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FIELD DUPLICATES						
Parameter	**MDL**	**Units**	**Laboratory**	L2145073-1 MS-08 10-Aug-18	L2145073-2 MS-0801 10-Aug-18	**% Difference**
Chromium (Cr)-Total	0.0005	mg/L	ALS	<0.0050	<0.0050	--
Cobalt (Co)-Total	0.0001	mg/L	ALS	0.0271	0.0284	4.8
Copper (Cu)-Total	0.0010	mg/L	ALS	0.034	0.034	0.0
Iron (Fe)-Total	0.05	mg/L	ALS	4.04	4.18	3.5
Lead (Pb)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Lithium (Li)-Total	0.00100	mg/L	ALS	0.061	0.058	4.9
Magnesium (Mg)-Total	0.05	mg/L	ALS	800	829	3.6
Manganese (Mn)-Total	0.00050	mg/L	ALS	6.92	7.07	2.2
Mercury (Hg)-Total	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Molybdenum (Mo)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Nickel (Ni)-Total	0.00050	mg/L	ALS	0.028	0.0297	6.1
Phosphorus (P)-Total	0.05	mg/L	ALS	<0.50	<0.50	--
Potassium (K)-Total	0.05	mg/L	ALS	4.76	4.78	0.4
Rubidium (Rb)-Total	0.00020	mg/L	ALS	0.0092	0.0091	1.1
Selenium (Se)-Total	0.00005	mg/L	ALS	0.00956	0.00935	2.2
Silicon (Si)-Total	0.10	mg/L	ALS	<1.0	<1.0	--
Silver (Ag)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Sodium (Na)-Total	0.50	mg/L	ALS	4.75	4.78	0.6
Strontium (Sr)-Total	0.0010	mg/L	ALS	0.655	0.667	--
Sulfur (S)-Total	0.50	mg/L	ALS	1530	1500	2.0
Tellurium (Te)-Total	0.00020	mg/L	ALS	<0.0020	<0.0020	--
Thallium (Tl)-Total	0.00001	mg/L	ALS	0.00017	0.00017	0.0
Thorium (Th)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Tin (Sn)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Titanium (Ti)-Total	0.00030	mg/L	ALS	<0.0030	<0.0030	--
Tungsten (W)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Uranium (U)-Total	0.00001	mg/L	ALS	0.00073	0.00066	9.6
Vanadium (V)-Total	0.00050	mg/L	ALS	<0.0050	<0.0050	--
Zinc (Zn)-Total	0.00300	mg/L	ALS	<0.030	<0.030	--
Zirconium (Zr)-Total	0.00030	mg/L	ALS	<0.0030	<0.0030	--
Aluminum (Al)-Dissolved	0.01	mg/L	ALS	<0.050	<0.050	--
Antimony (Sb)-Dissolved	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Arsenic (As)-Dissolved	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Barium (Ba)-Dissolved	0.00010	mg/L	ALS	0.0206	0.0194	5.8
Beryllium (Be)-Dissolved	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Bismuth (Bi)-Dissolved	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Boron (B)-Dissolved	0.01	mg/L	ALS	<0.10	<0.10	--
Cadmium (Cd)-Dissolved	0.00001	mg/L	ALS	<0.000050	<0.000050	--
Calcium (Ca)-Dissolved	0.05	mg/L	ALS	316	328	3.8
Cesium (Cs)-Dissolved	0.00001	mg/L	ALS	<0.00010	<0.00010	--

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2145073-1 MS-08 10-Aug-18	L2145073-2 MS-0801 10-Aug-18	% Difference
Chromium (Cr)-Dissolved	0.0005	mg/L	ALS	<0.0050	<0.0050	--
Cobalt (Co)-Dissolved	0.0001	mg/L	ALS	0.0047	0.0049	4.3
Copper (Cu)-Dissolved	0.0002	mg/L	ALS	0.0323	0.0331	2.5
Iron (Fe)-Dissolved	0.01	mg/L	ALS	<0.10	<0.10	--
Lead (Pb)-Dissolved	0.0001	mg/L	ALS	<0.00050	<0.00050	--
Lithium (Li)-Dissolved	0.0010	mg/L	ALS	0.054	0.06	11.1
Magnesium (Mg)-Dissolved	0.05	mg/L	ALS	809	846	4.6
Manganese (Mn)-Dissolved	0.00050	mg/L	ALS	6.33	6.5	2.7
Mercury (Hg)-Dissolved	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Molybdenum (Mo)-Dissolved	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Nickel (Ni)-Dissolved	0.0005	mg/L	ALS	0.006	0.0065	8.3
Phosphorus (P)-Dissolved	0.05	mg/L	ALS	<0.50	<0.50	--
Potassium (K)-Dissolved	0.05	mg/L	ALS	4.66	4.79	--
Rubidium (Rb)-Dissolved	0.0002	mg/L	ALS	0.0087	0.0094	8.0
Selenium (Se)-Dissolved	0.00005	mg/L	ALS	0.00859	0.00846	1.5
Silicon (Si)-Dissolved	0.05	mg/L	ALS	<0.50	<0.50	--
Silver (Ag)-Dissolved	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Sodium (Na)-Dissolved	0.50	mg/L	ALS	4.74	4.83	1.9
Strontium (Sr)-Dissolved	0.001	mg/L	ALS	0.616	0.65	5.5
Sulfur (S)-Dissolved	0.50	mg/L	ALS	1460	1460	0.0
Tellurium (Te)-Dissolved	0.00020	mg/L	ALS	<0.0020	<0.0020	--
Thallium (Tl)-Dissolved	0.00001	mg/L	ALS	0.00016	0.00017	6.3
Thorium (Th)-Dissolved	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Tin (Sn)-Dissolved	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Titanium (Ti)-Dissolved	0.00030	mg/L	ALS	<0.0030	<0.0030	--
Tungsten (W)-Dissolved	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Uranium (U)-Dissolved	0.00001	mg/L	ALS	0.00036	0.00033	8.3
Vanadium (V)-Dissolved	0.00050	mg/L	ALS	<0.0050	<0.0050	--
Zinc (Zn)-Dissolved	0.0010	mg/L	ALS	<0.010	<0.010	--
Zirconium (Zr)-Dissolved	0.00030	mg/L	ALS	<0.0030	<0.0030	--
Ra-226	0.0038	Bq/L	ALS	0.041	0.045	9.8

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2150213-1 MS-08 21-Aug-18	L2150213-2 MS-0801 21-Aug-18	% Difference
Conductivity	3	umhos/cm	ALS	3890	3960	1.8
Hardness (as CaCO3)	10	mg/L	ALS	2760	2550	7.6
pH	0.10	pH units	ALS	8.83	8.85	N/A
Total Suspended Solids	2	mg/L	ALS	7.2	6	16.7
Total Dissolved Solids	13	mg/L	ALS	3920	3800	3.1
Acidity (as CaCO3)	2	mg/L	ALS	<2.0	<2.0	--
Alkalinity, Total (as CaCO3)	10	mg/L	ALS	48	50	4.2
Ammonia, Total (as N)	0.02	mg/L	ALS	1.52	1.58	3.9
Chloride (Cl)	0.50	mg/L	ALS	7.9	8.6	8.9
Fluoride (F)	0.02	mg/L	ALS	<0.20	<0.20	--
Nitrate (as N)	0.02	mg/L	ALS	9.76	10.3	5.5
Total Kjeldahl Nitrogen	0.15	mg/L	ALS	2.19	2.17	0.9
Phosphorus, Total	0.003	mg/L	ALS	<0.030	<0.030	--
Sulfate (SO4)	0.30	mg/L	ALS	2700	2830	4.8
Cyanide, Total	0.002	mg/L	ALS	<0.020	0.0145	--
Dissolved Organic Carbon	0.50	mg/L	ALS	2.94	3	2.0
Total Organic Carbon	0.50	mg/L	ALS	3.18	3.08	3.1
Aluminum (Al)-Total	0.005	mg/L	ALS	0.057	0.06	5.3
Antimony (Sb)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Arsenic (As)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Barium (Ba)-Total	0.0002	mg/L	ALS	0.0182	0.0178	2.2
Beryllium (Be)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Bismuth (Bi)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Boron (B)-Total	0.01	mg/L	ALS	<0.10	<0.10	--
Cadmium (Cd)-Total	0.00001	mg/L	ALS	<0.000050	<0.000050	--
Calcium (Ca)-Total	0.50	mg/L	ALS	206	214	3.9
Cesium (Cs)-Total	0.00001	mg/L	ALS	<0.00010	<0.00010	--
Chromium (Cr)-Total	0.0005	mg/L	ALS	<0.0050	<0.0050	--
Cobalt (Co)-Total	0.0001	mg/L	ALS	0.0189	0.0191	1.1
Copper (Cu)-Total	0.001	mg/L	ALS	0.012	0.012	0.0
Iron (Fe)-Total	0.050	mg/L	ALS	1.71	1.7	0.6
Lead (Pb)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Lithium (Li)-Total	0.0010	mg/L	ALS	0.04	0.041	2.5
Magnesium (Mg)-Total	0.050	mg/L	ALS	617	620	0.5
Manganese (Mn)-Total	0.00050	mg/L	ALS	5.61	5.72	2.0
Mercury (Hg)-Total	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Molybdenum (Mo)-Total	0.00005	mg/L	ALS	0.00063	0.00057	9.5
Nickel (Ni)-Total	0.00050	mg/L	ALS	0.0242	0.0247	2.1
Phosphorus (P)-Total	0.050	mg/L	ALS	<0.50	<0.50	--
Potassium (K)-Total	0.050	mg/L	ALS	4.99	5.05	1.2
Rubidium (Rb)-Total	0.00020	mg/L	ALS	0.007	0.0072	2.9

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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2150213-1 MS-08 21-Aug-18	L2150213-2 MS-0801 21-Aug-18	% Difference
Selenium (Se)-Total	0.00005	mg/L	ALS	0.0062	0.0066	6.5
Silicon (Si)-Total	0.100	mg/L	ALS	<1.0	<1.0	--
Silver (Ag)-Total	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Sodium (Na)-Total	0.500	mg/L	ALS	4.76	4.78	0.4
Strontium (Sr)-Total	0.0010	mg/L	ALS	0.379	0.39	2.9
Sulfur (S)-Total	0.50	mg/L	ALS	1010	1030	2.0
Tellurium (Te)-Total	0.00020	mg/L	ALS	<0.0020	<0.0020	--
Thallium (Tl)-Total	0.00001	mg/L	ALS	<0.00010	<0.00010	--
Thorium (Th)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Tin (Sn)-Total	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Titanium (Ti)-Total	0.00030	mg/L	ALS	<0.0030	<0.0030	--
Tungsten (W)-Total	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Uranium (U)-Total	0.00001	mg/L	ALS	0.00061	0.00063	3.3
Vanadium (V)-Total	0.0005	mg/L	ALS	<0.0050	<0.0050	--
Zinc (Zn)-Total	0.0030	mg/L	ALS	<0.030	<0.030	--
Zirconium (Zr)-Total	0.0003	mg/L	ALS	<0.0030	<0.0030	--
Aluminum (Al)-Dissolved	0.005	mg/L	ALS	<0.050	<0.050	--
Antimony (Sb)-Dissolved	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Arsenic (As)-Dissolved	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Barium (Ba)-Dissolved	0.0001	mg/L	ALS	0.0155	0.0144	7.1
Beryllium (Be)-Dissolved	0.0001	mg/L	ALS	<0.0010	<0.0010	--
Bismuth (Bi)-Dissolved	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Boron (B)-Dissolved	0.01	mg/L	ALS	<0.10	<0.10	--
Cadmium (Cd)-Dissolved	0.00001	mg/L	ALS	<0.000050	<0.000050	--
Calcium (Ca)-Dissolved	0.05	mg/L	ALS	194	177	8.8
Cesium (Cs)-Dissolved	0.00001	mg/L	ALS	<0.00010	<0.00010	--
Chromium (Cr)-Dissolved	0.00050	mg/L	ALS	<0.0050	<0.0050	--
Cobalt (Co)-Dissolved	0.00010	mg/L	ALS	0.006	0.0054	10.0
Copper (Cu)-Dissolved	0.00020	mg/L	ALS	0.0103	0.0092	10.7
Iron (Fe)-Dissolved	0.01	mg/L	ALS	<0.10	<0.10	--
Lead (Pb)-Dissolved	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Lithium (Li)-Dissolved	0.0010	mg/L	ALS	0.04	0.034	15.0
Magnesium (Mg)-Dissolved	0.05	mg/L	ALS	553	512	7.4
Manganese (Mn)-Dissolved	0.00050	mg/L	ALS	4.47	4.09	8.5
Mercury (Hg)-Dissolved	0.00001	mg/L	ALS	<0.000010	<0.000010	--
Molybdenum (Mo)-Dissolved	0.00005	mg/L	ALS	0.00062	0.00063	1.6
Nickel (Ni)-Dissolved	0.00050	mg/L	ALS	0.0091	0.008	12.1
Phosphorus (P)-Dissolved	0.05	mg/L	ALS	<0.50	<0.50	--
Potassium (K)-Dissolved	0.05	mg/L	ALS	4.56	4.05	11.2
Rubidium (Rb)-Dissolved	0.0002	mg/L	ALS	0.0067	0.0062	7.5
Selenium (Se)-Dissolved	0.00005	mg/L	ALS	0.00571	0.00504	11.7

