



Baffinland Iron Mines Corporation
Mary River Project
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2017 Qikiqtani Inuit Association (QIA) and Nunavut Water Board (NWB)
Annual Report for Operations

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Water Licence 2AM-MRY-1325 and Commercial Lease Q13C301
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March 31, 2018 / ᐱᑲᑲ 31, 2018

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIKIQTANI INUIT ASSOCIATION (QIA) AND NUNAVUT WATER BOARD (NWB)
ANNUAL REPORT FOR OPERATIONS

2017 QIKIQTANI INUIT ASSOCIATION (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 2017 Project activities and monitoring conducted under Baffinland Iron Mines Corporation's (Baffinland) Type A Water Licence 2AM-MRY1325 (Type A Water Licence) and the Commercial Lease No. Q13C301 (Commercial Lease) between the QIA and Baffinland for the Mary River Project (Project). All annual reporting requirements for the Commercial Lease conducted in 2017 are included within this report with the exception of exploration and drilling activities. A separate annual report has been prepared for the QIA and NWB to summarize the 2017 exploration and geotechnical drilling activities conducted within the scope of Baffinland's Type B Water Licence 2BE-MRY1421 (Type B Water Licence) and the Commercial Lease.

During 2017, mining operations at the Deposit No. 1 continued to increase and produced a total of 4.6 Mt of iron ore, from the 3.4 Mt produced in 2016. 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 2017 open-water shipping season (July to October), a total of 4.1 Mt of ore was shipped to market via 56 marine shipments using ore carrier vessels, with the majority of ore being delivered to ports in Northern Europe. Following the open water season, ore continued to be stockpiled at Milne Port to be shipped to market in 2018.

Mining operations along with development of Project infrastructure continued throughout 2017. 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, the key Project activities included:

-) Mining of Deposit No. 1 and the crushing and stockpiling of ore at the Mine Site Crusher Facility;
-) Extraction of rock material from the QMR2 Quarry;
-) Continued deposition of non-hazardous wastes at the Mine Site Non-Hazardous Landfill Facility;
-) Upgrades to surface water drainage infrastructure (i.e. culverts) to address sedimentation concerns and improve surface water drainage;
-) Construction and assembly of a new accommodations camp and supporting infrastructure (construction remains ongoing);
-) Installation of additional soft wall accommodations to increase workforce housing capacity;
-) Expansion of the Mine Site Crusher Facility;
-) Ongoing commissioning of the Mine Site Truck Wash Facility; and,
-) Corrective actions taken in response to concerns identified at the Waste Rock Facility (ongoing).

Milne Inlet Tote Road

Along the Tote Road, key Project activities included:

-) The transportation of iron 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 activities proposed in the Tote Road Earthworks Execution Plan (TREETP);
-) 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 Km 97 borrow area for road maintenance;
-) Removal of the sea container bridge at Km 80 (CV-217); 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 2017 open-water shipping season;
-) Marine shipment of iron ore to European markets;
-) Extraction of rock material from the Q1 Quarry;
-) Assembly and commissioning of a 50-person accommodations camp to support operations (hard-wall camp transferred from Steensby Port during 2016);
-) Installation of two additional fuel tanks (0.75 ML and 3 ML) at the Milne Port Bulk Fuel Storage Facility (construction ongoing);
-) Construction of laydown pads, 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.