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TABLE 7.2

BAFFINLAND IRON MINES CORPORATION
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2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
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FIELD DUPLICATES

Parameter	MDL	Units	Laboratory	L2150213-1 MS-08 21-Aug-18	L2150213-2 MS-0801 21-Aug-18	% Difference
Silicon (Si)-Dissolved	0.05	mg/L	ALS	<0.50	<0.50	--
Silver (Ag)-Dissolved	0.00005	mg/L	ALS	<0.00050	<0.00050	--
Sodium (Na)-Dissolved	0.50	mg/L	ALS	4.38	3.96	9.6
Strontium (Sr)-Dissolved	0.0010	mg/L	ALS	0.355	0.324	8.7
Sulfur (S)-Dissolved	0.50	mg/L	ALS	913	848	7.1
Tellurium (Te)-Dissolved	0.00020	mg/L	ALS	<0.0020	<0.0020	--
Thallium (Tl)-Dissolved	0.00001	mg/L	ALS	<0.00010	<0.00010	--
Thorium (Th)-Dissolved	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Tin (Sn)-Dissolved	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Titanium (Ti)-Dissolved	0.00030	mg/L	ALS	<0.0030	<0.0030	--
Tungsten (W)-Dissolved	0.00010	mg/L	ALS	<0.0010	<0.0010	--
Uranium (U)-Dissolved	0.00001	mg/L	ALS	0.00036	0.00033	8.3
Vanadium (V)-Dissolved	0.0005	mg/L	ALS	<0.0050	<0.0050	--
Zinc (Zn)-Dissolved	0.001	mg/L	ALS	<0.010	<0.010	--
Zirconium (Zr)-Dissolved	0.0003	mg/L	ALS	<0.0030	<0.0030	--
Ra-226	0.0038	Bq/L	ALS	0.02	0.026	30.0
Parameter	**MDL**	**Units**	**Laboratory**	L2101788-7 MS-MRY-13B 28-May-18	L2101788-9 MS-MRY-13B01 28-May-18	**% Difference**
pH	0.1	pH units	ALS	7.56	7.53	N/A
Total Suspended Solids	2	mg/L	ALS	2.4	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	55	59	7.3
Turbidity	0.1	NTU	ALS	14.9	15.2	2.0
Parameter	**MDL**	**Units**	**Laboratory**	L2157682-17 MS-MRY-13B 27-Aug-18	L2157682-19 MS-MRY-13B01 27-Aug-18	**% Difference**
pH	0.1	pH units	ALS	8.06	8.06	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	1300	1360	4.6
Turbidity	0.1	NTU	ALS	0.19	0.52	**173.7**
Parameter	**MDL**	**Units**	**Laboratory**	L2148365-9 MS-C-A 13-Aug-18	L2148365-12 MS-C-A01 13-Aug-18	**% Difference**
pH	0.1	pH units	ALS	7.88	7.85	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	104	105	1.0
Turbidity	0.1	NTU	ALS	3.3	3.16	4.2

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Parameter	MDL	Units	Laboratory	L2098315-2 MS-C-B 21-May-18	L2098315-3 MS-C-B01 21-May-18	% Difference
Conductivity	3	umhos/cm	ALS	71	70.9	0.1
pH	0.10	pH units	ALS	7.24	7.35	N/A
Total Suspended Solids	2	mg/L	ALS	4	4	0.0
Ammonia, Total (as N)	0.02	mg/L	ALS	<0.02	<0.02	--
Nitrate (as N)	0.02	mg/L	ALS	0.173	0.161	6.9
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L2112089-7 MS-C-E 11-Jun-18	L2112089-5 MS-C-E01 11-Jun-18	**% Difference**
pH	0.1	pH units	ALS	8	7.99	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	9.7	--
Total Dissolved Solids	10	mg/L	ALS	163	171	4.9
Turbidity	0.1	NTU	ALS	2.98	6.21	**108.4**
Parameter	**MDL**	**Units**	**Laboratory**	L2145426-11 MS-C-F 10-Aug-18	L2145426-12 MS-C-F01 10-Aug-18	**% Difference**
Conductivity	3	umhos/cm	ALS	189	188	0.5
pH	0.10	pH units	ALS	7.96	7.97	N/A
Total Suspended Solids	2	mg/L	ALS	3.6	3.2	11.1
Total Dissolved Solids	10	mg/L	ALS	105	95	9.5
Turbidity	0.10	NTU	ALS	28.2	32.8	16.3
Ammonia, Total (as N)	0.02	mg/L	ALS	<0.020	<0.020	--
Nitrate (as N)	0.02	mg/L	ALS	0.378	0.396	4.8
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L2124774-14 MS-C-G 4-Jul-18	L2124774-8 MS-C-G01 4-Jul-18	**% Difference**
Conductivity	3	umhos/cm	ALS	162	160	1.2
pH	0.10	pH units	ALS	7.99	7.98	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.02	mg/L	ALS	<0.020	<0.020	--
Nitrate (as N)	0.02	mg/L	ALS	0.198	0.202	2.0
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--

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Parameter	MDL	Units	Laboratory	L2124774-13 MS-C-H 4-Jul-18	L2124774-7 MS-C-H01 4-Jul-18	% Difference
Conductivity	3	umhos/cm	ALS	185	186	0.5
pH	0.10	pH units	ALS	7.98	8	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.02	mg/L	ALS	<0.020	<0.020	--
Nitrate (as N)	0.02	mg/L	ALS	0.106	0.114	7.5
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L2152561-6 MS-C-H 23-Aug-18	L2152561-7 MS-C-H01 23-Aug-18	**% Difference**
Conductivity	3	umhos/cm	ALS	216	215	0.5
pH	0.1	pH units	ALS	8.21	8.2	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	125	95	24.0
Turbidity	0.10	NTU	ALS	1.84	1.55	15.8
Ammonia, Total (as N)	0.02	mg/L	ALS	<0.020	<0.020	--
Nitrate (as N)	0.02	mg/L	ALS	0.057	0.057	0.0
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L2120528-2 MQ-C-A 25-Jun-18	L2120528-7 MQ-C-A01 25-Jun-18	**% Difference**
pH	0.1	pH units	ALS	8.08	8.08	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	82	89	8.5
Turbidity	0.1	NTU	ALS	0.57	0.84	**47.4**
Parameter	**MDL**	**Units**	**Laboratory**	L2157682-5 MQ-C-A 28-Aug-18	L2157682-4 MQ-C-A01 28-Aug-18	**% Difference**
pH	0.1	pH units	ALS	8.16	8.17	N/A
Total Suspended Solids	2	mg/L	ALS	7	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	174	183	5.2
Turbidity	0.1	NTU	ALS	0.21	0.28	**33.3**

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Parameter	MDL	Units	Laboratory	L2131286-11 MQ-C-B 16-Jul-18	L2131286-13 MQ-C-B01 16-Jul-18	% Difference
Conductivity	3	umhos/cm	ALS	296	297	0.3
pH	0.10	pH units	ALS	8.18	8.16	N/A
Total Suspended Solids	2	mg/L	ALS	2.4	3.2	**33.3**
Ammonia, Total (as N)	0.02	mg/L	ALS	0.222	0.234	5.4
Nitrate (as N)	0.02	mg/L	ALS	3.23	3.22	0.3
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L2145415-6 MQ-C-B 9-Aug-18	L2145415-7 MQ-C-B01 9-Aug-18	**% Difference**
Conductivity	3	umhos/cm	ALS	291	289	0.7
pH	0.10	pH units	ALS	8.28	8.27	N/A
Total Suspended Solids	2	mg/L	ALS	2	2.4	20.0
Total Dissolved Solids	10	mg/L	ALS	175	180	2.9
Turbidity	0.1	NTU	ALS	5.25	4.87	7.2
Ammonia, Total (as N)	0.02	mg/L	ALS	0.278	0.258	7.2
Nitrate (as N)	0.02	mg/L	ALS	3.47	3.46	0.3
Oil and Grease, Total	2	mg/L	ALS	<2.0	<2.0	--
Parameter	**MDL**	**Units**	**Laboratory**	L2163303-3 MQ-C-B 10-Sep-18	L2163303-4 MQ-C-B01 10-Sep-18	**% Difference**
pH	0.1	pH units	ALS	8.2	8.21	N/A
Total Suspended Solids	2	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	10	mg/L	ALS	210	196	6.7
Turbidity	0.1	NTU	ALS	0.68	0.63	7.4
Parameter	**MDL**	**Units**	**Laboratory**	L2127409-5 MQ-C-D 10-Jul-18	L2127409-1 MQ-C-D01 10-Jul-18	**% Difference**
pH	0.1	pH units	ALS	8.03	8.01	N/A
Total Suspended Solids	2	mg/L	ALS	7.2	10	**38.9**
Total Dissolved Solids	10	mg/L	ALS	119	126	5.9
Turbidity	0.1	NTU	ALS	21.5	22	2.3

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FIELD AND TRAVEL BLANKS						
Sample Number	**Sample ID**	**Date Sampled**	**Parameter**	**Result**	**Unit**	**Lab**
L2068010-1	MP-01	13-Mar-18	pH	7.49	pH units	ALS
L2068010-1	MP-01	13-Mar-18	Total Suspended Solids	3.1	mg/L	ALS
L2068010-1	MP-01	13-Mar-18	Alkalinity, Total (as CaCO3)	73	mg/L	ALS
L2068010-1	MP-01	13-Mar-18	Ammonia, Total (as N)	0.115	mg/L	ALS
L2068010-1	MP-01	13-Mar-18	Total Kjeldahl Nitrogen	2.29	mg/L	ALS
L2068010-1	MP-01	13-Mar-18	Phosphorus, Total	9.99	mg/L	ALS
L2068010-1	MP-01	13-Mar-18	Fecal Coliforms	6	CFU/100mL	ALS
L2068010-1	MP-01	13-Mar-18	BOD	<2.0	mg/L	ALS
L2068010-1	MP-01	13-Mar-18	COD	40	mg/L	ALS
L2068010-1	MP-01	13-Mar-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2068010-3	MP-0103	13-Mar-18	pH	6.15	pH units	ALS
L2068010-3	MP-0103	13-Mar-18	Total Suspended Solids	<2.0	mg/L	ALS
L2068010-3	MP-0103	13-Mar-18	Alkalinity, Total (as CaCO3)	<10	mg/L	ALS
L2068010-3	MP-0103	13-Mar-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2068010-3	MP-0103	13-Mar-18	Total Kjeldahl Nitrogen	<0.15	mg/L	ALS
L2068010-3	MP-0103	13-Mar-18	Phosphorus, Total	**0.0062**	mg/L	ALS
L2068010-3	MP-0103	13-Mar-18	Fecal Coliforms	0	CFU/100mL	ALS
L2068010-3	MP-0103	13-Mar-18	BOD	<2.0	mg/L	ALS
L2068010-3	MP-0103	13-Mar-18	COD	<10	mg/L	ALS
L2068010-3	MP-0103	13-Mar-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2178013-1	MP-01	2-Oct-18	pH	7.38	pH units	ALS
L2178013-1	MP-01	2-Oct-18	Total Suspended Solids	<2.0	mg/L	ALS
L2178013-1	MP-01	2-Oct-18	Alkalinity, Total (as CaCO3)	73	mg/L	ALS
L2178013-1	MP-01	2-Oct-18	Ammonia, Total (as N)	1.37	mg/L	ALS
L2178013-1	MP-01	2-Oct-18	Total Kjeldahl Nitrogen	1.91	mg/L	ALS
L2178013-1	MP-01	2-Oct-18	Phosphorus, Total	8.43	mg/L	ALS
L2178013-1	MP-01	2-Oct-18	Fecal Coliforms	0	CFU/100mL	ALS
L2178013-1	MP-01	2-Oct-18	BOD	<2.0	mg/L	ALS
L2178013-1	MP-01	2-Oct-18	COD	49	mg/L	ALS
L2178013-1	MP-01	2-Oct-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2178013-3	MP-0102	2-Oct-18	pH	5.99	pH units	ALS
L2178013-3	MP-0102	2-Oct-18	Total Suspended Solids	<2.0	mg/L	ALS
L2178013-3	MP-0102	2-Oct-18	Alkalinity, Total (as CaCO3)	<10	mg/L	ALS
L2178013-3	MP-0102	2-Oct-18	Ammonia, Total (as N)	0.059	mg/L	ALS
L2178013-3	MP-0102	2-Oct-18	Total Kjeldahl Nitrogen	<0.15	mg/L	ALS
L2178013-3	MP-0102	2-Oct-18	Phosphorus, Total	**0.0133**	mg/L	ALS
L2178013-3	MP-0102	2-Oct-18	Fecal Coliforms	0	CFU/100mL	ALS
L2178013-3	MP-0102	2-Oct-18	BOD	<2.0	mg/L	ALS
L2178013-3	MP-0102	2-Oct-18	COD	<10	mg/L	ALS

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Sample Number	**Sample ID**	**Date Sampled**	**Parameter**	**Result**	**Unit**	**Lab**
L2178013-3	MP-0102	2-Oct-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2157679-1	MP-C-H	27-Aug-18	pH	8.2	pH units	ALS
L2157679-1	MP-C-H	27-Aug-18	Total Suspended Solids	<2.0	mg/L	ALS
L2157679-1	MP-C-H	27-Aug-18	Total Dissolved Solids	201	mg/L	ALS
L2157679-1	MP-C-H	27-Aug-18	Turbidity	0.16	NTU	ALS
L2157679-2	MP-C-H03	27-Aug-18	pH	5.99	pH units	ALS
L2157679-2	MP-C-H03	27-Aug-18	Total Suspended Solids	<2.0	mg/L	ALS
L2157679-2	MP-C-H03	27-Aug-18	Total Dissolved Solids	**11**	mg/L	ALS
L2157679-2	MP-C-H03	27-Aug-18	Turbidity	0.19	NTU	ALS
L2117043-1	MP-Q1-01	19-Jun-18	Conductivity	160	umhos/cm	ALS
L2117043-1	MP-Q1-01	19-Jun-18	pH	7.99	pH units	ALS
L2117043-1	MP-Q1-01	19-Jun-18	Total Suspended Solids	5.8	mg/L	ALS
L2117043-1	MP-Q1-01	19-Jun-18	Ammonia, Total (as N)	0.419	mg/L	ALS
L2117043-1	MP-Q1-01	19-Jun-18	Nitrate (as N)	3.09	mg/L	ALS
L2117043-1	MP-Q1-01	19-Jun-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2117043-2	MP-Q1-0102	19-Jun-18	Conductivity	<3.0	umhos/cm	ALS
L2117043-2	MP-Q1-0102	19-Jun-18	pH	6.22	pH units	ALS
L2117043-2	MP-Q1-0102	19-Jun-18	Total Suspended Solids	<2.0	mg/L	ALS
L2117043-2	MP-Q1-0102	19-Jun-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2117043-2	MP-Q1-0102	19-Jun-18	Nitrate (as N)	<0.020	mg/L	ALS
L2117043-2	MP-Q1-0102	19-Jun-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2164348-8	MP-Q1-01	10-Sep-18	pH	8.12	pH units	ALS
L2164348-8	MP-Q1-01	10-Sep-18	Total Suspended Solids	<2.0	mg/L	ALS
L2164348-8	MP-Q1-01	10-Sep-18	Total Dissolved Solids	187	mg/L	ALS
L2164348-8	MP-Q1-01	10-Sep-18	Turbidity	1.03	NTU	ALS
L2164348-10	MP-Q1-0102	10-Sep-18	pH	6	pH units	ALS
L2164348-10	MP-Q1-0102	10-Sep-18	Total Suspended Solids	<2.0	mg/L	ALS
L2164348-10	MP-Q1-0102	10-Sep-18	Total Dissolved Solids	<10	mg/L	ALS
L2164348-10	MP-Q1-0102	10-Sep-18	Turbidity	**0.12**	NTU	ALS
L2178004-1	MS-01	2-Oct-18	pH	7.51	pH units	ALS
L2178004-1	MS-01	2-Oct-18	Total Suspended Solids	<2.0	mg/L	ALS
L2178004-1	MS-01	2-Oct-18	Alkalinity, Total (as CaCO3)	77	mg/L	ALS
L2178004-1	MS-01	2-Oct-18	Ammonia, Total (as N)	0.23	mg/L	ALS
L2178004-1	MS-01	2-Oct-18	Total Kjeldahl Nitrogen	1.92	mg/L	ALS
L2178004-1	MS-01	2-Oct-18	Phosphorus, Total	0.395	mg/L	ALS
L2178004-1	MS-01	2-Oct-18	Fecal Coliforms	1000	CFU/100mL	ALS
L2178004-1	MS-01	2-Oct-18	BOD	2.2	mg/L	ALS
L2178004-1	MS-01	2-Oct-18	COD	46	mg/L	ALS
L2178004-1	MS-01	2-Oct-18	Oil and Grease, Total	<2.0	mg/L	ALS

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Sample Number	**Sample ID**	**Date Sampled**	**Parameter**	**Result**	**Unit**	**Lab**
L2178004-3	MS-0103	2-Oct-18	pH	6.4	pH units	ALS
L2178004-3	MS-0103	2-Oct-18	Total Suspended Solids	<2.0	mg/L	ALS
L2178004-3	MS-0103	2-Oct-18	Alkalinity, Total (as CaCO3)	<10	mg/L	ALS
L2178004-3	MS-0103	2-Oct-18	Ammonia, Total (as N)	**0.069**	mg/L	ALS
L2178004-3	MS-0103	2-Oct-18	Total Kjeldahl Nitrogen	<0.15	mg/L	ALS
L2178004-3	MS-0103	2-Oct-18	Phosphorus, Total	**0.0099**	mg/L	ALS
L2178004-3	MS-0103	2-Oct-18	Fecal Coliforms	0	CFU/100mL	ALS
L2178004-3	MS-0103	2-Oct-18	BOD	<2.0	mg/L	ALS
L2178004-3	MS-0103	2-Oct-18	COD	**20**	mg/L	ALS
L2178004-3	MS-0103	2-Oct-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2194082-1	MS-01	6-Nov-18	pH	7.55	pH units	ALS
L2194082-1	MS-01	6-Nov-18	Total Suspended Solids	2.7	mg/L	ALS
L2194082-1	MS-01	6-Nov-18	Alkalinity, Total (as CaCO3)	86	mg/L	ALS
L2194082-1	MS-01	6-Nov-18	Ammonia, Total (as N)	0.055	mg/L	ALS
L2194082-1	MS-01	6-Nov-18	Total Kjeldahl Nitrogen	1.76	mg/L	ALS
L2194082-1	MS-01	6-Nov-18	Phosphorus, Total	0.762	mg/L	ALS
L2194082-1	MS-01	6-Nov-18	Fecal Coliforms	0	CFU/100mL	ALS
L2194082-1	MS-01	6-Nov-18	BOD	<2.0	mg/L	ALS
L2194082-1	MS-01	6-Nov-18	COD	37	mg/L	ALS
L2194082-1	MS-01	6-Nov-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2194082-3	MS-0103	6-Nov-18	pH	5.92	pH units	ALS
L2194082-3	MS-0103	6-Nov-18	Total Suspended Solids	<2.0	mg/L	ALS
L2194082-3	MS-0103	6-Nov-18	Alkalinity, Total (as CaCO3)	<10	mg/L	ALS
L2194082-3	MS-0103	6-Nov-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2194082-3	MS-0103	6-Nov-18	Total Kjeldahl Nitrogen	<0.15	mg/L	ALS
L2194082-3	MS-0103	6-Nov-18	Phosphorus, Total	<0.0030	mg/L	ALS
L2194082-3	MS-0103	6-Nov-18	Fecal Coliforms	0	CFU/100mL	ALS
L2194082-3	MS-0103	6-Nov-18	BOD	<2.0	mg/L	ALS
L2194082-3	MS-0103	6-Nov-18	COD	<10	mg/L	ALS
L2194082-3	MS-0103	6-Nov-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2148365-16	MS-MRY-13B	13-Aug-18	pH	8	pH units	ALS
L2148365-16	MS-MRY-13B	13-Aug-18	Total Suspended Solids	<2.0	mg/L	ALS
L2148365-16	MS-MRY-13B	13-Aug-18	Total Dissolved Solids	1100	mg/L	ALS
L2148365-16	MS-MRY-13B	13-Aug-18	Turbidity	0.32	NTU	ALS
L2148365-10	MS-MRY-13B0	13-Aug-18	pH	5.97	pH units	ALS
L2148365-10	MS-MRY-13B0	13-Aug-18	Total Suspended Solids	<2.0	mg/L	ALS
L2148365-10	MS-MRY-13B0	13-Aug-18	Total Dissolved Solids	<20	mg/L	ALS
L2148365-10	MS-MRY-13B0	13-Aug-18	Turbidity	**0.18**	NTU	ALS
L2107717-5	MS-C-A	4-Jun-18	Conductivity	57	umhos/cm	ALS
L2107717-5	MS-C-A	4-Jun-18	pH	7.62	pH units	ALS

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TABLE 7.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
FIELD QA/QC WATER QUALITY DATA ANALYSES -
FIELD DUPLICATES, FIELD BLANKS, AND TRAVEL BLANKS - 2018

FIELD AND TRAVEL BLANKS						
Sample Number	**Sample ID**	**Date Sampled**	**Parameter**	**Result**	**Unit**	**Lab**
L2107717-5	MS-C-A	4-Jun-18	Total Suspended Solids	<2.0	mg/L	ALS
L2107717-5	MS-C-A	4-Jun-18	Ammonia, Total (as N)	<0.02	mg/L	ALS
L2107717-5	MS-C-A	4-Jun-18	Nitrate (as N)	0.029	mg/L	ALS
L2107717-5	MS-C-A	4-Jun-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2107717-6	MS-C-A02	4-Jun-18	Conductivity	<3.0	umhos/cm	ALS
L2107717-6	MS-C-A02	4-Jun-18	pH	6.27	pH units	ALS
L2107717-6	MS-C-A02	4-Jun-18	Total Suspended Solids	<2.0	mg/L	ALS
L2107717-6	MS-C-A02	4-Jun-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2107717-6	MS-C-A02	4-Jun-18	Nitrate (as N)	<0.020	mg/L	ALS
L2107717-6	MS-C-A02	4-Jun-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2153239-2	MS-C-C	24-Aug-18	Conductivity	1020	umhos/cm	ALS
L2153239-2	MS-C-C	24-Aug-18	pH	8.01	pH units	ALS
L2153239-2	MS-C-C	24-Aug-18	Total Suspended Solids	<2.0	mg/L	ALS
L2153239-2	MS-C-C	24-Aug-18	Total Dissolved Solids	725	mg/L	ALS
L2153239-2	MS-C-C	24-Aug-18	Turbidity	0.21	NTU	ALS
L2153239-2	MS-C-C	24-Aug-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2153239-2	MS-C-C	24-Aug-18	Nitrate (as N)	4.93	mg/L	ALS
L2153239-2	MS-C-C	24-Aug-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2153239-3	MS-C-C03	24-Aug-18	Conductivity	<3.0	umhos/cm	ALS
L2153239-3	MS-C-C03	24-Aug-18	pH	5.77	pH units	ALS
L2153239-3	MS-C-C03	24-Aug-18	Total Suspended Solids	<2.0	mg/L	ALS
L2153239-3	MS-C-C03	24-Aug-18	Total Dissolved Solids	<20	mg/L	ALS
L2153239-3	MS-C-C03	24-Aug-18	Turbidity	<0.10	NTU	ALS
L2153239-3	MS-C-C03	24-Aug-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2153239-3	MS-C-C03	24-Aug-18	Nitrate (as N)	<0.020	mg/L	ALS
L2153239-3	MS-C-C03	24-Aug-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2126016-6	MS-C-D	9-Jul-18	pH	8.16	pH units	ALS
L2126016-6	MS-C-D	9-Jul-18	Total Suspended Solids	<2.0	mg/L	ALS
L2126016-6	MS-C-D	9-Jul-18	Total Dissolved Solids	433	mg/L	ALS
L2126016-6	MS-C-D	9-Jul-18	Turbidity	1.9	NTU	ALS
L2126016-4	MS-C-D02	9-Jul-18	pH	5.69	pH units	ALS
L2126016-4	MS-C-D02	9-Jul-18	Total Suspended Solids	<2.0	mg/L	ALS
L2126016-4	MS-C-D02	9-Jul-18	Total Dissolved Solids	<10	mg/L	ALS
L2126016-4	MS-C-D02	9-Jul-18	Turbidity	<0.10	NTU	ALS
L2157682-9	MS-C-D	28-Aug-18	pH	8.26	pH units	ALS
L2157682-9	MS-C-D	28-Aug-18	Total Suspended Solids	<2.0	mg/L	ALS
L2157682-9	MS-C-D	28-Aug-18	Total Dissolved Solids	597	mg/L	ALS
L2157682-9	MS-C-D	28-Aug-18	Turbidity	1.82	NTU	ALS
L2157682-7	MS-C-D02	28-Aug-18	pH	6	pH units	ALS
L2157682-7	MS-C-D02	28-Aug-18	Total Suspended Solids	<2.0	mg/L	ALS

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TABLE 7.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
FIELD QA/QC WATER QUALITY DATA ANALYSES -
FIELD DUPLICATES, FIELD BLANKS, AND TRAVEL BLANKS - 2018

FIELD AND TRAVEL BLANKS						
Sample Number	**Sample ID**	**Date Sampled**	**Parameter**	**Result**	**Unit**	**Lab**
L2157682-7	MS-C-D02	28-Aug-18	Total Dissolved Solids	**11**	mg/L	ALS
L2157682-7	MS-C-D02	28-Aug-18	Turbidity	**0.2**	NTU	ALS
L2107717-8	MS-C-E	4-Jun-18	Conductivity	180	umhos/cm	ALS
L2107717-8	MS-C-E	4-Jun-18	pH	7.78	pH units	ALS
L2107717-8	MS-C-E	4-Jun-18	Total Suspended Solids	5.3	mg/L	ALS
L2107717-8	MS-C-E	4-Jun-18	Ammonia, Total (as N)	0.041	mg/L	ALS
L2107717-8	MS-C-E	4-Jun-18	Nitrate (as N)	0.419	mg/L	ALS
L2107717-8	MS-C-E	4-Jun-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2107717-9	MS-C-E03	4-Jun-18	Conductivity	<3.0	umhos/cm	ALS
L2107717-9	MS-C-E03	4-Jun-18	pH	6.08	pH units	ALS
L2107717-9	MS-C-E03	4-Jun-18	Total Suspended Solids	<2.0	mg/L	ALS
L2107717-9	MS-C-E03	4-Jun-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2107717-9	MS-C-E03	4-Jun-18	Nitrate (as N)	<0.020	mg/L	ALS
L2107717-9	MS-C-E03	4-Jun-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2112089-9	MS-C-F	11-Jun-18	pH	7.58	pH units	ALS
L2112089-9	MS-C-F	11-Jun-18	Total Suspended Solids	2	mg/L	ALS
L2112089-9	MS-C-F	11-Jun-18	Total Dissolved Solids	61	mg/L	ALS
L2112089-9	MS-C-F	11-Jun-18	Turbidity	24.8	NTU	ALS
L2112089-8	MS-C-F02	11-Jun-18	pH	6.15	pH units	ALS
L2112089-8	MS-C-F02	11-Jun-18	Total Suspended Solids	<2.0	mg/L	ALS
L2112089-8	MS-C-F02	11-Jun-18	Total Dissolved Solids	<10	mg/L	ALS
L2112089-8	MS-C-F02	11-Jun-18	Turbidity	**0.8**	NTU	ALS
L2116590-9	MS-C-F	18-Jun-18	Conductivity	167	umhos/cm	ALS
L2116590-9	MS-C-F	18-Jun-18	pH	7.7	pH units	ALS
L2116590-9	MS-C-F	18-Jun-18	Total Suspended Solids	4.1	mg/L	ALS
L2116590-9	MS-C-F	18-Jun-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2116590-9	MS-C-F	18-Jun-18	Nitrate (as N)	0.215	mg/L	ALS
L2116590-9	MS-C-F	18-Jun-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2116590-8	MS-C-F03	18-Jun-18	Conductivity	<3.0	umhos/cm	ALS
L2116590-8	MS-C-F03	18-Jun-18	pH	5.85	pH units	ALS
L2116590-8	MS-C-F03	18-Jun-18	Total Suspended Solids	<2.0	mg/L	ALS
L2116590-8	MS-C-F03	18-Jun-18	Ammonia, Total (as N)	**0.021**	mg/L	ALS
L2116590-8	MS-C-F03	18-Jun-18	Nitrate (as N)	<0.020	mg/L	ALS
L2116590-8	MS-C-F03	18-Jun-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2163303-11	MS-C-F	11-Sep-18	pH	8.11	pH units	ALS
L2163303-11	MS-C-F	11-Sep-18	Total Suspended Solids	<2.0	mg/L	ALS
L2163303-11	MS-C-F	11-Sep-18	Total Dissolved Solids	140	mg/L	ALS
L2163303-11	MS-C-F	11-Sep-18	Turbidity	2.39	NTU	ALS
L2163303-12	MS-C-F02	11-Sep-18	pH	5.87	pH units	ALS

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TABLE 7.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
FIELD QA/QC WATER QUALITY DATA ANALYSES -
FIELD DUPLICATES, FIELD BLANKS, AND TRAVEL BLANKS - 2018

FIELD AND TRAVEL BLANKS						
Sample Number	**Sample ID**	**Date Sampled**	**Parameter**	**Result**	**Unit**	**Lab**
L2163303-12	MS-C-F02	11-Sep-18	Total Suspended Solids	<2.0	mg/L	ALS
L2163303-12	MS-C-F02	11-Sep-18	Total Dissolved Solids	<10	mg/L	ALS
L2163303-12	MS-C-F02	11-Sep-18	Turbidity	<0.10	NTU	ALS
L2131286-5	MS-C-G	16-Jul-18	Conductivity	170	umhos/cm	ALS
L2131286-5	MS-C-G	16-Jul-18	pH	7.89	pH units	ALS
L2131286-5	MS-C-G	16-Jul-18	Total Suspended Solids	<2.0	mg/L	ALS
L2131286-5	MS-C-G	16-Jul-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2131286-5	MS-C-G	16-Jul-18	Nitrate (as N)	0.551	mg/L	ALS
L2131286-5	MS-C-G	16-Jul-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2131286-4	MS-C-G02	16-Jul-18	Conductivity	<3.0	umhos/cm	ALS
L2131286-4	MS-C-G02	16-Jul-18	pH	6.1	pH units	ALS
L2131286-4	MS-C-G02	16-Jul-18	Total Suspended Solids	<2.0	mg/L	ALS
L2131286-4	MS-C-G02	16-Jul-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2131286-4	MS-C-G02	16-Jul-18	Nitrate (as N)	<0.020	mg/L	ALS
L2131286-4	MS-C-G02	16-Jul-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2163303-8	MS-C-G	11-Sep-18	pH	8.08	pH units	ALS
L2163303-8	MS-C-G	11-Sep-18	Total Suspended Solids	<2.0	mg/L	ALS
L2163303-8	MS-C-G	11-Sep-18	Total Dissolved Solids	143	mg/L	ALS
L2163303-8	MS-C-G	11-Sep-18	Turbidity	0.14	NTU	ALS
L2163303-9	MS-C-G03	11-Sep-18	pH	5.79	pH units	ALS
L2163303-9	MS-C-G03	11-Sep-18	Total Suspended Solids	<2.0	mg/L	ALS
L2163303-9	MS-C-G03	11-Sep-18	Total Dissolved Solids	**45**	mg/L	ALS
L2163303-9	MS-C-G03	11-Sep-18	Turbidity	0.1	NTU	ALS
L2116590-1	MQ-C-B	18-Jun-18	Conductivity	167	umhos/cm	ALS
L2116590-1	MQ-C-B	18-Jun-18	pH	7.89	pH units	ALS
L2116590-1	MQ-C-B	18-Jun-18	Total Suspended Solids	22.3	mg/L	ALS
L2116590-1	MQ-C-B	18-Jun-18	Ammonia, Total (as N)	0.58	mg/L	ALS
L2116590-1	MQ-C-B	18-Jun-18	Nitrate (as N)	2.85	mg/L	ALS
L2116590-1	MQ-C-B	18-Jun-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2116590-7	MQ-C-B02	18-Jun-18	Conductivity	<3.0	umhos/cm	ALS
L2116590-7	MQ-C-B02	18-Jun-18	pH	5.91	pH units	ALS
L2116590-7	MQ-C-B02	18-Jun-18	Total Suspended Solids	<2.0	mg/L	ALS
L2116590-7	MQ-C-B02	18-Jun-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2116590-7	MQ-C-B02	18-Jun-18	Nitrate (as N)	<0.020	mg/L	ALS
L2116590-7	MQ-C-B02	18-Jun-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2120528-1	MQ-C-B	25-Jun-18	pH	8.11	pH units	ALS
L2120528-1	MQ-C-B	25-Jun-18	Total Suspended Solids	2.2	mg/L	ALS

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TABLE 7.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
FIELD QA/QC WATER QUALITY DATA ANALYSES -
FIELD DUPLICATES, FIELD BLANKS, AND TRAVEL BLANKS - 2018

FIELD AND TRAVEL BLANKS						
Sample Number	**Sample ID**	**Date Sampled**	**Parameter**	**Result**	**Unit**	**Lab**
L2120528-1	MQ-C-B	25-Jun-18	Total Dissolved Solids	148	mg/L	ALS
L2120528-1	MQ-C-B	25-Jun-18	Turbidity	7.6	NTU	ALS
L2120528-8	MQ-C-B02	25-Jun-18	pH	6.04	pH units	ALS
L2120528-8	MQ-C-B02	25-Jun-18	Total Suspended Solids	<2.0	mg/L	ALS
L2120528-8	MQ-C-B02	25-Jun-18	Total Dissolved Solids	<10	mg/L	ALS
L2120528-8	MQ-C-B02	25-Jun-18	Turbidity	**0.69**	NTU	ALS
L2132023-6	MQ-C-B	18-Jul-18	Conductivity	320	umhos/cm	ALS
L2132023-6	MQ-C-B	18-Jul-18	pH	8.26	pH units	ALS
L2132023-6	MQ-C-B	18-Jul-18	Total Suspended Solids	5.6	mg/L	ALS
L2132023-6	MQ-C-B	18-Jul-18	Ammonia, Total (as N)	0.314	mg/L	ALS
L2132023-6	MQ-C-B	18-Jul-18	Nitrate (as N)	4.24	mg/L	ALS
L2132023-6	MQ-C-B	18-Jul-18	Oil and Grease, Total	<2.0	mg/L	ALS
L2132023-7	MQ-C-B02	18-Jul-18	Conductivity	3.7	umhos/cm	ALS
L2132023-7	MQ-C-B02	18-Jul-18	pH	6.12	pH units	ALS
L2132023-7	MQ-C-B02	18-Jul-18	Total Suspended Solids	<2.0	mg/L	ALS
L2132023-7	MQ-C-B02	18-Jul-18	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2132023-7	MQ-C-B02	18-Jul-18	Nitrate (as N)	<0.020	mg/L	ALS
L2132023-7	MQ-C-B02	18-Jul-18	Oil and Grease, Total	<2.0	mg/L	ALS

Notes:

Bold values indicate values greater than their respective parameter MDLs.

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TABLE 7.4

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY MONITORING RESULTS - NATURAL SEDIMENTATION EVENTS – 2018

Sample Number	Sample ID	Sample Date	Parameter	Result	Lab
L2103933-2	BG-27-US	30-May-18	Total Suspended Solids (mg/L)	83	ALS
L2103933-2	BG-27-US	30-May-18	Turbidity (NTU)	160	ALS
L210450-4	CV-114-US	1-Jun-18	Total Suspended Solids (mg/L)	83.6	ALS
L210450-4	CV-114-US	1-Jun-18	Turbidity (NTU)	100	ALS
L2118758-1	MP-NS-01	23-Jun-18	Total Suspended Solids (mg/L)	2,800	ALS
L2118758-1	MP-NS-01	23-Jun-18	Turbidity (NTU)	4,000	ALS

Notes:

Sampling Locations

BG-27-US: Tote Road water crossing at Km 86

CV-114-US: Tote Road water crossing at Km 29

MP-NS-01: Undisturbed tributary 9 km north of Milne Port

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TABLE 8.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
RECLAMATION WORKS RELATED TO PROJECT OPERATIONS ON INUIT-OWNED AND CROWN LANDS - 2018

Property Section	Land Type / Parcel ID	Reclamation Objective	Reclamation Principle	Description of Reclamation Works	Regulatory Authority	Impact on Financial Security
Project-Wide	Inuit-Owned Lands - Surface and Subsurface (PI-16, PI-17,P1-19) Crown Lands (Tote Road - Km 59 to 63)	- Remaining area will be safe for humans and the receiving environment - Aesthetic conditions of the project areas are similar to surrounding natural conditions	Progressive Reclamation	Demobilization and backhaul of equipment and supplies not required for near term activities, including the current inventory of hazardous waste and other materials by means of sealifts from Milne Port.	QIA CIRNAC	No change in financial security held by the QIA or the Crown (CIRNAC). Annual demobilization and backhaul of wastes, materials and equipment not required by the Project for near term activities is taken into account during the Annual Security Review process.
Tote Road	Inuit-Owned Lands - Surface (PI-16)	- Drainage pathways for surface runoff are physically stable to limit risk to humans and receiving environment - Mine areas are physically stable for use by humans and receiving environment - Area facilitates the desired wildlife movement - Natural revegetation is promoted - Aesthetic conditions of the project areas are similar to surrounding natural conditions	Progressive Reclamation	Continued implementation of the reclamation plan for the historical Km 97 borrow areas detailed in the Project's Borrow Source Management Plan – Km 97 (BAF-PH1-830-P16-0032).	QIA	No impact on financial security held by the QIA. Reclamation works at the historical Km 97 borrow areas outstanding with completion planned for 2019.
Tote Road	Inuit-Owned Lands - Surface (PI-19)	- Drainage pathways for surface runoff are physically stable to limit risk to humans and receiving environment - Mine areas are physically stable for use by humans and receiving environment - Area facilitates the desired wildlife movement - Natural revegetation is promoted - Aesthetic conditions of the project areas are similar to surrounding natural conditions	Progressive Reclamation	Reclamation of a historical section of the Tote Road near Km 52. Reclamation works involved the removal of culvert CV-076 and scarifying the ground surface along the alignment of the historical road section.	QIA	Minor impact on financial security as the new road alignment will not be reclaimed at closure. Adjustment may be required for the removal of the culvert.
Milne Port	Inuit-Owned Lands - Surface (PI-19)	- Chemically stable disturbed areas to limit risk impact to humans and receiving environment- Surface runoff and seepage water quality is safe for humans and receiving environment	Progressive Reclamation	On-going management of hydrocarbon impacted soils at the Milne Port Landfarm Facility generated from historical decommissioning efforts and ongoing operations.	QIA	No impact on financial security held by the QIA. No remediated soils were removed from the Landfarm Facility during 2018. Continued remediation and treatment of soils held within the Landfarm Facility anticipated during 2019.

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TABLE 8.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MARY RIVER PROJECT TOTAL CLOSURE AND RECLAMATION SECURITY SUMMARY - 2018[1]

Authorization	Liability	Securities Held on 1 Jan 2018 (Actual) ($)	Adjustment for 2018 ASR (Actual) ($)	Adjustment for 2018 Addendum ASR (Actual) ($)	Securities Held on 31 Dec 2018 (Actual) ($)
					F-D
Type 'A' Water Licence 2AM-MRY1325	IOL[2]	61,641,771	10,328,000	1,860,000	73,829,771
	Crown	1,298,555	-	-	1,298,555
Subtotal Type 'A' Water Licence		**62,940,326**	**10,328,000**	**1,860,000**	**75,128,326**
Type 'B' Water Licence 2BE-MRY1421	IOL[2]	-	-	-	-
	Crown	1,250,000	-	-	1,250,000
Subtotal Type 'B' Water Licence		**1,250,000**	**-**	**-**	**1,250,000**
GRAND TOTAL		**66,818,000**	**10,328,000**	**1,860,000**	**79,006,000**

Notes:

[1]Totals rounded to nearest ’000 in CAD

[2]All security relating to IOL held by Qikiqtani Inuit Association (QIA) under Commercial Lease No. Q13C301

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TABLE 10.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND ANNUAL REPORT FOR OPERATIONS
FINDINGS OF NON-COMPLIANCE BY A GOVERNMENT AUTHORITY - 2018

Property Section	Non-Compliance Charge	Date of Infraction	Regulatory Authority	Status of Infraction
None	N/A	N/A	N/A	N/A

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TABLE 11.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND ANNUAL REPORT FOR OPERATIONS
PENDING AND COMPLETED AMENDMENTS TO PROVISIONS OF THE COMMERCIAL LEASE - 2018

OEN / TRAN Title	Property Section	Location (UTM; NAD 83)	Description of Activity	Supporting Documentation
January 10, 2018 – OEN - Communications Network Upgrades[1]	Project Wide (IOL Parcels PI-16, 19)	Multiple locations. Refer to OEN Application.	Upgrades to the Project's communication network, involving the replacement of existing and/or installation of new communication towers at Milne Port, along the Tote Road and at the Mine Site.	N/A
November 1, 2018 – OEN - 2019 Work Plan[2]	Project Wide (IOL Parcels PI-16, 19)	Multiple locations. Refer to OEN Application.	Objectives of the OEN application include: - Accommodating new quarries and laydowns proposed in the 2019 Work Plan; - Reconciling the limits of Tote Road Impact Areas to reflect the current footprint of the Tote Road and associated infrastructure; and, - Finalizing land classification amendments to reflect as-built conditions of the communication network upgrades completed in 2018.	N/A

Notes:

[1]Approved on February 15, 2018. Final survey of land classification changes associated with communication upgrades planned for 2019.

[2]Approval pending. Approval anticipated following the completion of the 2019 Annual Security Review process.

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TABLE 12.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND ANNUAL REPORT FOR OPERATIONS
MEETINGS WITH THE PUBLIC, GOVERNMENT AND INUIT ORGANIZATIONS - 2018

Date	Group	Location	Description
January 5, 2018	QIA	Teleconference	Workplace Conditions Review Survey
January 8, 2018	Pauktuutit Inuit Women of Canada	Teleconference	Update - Women of Canada Funding Proposal
January 11, 2018	QIA	Iqaluit, NU	Joint Executive Committee
January 12, 2018	Legislative Assembly of Nunavut	Teleconference	Site Visit Planning
January 12, 2018	Sen. Dennis Patterson	Teleconference	Site Visit Planning, Phase 2 Expansion Proposal, General Project Update
January 24, 2018	QIA	Teleconference	Joint Management Committee
February 8, 2018	Sen. Dennis Patterson	Teleconference	Site Visit Planning
February 13, 2018	QIA	Oakville, ON	Joint Management Committee
February 14, 2018	QIA	Oakville, ON	Q-STEP Planning
February 14, 2018	Mary River Socio-Economic Working Group	Teleconference	General Meeting
February 14, 2018	Hon. Joe Enook	Teleconference	Site Visit Planning
February 20, 2018	Members, Legislative Assembly of Nunavut	Pond Inlet, NU	Update - Project Operations and Plans
February 23, 2018	QIA	Ottawa, ON	Phase 2 Expansion Proposal, Commercial Lease, IIBA Renegotiations, Water Compensation Agreement
February 26, 2018	Sen. Dennis Patterson	Teleconference	Update - Phase 2 Expansion Proposal
February 27, 2018	QIA	Teleconference	IIBA Renegotiations
March 2, 2018	QIA	Teleconference	Joint Management Committee
March 7, 2018	Canadian Northern Economic Development Agency	Toronto, ON	General Project Update, Socio-Economic Monitoring
March 14, 2018	QIA	Teleconference	Joint Executive Committee
March 15, 2018	Marine Environment Working Group	Teleconference	Marine Environment Working Group
March 21, 2018	Pond Inlet Hamlet Council and HTO	Pond Inlet, NU	2018 Project Shipping and Production Plans
March 22, 2018	Terrestrial Environment Working Group	Teleconference	Terrestrial Environment Working Group
April 5, 2018	Hall Beach Hamlet Council and HTO	Hall Beach, NU	Eqe Bay Exploration Program
April 6, 2018	Igloolik Hamlet Council and HTO	Igloolik, NU	Eqe Bay Exploration Program
April 12, 2018	QIA	Iqaluit, NU	Eqe Bay Exploration Program
April 17, 2018	QIA, Public	Hall Beach, NU	Annual Project Review Forum (April 17-19)
May 2, 2018	QIA	Ottawa, ON	Presidents Meeting
May 11, 2018	QIA	Teleconference	Joint Management Committee
May 15, 2018	QIA	Iqaluit, NU	IIBA Renegotiations (May 15-16)
May 16, 2018	QIA	Ottawa, ON	Tote Road Management and Monitoring
May 23, 2018	QIA	Ottawa, ON	IIBA Renegotiations (May 23-24)
May 25, 2018	QIA	Ottawa, ON	Presidents Meeting
May 29, 2018	QIA	Oakville, ON	Contracting Committee
May 30, 2018	QIA	Oakville, ON	Employment Committee
May 31, 2018	NIRB	Cambridge Bay, NU	Production Increase Proposal (May 31 - June 1)
June 1, 2018	NPC	Cambridge Bay, NU	Production Increase Proposal

Baffinland

TABLE 12.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND ANNUAL REPORT FOR OPERATIONS
MEETINGS WITH THE PUBLIC, GOVERNMENT AND INUIT ORGANIZATIONS - 2018

Date	Group	Location	Description
June 5, 2018	Terrestrial Environment Working Group	Ottawa, ON	Terrestrial Environment Working Group
June 6, 2018	Marine Environment Working Group	Ottawa, ON	Marine Environment Working Group
June 7, 2018	Pond Inlet HTO	Pond Inlet, NU	6 MT Application - Shipping Management
June 8, 2018	Pond Inlet HTO	Pond Inlet, NU	Freight Dock Construction and Offset - Marine Monitoring Programs
June 8, 2018	Pond Inlet Hamlet	Pond Inlet, NU	6 MT Application
June 11, 2018	Clyde River Hamlet Council and HTO	Clyde River, NU	Phase 2 Impacts and Mitigation
June 12, 2018	Pond Inlet Hamlet Council and HTO	Pond Inlet, NU	Phase 2 Impacts and Mitigation
June 13, 2018	Arctic Bay Mayor	Arctic Bay, NU	Phase 2 Impacts and Mitigation
June 14, 2018	Igloolik HTO	Igloolik, NU	Phase 2 Impacts and Mitigation
June 15, 2018	Hall Beach Hamlet Council and HTO	Hall Beach, NU	Phase 2 Impacts and Mitigation
June 19, 2018	Mary River Socio-Economic Working Group	Pangnirtung, NU	Socio-Ec Working Group Meeting
June 20, 2018	Qikiqtaaluk Socio-Economic Monitoring Committee	Pangnirtung, NU	Socio-Ec Working Group Meeting
June 21, 2018	QIA	Ottawa, ON	Tote Road Dust and Surface Water Monitoring
June 22, 2018	QIA	Ottawa, ON	Phase 2 Project Description
June 26, 2018	QIA	Ottawa, ON	IIBA Renegotiations (June 26-27)
June 28, 2018	QIA	Ottawa, ON	Presidents Meeting
July 4, 2018	QIA	Teleconference	Joint Executive Committee
July 9, 2018	QIA	Teleconference	Contracting Committee
July 10, 2018	QIA	Teleconference	Employment Committee
August 2, 2018	QIA	Teleconference	Contracting Committee
August 22, 2018	QIA	Teleconference	Employment Committee
August 23, 2018	GN	Iqaluit, NU	Department of Economic Development and Transportation
August 24, 2018	QIA	Iqaluit, NU	Joint Executive Committee
August 17, 2018	NIRB, Public	Igloolik, NU	NIRB Community Update Meeting
August 27, 2018	Canadian Transportation Agency	Gatineau, QC	Rail Application Meeting
September 10, 2018	Public	North Baffin Communities	Employment and Training Oppurtunities Community Tour (Sept 10-14)
September 11, 2018	QIA, Hatch	Ottawa, ON	Pond Inlet Training Center
September 13, 2018	GN, QIA, PC, ECCC, DFO, Pond Inlet HTO	Teleconference	Marine Environment Working Group
September 20, 2018	GN, QIA, ECCC, Pond Inlet HTO	Ottawa, ON	Terrestrial Environment Working Group
October 11, 2018	Transport Canada	Ottawa, ON	Rail Application Meeting
October 11, 2018	QIA, Nunavut Arctic College, Hatch and Pond Inlet HTO	Pond Inlet, NU	Pond Inlet Training Center
October 15, 2018	Public	North Baffin Communities	Contracting and Procurement Information Tour (October 15-19)
October 16, 2018	QIA	Ottawa, ON	Water Compensation Agreement, Reclamation Financial Security
October 17, 2018	DFO	Yellowknife, NWT	Phase 2 Expansion Proposal
October 30, 2018	Parks Canada	Montreal, QC	Shipping and Cruise Industry Workshop

Baffinland

TABLE 12.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND ANNUAL REPORT FOR OPERATIONS
MEETINGS WITH THE PUBLIC, GOVERNMENT AND INUIT ORGANIZATIONS - 2018

Date	Group	Location	Description
November 7, 2018	Canadian Northern Economic Development Agency	Teleconference	Phase 2 Expansion Proposal
November 7, 2018	Federal Intervenors	Teleconference	Phase 2 Expansion Proposal
.2018/11/14	Nunavut Housing Corporation	Teleconference	2018 Housing Surveuy
November 19, 2018	Hamlet Council and HTO	Pond Inlet and Arctic Bay	Phase 2 Expansion Proposal - Information Sessions (Nov 19-22)
November 23, 2018	QIA	Ottawa, ON	Update - Phase 2 Expansion Proposal
November 27, 2018	Igloolik Hamlet Council and HTO	Igloolik, NU	Eqe Bay Exploration Program
November 28, 2018	MHTO	Pond Inlet, NU	End of Shipping and Marine Monitoring Season Meeting
November 29, 2018	DFO	Iqaluit, NU	Request for Review Applications
November 29, 2018	QIA	Iqaluit, NU	Phase 2 Expansion Proposal
November 30, 2018	GN	Iqaluit, NU	Phase 2 Expansion Proposal
November 30, 2018	CIRNAC	Iqaluit, NU	Phase 2 Expansion Proposal
December 3, 2018	QIA	Iqaluit, NU	Q-STEP
December 4, 2018	QIA	Iqaluit, NU	Employment Committee Meeting
December 4, 2018	ECCC	Teleconference	Phase 2 Expansion Proposal
December 7, 2018	QIA	Ottawa, ON	Joint Executive Committee
December 7, 2018	QIA	Ottawa, ON	Joint Executive Committee
December 10, 2018	GN, QIA, PC, ECCC, DFO, MHTO	Ottawa, ON	Marine Environment Working Group
December 11, 2018	GN, QIA, ECCC, MHTO	Ottawa, ON	Terrestrial Environment Working Group
December 12, 2018	QIA	Ottawa, ON	Water Compensation Agreement, Reclamation Security
December 13, 2018	Public	North Baffin Communities	Holiday Feast Tour (Dec 13-17)
December 13, 2018	NWB/CIRNAC/QIA	Teleconference	Annual Security Review
December 18, 2018	Canadian Transportation Agency	Gatineau, QC	Phase 2 Expansion Proposal
December 19, 2018	Transport Canada	Teleconference	Phase 2 Expansion Proposal

Notes:

NIRB - Nunavut Impact Review Board

NPC - Nunavut Planning Commission

DFO - Department of Fisheries and Oceans Canada

ECCC - Environment and Climate Change Canada

GN - Government of Nunavut

PC - Parks Canada

Baffinland

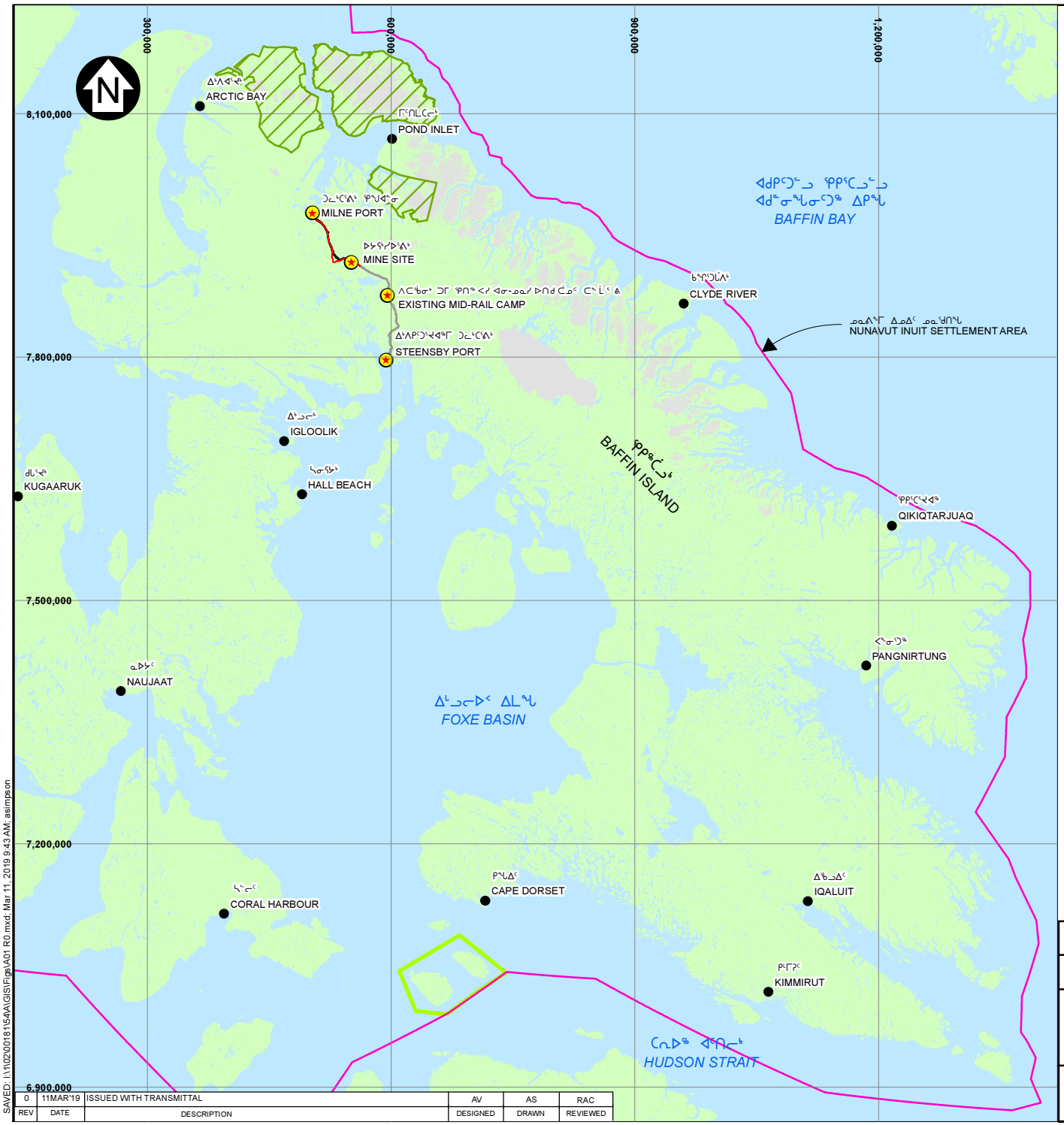
TABLE 12.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND ANNUAL REPORT FOR OPERATIONS
SITE VISITS TO THE MARY RIVER PROJECT - 2018

Date	Agency
January 23 - 29, 2018	WSCC - Mines Inspector
March 20 - 22, 2018	QIA Auditor
March 28 - 29, 2018	WSCC - Mines Inspector
April 17 - 20, 2018	NIRB - Environmental Inspectors
May 15 - 17, 2018	CIRNAC - Water Resources Officer
June 21 - 25, 2018	CIRNAC - Water Resource Officers ECCC - Environmental Enforcement Officers
June 25 - 28, 2018	QIA - Inspectors
July 5 - 9, 2018	WSCC - Mines Inspector
July 13, 2018	WSCC - Mines Inspector
July 25 - August 1, 2018	CIRNAC - Geotechnical Inspector
August 2 - 4, 2018	QIA - Inspectors
August 15 - 17, 2018	NIRB - Environmental Inspectors
August 21 - 23, 2018	CIRNAC - Water Resources Officer
August 29 - 30, 2018	WSCC - Mines Inspector
August 30, 2018	Pond Inlet HTO (MHTO)
September 6 - 11, 2018	QIA - Inspectors
October 2 - 3, 2018	QIA - Auditors
October 3 - 10, 2018	CIRNAC - Geotechnical Inspector
October 17, 2018	WSCC - Mines Inspector
October 25, 2018	QIA - Employment Committee
November 8, 2018	WSCC - Mines Inspector
December 16, 2018	WSCC - Mines Inspector

FIGURES



LEGEND:

- COMMUNITY
- MILNE INLET TOTE ROAD
- PROPOSED SOUTHERN RAILWAY ALIGNMENT
- PROPOSED NORTHERN RAILWAY ALIGNMENT
- AREA OF EQUAL USE AND OCCUPANCY NUNAVUT AND NUNAVIK
- NUNAVUT INUIT SETTLEMENT AREA
- WATER
- SIRMILIK NATIONAL PARK
- GLACIER

NOTES:

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.

SCALE 60 30 0 60 120 180 240 300 km

Baffinland

MARY RIVER PROJECT

PROJECT LOCATION MAP

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	11MAR'19	ISSUED WITH TRANSMITTAL	AV	AS	RAC

Knight Piésold CONSULTING

P/A NO. NB102-181/54

REF NO. NB19-00190

FIGURE 1

REV 0

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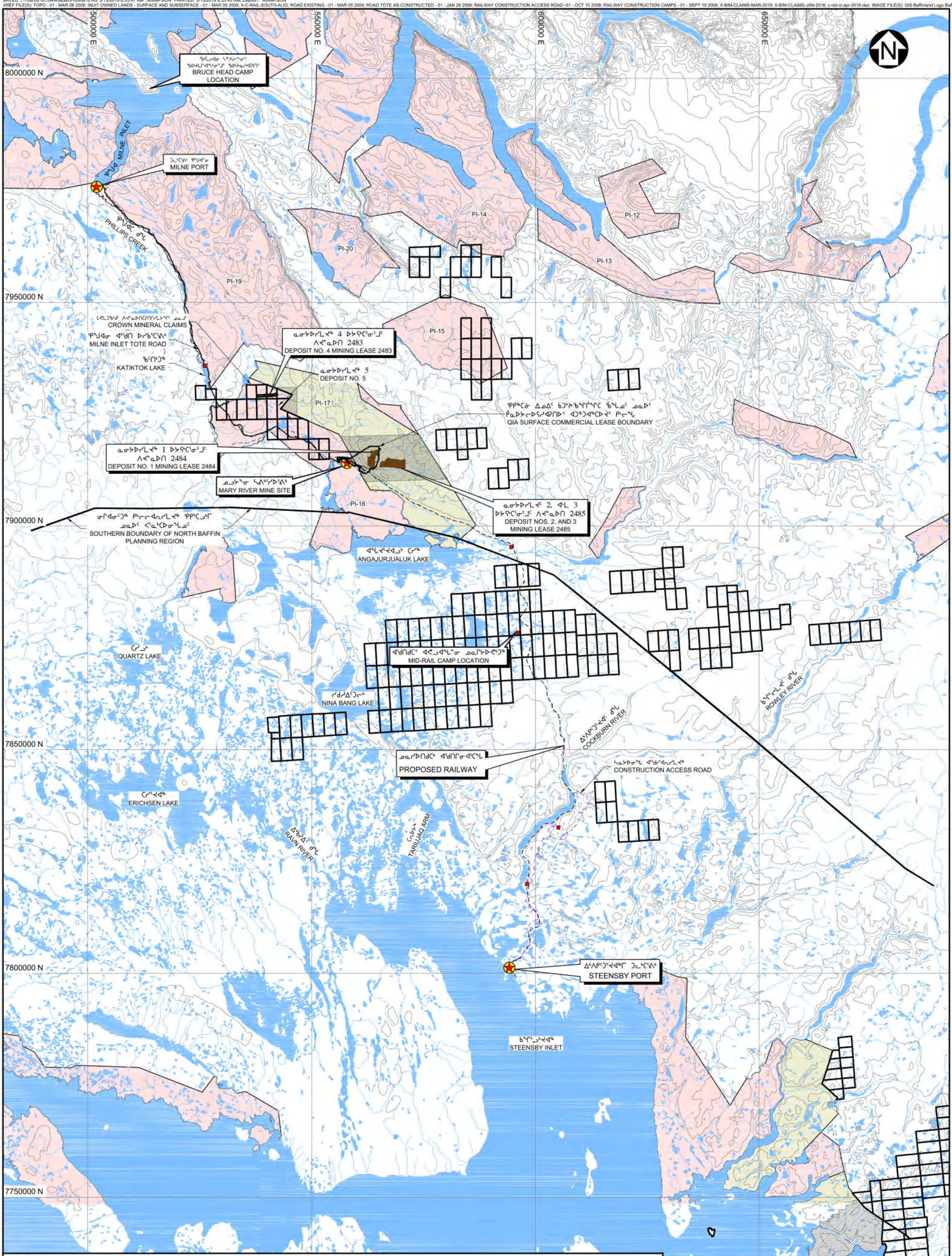

LEGEND:

- WATER
- INUIT OWNED LAND - SURFACE ONLY EXCLUDING MINERALS
- INUIT OWNED LAND - SURFACE AND SUBSURFACE INCLUDING MINERALS
- MINERAL LEASE BOUNDARY
- CROWN LAND
- NTI EXPLORATION AREA
- CROWN MINERAL CLAIMS HELD BY BAFFINLAND
- MILNE INLET TOTE ROAD
- PROPOSED NORTHERN RAILWAY
- PROPOSED RAIL ALIGNMENT
- PROPOSED CONSTRUCTION ACCESS ROAD
- RIVER/STREAM/DRAINAGE
- CONTOUR
- PROPOSED TEMPORARY CONSTRUCTION CAMP

SCALE A 8 4 0 10 20 30 40 km

NOTES:

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOURS ARE IN METRES. CONTOUR INTERVAL VARIES.
4. PROPOSED RAIL ALIGNMENT PROVIDED BY CANARAIL CONSULTANTS INC.
5. CLAIM BOUNDARIES PROVIDED BY BAFFINLAND IRON MINES CORPORATION, MARCH 2 2018.

2. UTM (NAD83) ZONE 17
4. CANARAIL CONSULTANTS INC

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	13MAR'19	ISSUED WITH TRANSMITTAL	AV	AS	AV

Baffinland

MARY RIVER PROJECT

LOCATION OF PROJECT ACTIVITIES

Knight Piésold CONSULTING

P/A NO.	REF NO.
NB102-181/54	NB19-00190

FIGURE 2 REV 0

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502 200 E | 502 800 E | 503 400 E | 504 000 E | 504 600 E | 505 200 E

7 976 300 N | 7 975 700 N | 7 975 100 N | 7 974 500 N | 7 973 900 N

MILNE INLET

ORE DOCK AND SHIPLOADER

SEALIFT BARGE LANDING AREA

MP-01, MP-01A, MP-03 EFFLUENT OUTFLOW POINT (END OF PIPE)

EXISTING HTO CABIN

MP-MRY-12 | MP-06 | MP-05 | MP-C-H | MP-C-E | MP-C-F | MP-03 | MP-02 | MP-MRY-04A | MP-MRY-7 | MP-01A | MP-01

- MOBILE MAINTENANCE FACILITIES
- ACCOMMODATION COMPLEX
- EMERGENCY RESPONSE OFFICE / GARAGE
- SEWAGE TREATMENT PLANT
- POTABLE WATER TREATMENT PLANT
- WASTE MANAGEMENT BUILDING
- BULK FUEL FACILITY
- CONTAINMENT BERMS:
  - MP-HWB-1
  - MP-HWB-2
  - MP-HWB-3
  - MP-HWB-4

LP2 EQUIPMENT / SUPPLY LAYDOWN

ORE STOCKPILE FACILITY

MP-MRY-04

WEATHERHAVEN (MATRIX CAMP)

LANDFARM FACILITY

MP-C-B | MP-C-B01 | MP-04 | MP-04A

HELICOPTER LANDING

PHILLIPS CREEK

ORE HAUL TRUCK SERVICES PAD

MP-MRY-2 | MP-Q1-02

APPROXIMATE EXTENT OF QUARRY Q1 DEVELOPMENT

CONTAINED REFUELING DEPOT

W10B | MP-Q1-01

380-PERSON CAMP PAD

LP5 | LP3

KM2 BORROW SOURCES

TOTE ROAD (NEW ALIGNMENT)

LAYDOWN LP7 OPEN BURN LOCATION

TOTE ROAD (OLD ALIGNMENT)

LAYDOWN R1

COMMERCIAL LEASE BOUNDARY

LAYDOWN R2

COMMERCIAL LEASE BOUNDARY

MARINE MANIFOLD BUILDING | WELDING SHOP | CONTAINMENT BERM - MP-HWB-1 | MP-C-F | MP-03 | BULK FUEL FACILITY | CONTAINED DIESEL TRANSFER STATION | MP-02 | MOBILE MAINTENANCE FACILITIES | CONTAINED JET-A TRANSFER STATION | EMERGENCY RESPONSE OFFICE / GARAGE | PWSP NO. 1 | MP-01A | MAIN GENERATORS | POTABLE WATER TREATMENT PLANT | ACCOMMODATION COMPLEX | CONTAINMENT BERMS MP-HWB-3 AND MP-HWB-4 | WASTE MANAGEMENT BUILDING | MP-01 | SEWAGE TREATMENT PLANT | CONTAINMENT BERM - MP-HWB-2

SCALE A 120 60 0 200 400 600 m

LEGEND:

- WATER
- BORROW AREAS
- QUARRY AREA
- INUIT OWNED LAND - SURFACE ONLY EXCLUDING MINERALS
- APPROVED INFRASTRUCTURE TO BE CONSTRUCTED
- DRAINAGE DIRECTION
- RIVER/STREAM/DRAINAGE
- ROAD
- POTENTIAL DEVELOPMENT AREA
- QIA SURFACE COMMERCIAL LEASE IMPACT BOUNDARY
- FORESHORE LEASE BOUNDARY
- SNP
- INACTIVE SNP
- EFFLUENT OUTFLOW POINT (END OF PIPE)

NOTES:

1. COORDINATE GRID IS UTM NAD83 ZONE 17N.
2. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
3. CONTOUR INTERVAL IS 10 METRES.

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	27MAR'19	ISSUED WITH TRANSMITTAL	AV	AS	AV

Baffinland

MARY RIVER PROJECT

MILNE PORT LAYOUT

Knight Piésold CONSULTING

P/A NO. NB102-181/54 | REF NO. NB19-00254

FIGURE 3 | REV 0

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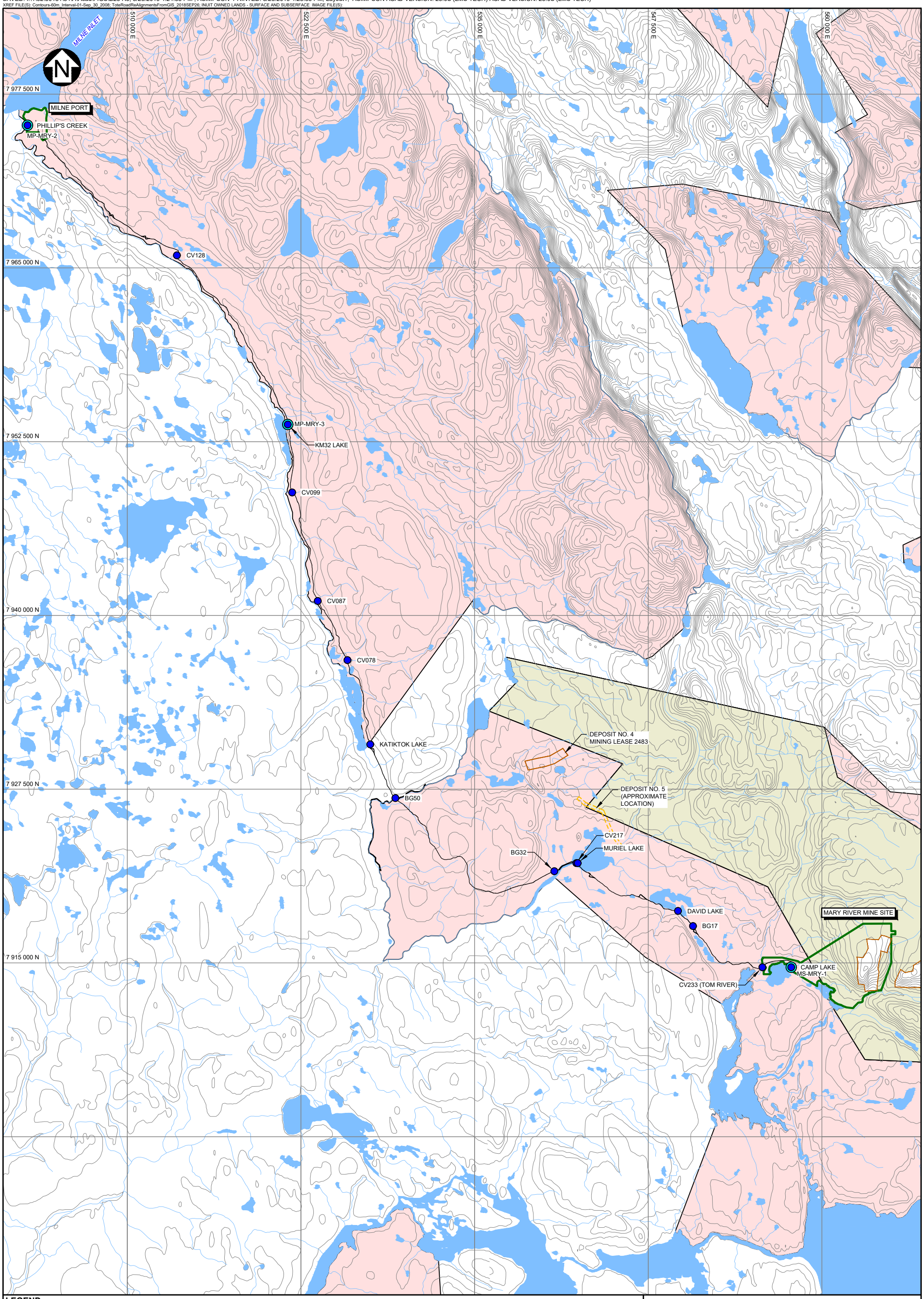


LEGEND:

- WATER
- INUIT OWNED LAND SURFACE AND SUBSURFACE
- INUIT OWNED LAND SURFACE ONLY
- CROWN LAND
- MINERAL LEASE BOUNDARY
- DEPOSIT NO. 5 (APPROXIMATE LOCATION)
- POTENTIAL DEVELOPMENT AREA
- CONTOUR
- CAMP WATER SOURCES
- DUST SUPPRESSION WATER SOURCES

NOTES:

1. COORDINATE GRID IS UTM NAD83, ZONE 17.
2. DETAILED WATER AND CONTOURS FROM EAGLE MAPPING (2005). CONTOUR INTERVAL IS 60 m.

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	20MAR'19	ISSUED WITH TRANSMITTAL	AV	AS	AV

SCALE A 2.5 1.25 0 2.5 5 7.5 10 12.5 km

BAFFINLAND IRON MINES CORPORATION

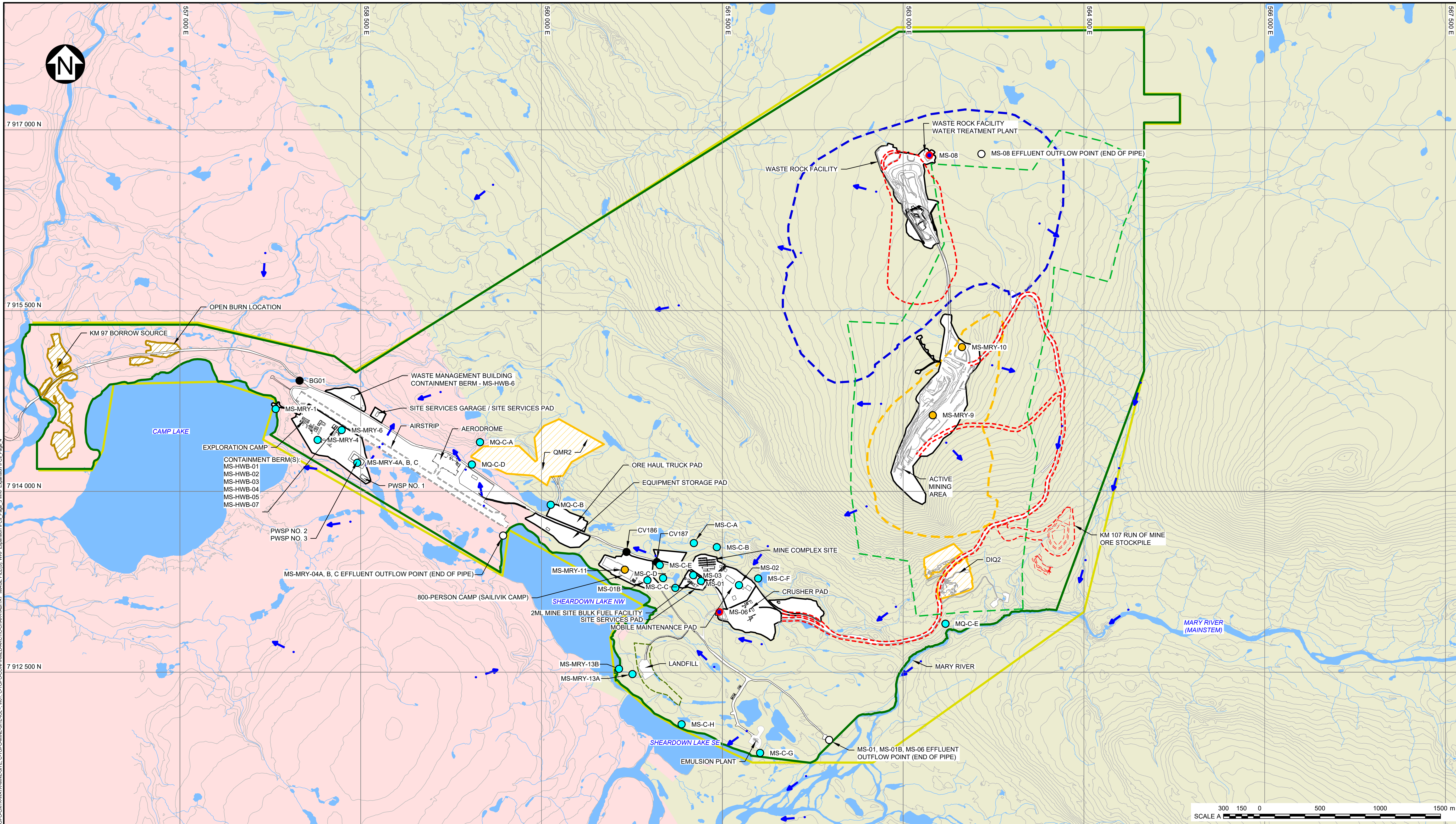
MARY RIVER PROJECT

MILNE INLET TOTE ROAD

Knight Piésold CONSULTING

P/A NO.	REF NO.
NB102-181/54	NB19-00233

FIGURE 4 REV 0



LEGEND:

- QUARRY
- BORROW AREA
- INUIT OWNED LAND SURFACE AND SUBSURFACE
- INUIT OWNED LAND SURFACE ONLY
- CONTOUR
- WATER
- QIA SURFACE COMMERCIAL LEASE BOUNDARY
- POTENTIAL DEVELOPMENT AREA BOUNDARY
- ULTIMATE DEPOSIT 1 PIT LIMITS
- ULTIMATE WASTE ROCK STOCKPILE LIMITS
- DEPOSIT NO. 1 MINING LEASE 2484
- ULTIMATE LANDFILL LIMITS
- APPROVED INFRASTRUCTURE UPGRADES TO BE CONSTRUCTED
- CULVERT
- SNP / MDMER
- SNP
- INACTIVE SNP
- EFFLUENT OUTFLOW POINT (END OF PIPE)
- DRAINAGE DIRECTION

NOTES:

1. COORDINATE GRID IS UTM NAD83, ZONE 17.
2. DETAILED WATER AND CONTOURS FROM EAGLE MAPPING (2005). CONTOUR INTERVAL IS 10 m.
3. CURRENT MINE AREA FROM THE WASTE DUMP TO THE CRUSHER PAD, AND DITCHES ALONG THE HAUL ROAD PROVIDED BY BIM (MARCH 12, 2018).
4. ALL OTHER SITE INFRASTRUCTURE PROVIDED BY HATCH (AUGUST 2, 2016). AND SIMPLIFIED BY KP STAFF (JAN, 2018).

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	27MAR'19	ISSUED WITH TRANSMITTAL	AV	AS	RAC

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

MINE SITE LAYOUT

Knight Piésold CONSULTING

P/A NO.	REF NO.	
NB102-181/54	NB19-00254	
FIGURE 5		REV 0

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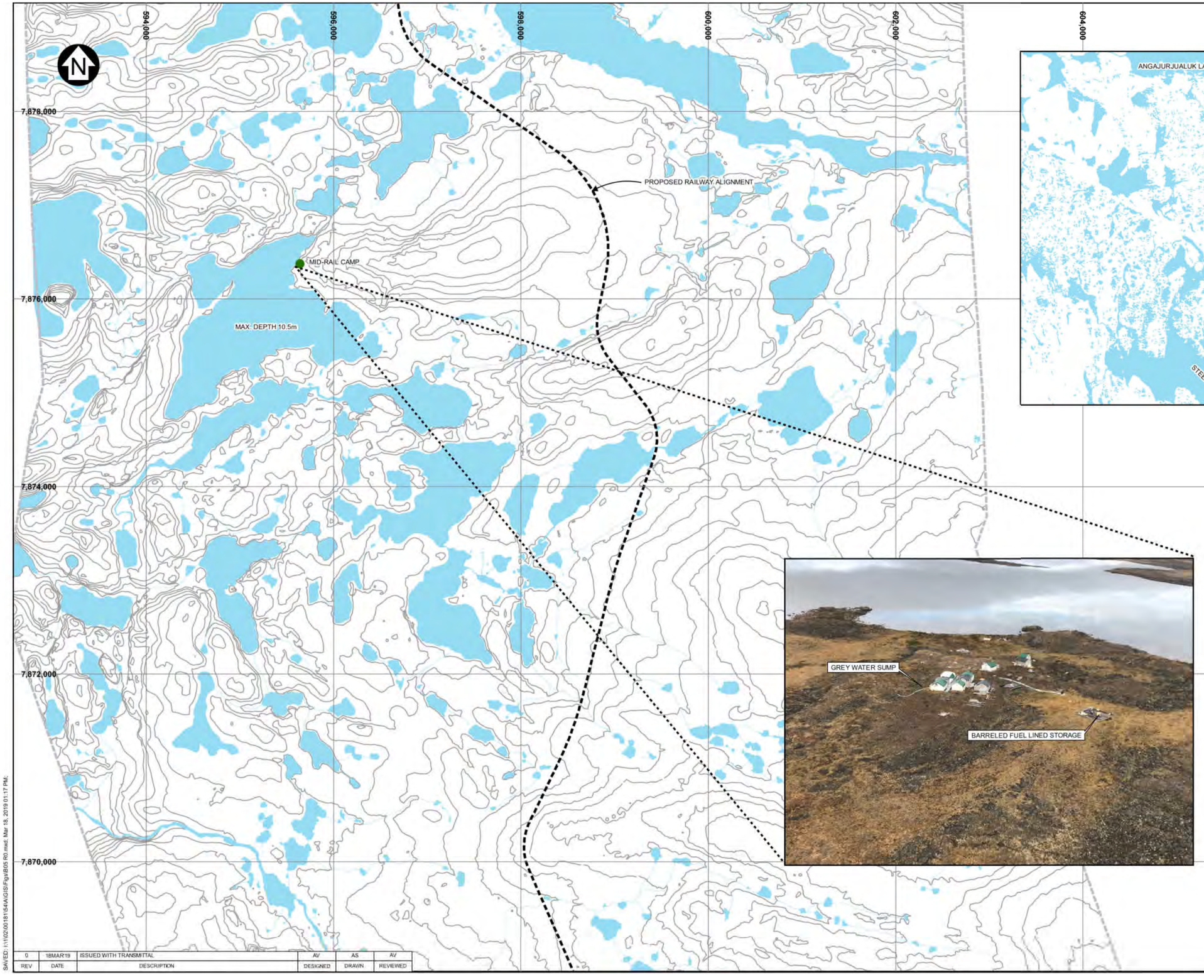

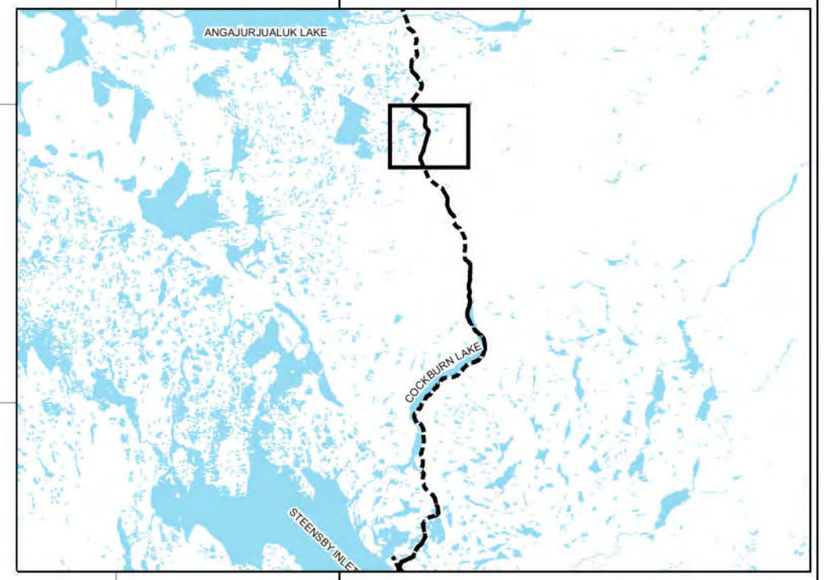

LEGEND:

- WATER
- RIVER/STREAM/DRAINAGE
- PROPOSED RAIL ALIGNMENT

NOTES:

1. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.
3. CONTOUR INVTERVAL IS IN METRES. CONTOUR INTERVAL IS 2.5 METRES.
4. PROPOSED RAIL ALIGNMENT PROVIDED BY CAINARAIL CONSULTANTS INC.

SCALE 500 250 0 500 1,000 1,500 2,000 m

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	18MAR19	ISSUED WITH TRANSMITTAL	AV	AS	AV

Baffinland

MARY RIVER PROJECT

MID RAIL CAMP SITE LAYOUT

Knight Piésold CONSULTING

P/A NO. NB102-181/54

REF NO. NB19-00217

FIGURE 6

REV 0

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7 804 000 N
7 802 750 N
7 801 500 N
7 800 250 N
7 799 000 N
7 797 750 N
593 000 E
594 250 E
595 500 E
596 750 E
598 000 E
599 250 E

STEENSBY INLET

EXISTING STEENSBY INLET CAMP LIMITS (APPROX.)
FUEL DRUM STORAGE
LAYDOWN AREA

3 Km LAKE WATER SOURCE

METEOROLOGY STATION

LEGEND:

- WATER
- RIVER/STREAM/DRAINAGE
- WETLAND

NOTES:

1. COORDINATE GRID IS UTM (NAD83) ZONE 17 AND IS IN METRES.
2. CONTOUR INTERVAL IS 5 METRES.
3. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
4. STEENSBY INLET INFRASTRUCTURE PROVIDED BY GENIVAR. DECEMBER 9, 2008.

SCALE A: 250 125 0 250 500 750 1000 1250 m

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	18MAR'19	ISSUED WITH TRANSMITTAL	AV	AS	AV

Baffinland

MARY RIVER MINE SITE

STEENSBY PORT CAMP SITE LAYOUT

Knight Piésold CONSULTING

P/A NO: NB102-181/54
REF NO. NB19-00217
FIGURE 7
REV 0

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MILNE INLET

MILNE PORT

18-022
18-040
18-052
18-100
18-118
18-324
18-232
18-436

18-286

18-479

18-209

MARY RIVER MINE SITE

18-045
18-182
18-180
18-463
18-020
18-141
18-244
18-214
18-148
18-050
18-062
18-145
18-363
18-481
18-459
18-451
18-153
18-154
18-140
18-131
18-098
18-051
18-016

DEPOSIT NO. 4
MINING LEASE 2483

DEPOSIT NO. 5
(APPROXIMATE
LOCATION)

18-286
18-232
18-436
18-052, 18-324
18-100, 18-118
18-040
18-22

18-244
18-045
18-182
18-180
18-463
18-148
18-214

18-145, 18-363
18-481
18-050
18-459
18-140
18-131
18-451
18-016

LEGEND:

- WATER
- INUIT OWNED LAND SURFACE AND SUBSURFACE
- INUIT OWNED LAND SURFACE ONLY
- CROWN LAND
- MINERAL LEASE BOUNDARY
- DEPOSIT NO. 5 (APPROXIMATE LOCATION)
- POTENTIAL DEVELOPMENT AREA
- CONTOUR
- 2018 UNAUTHORIZED DISCHARGE LOCATION

NOTES:

1. COORDINATE GRID IS UTM NAD83, ZONE 17.
2. DETAILED WATER AND CONTOURS FROM EAGLE MAPPING (2005). CONTOUR INTERVAL IS 60 m.
3. IMAGERY BASED ON INFORMATION PROVIDED BY BAFFINLAND IRON MINES CORPORATION, OCTOBER 2018.

SCALE A 3 1.5 0 5 10 15 km

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	20MAR'19	ISSUED WITH TRANSMITTAL	AV	AS	AV

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

LOCATIONS OF UNAUTHORIZED DISCHARGES IN 2018

Knight Piésold CONSULTING

P/A NO. NB102-181/54

REF NO. NB19-00233

FIGURE 8

REV 0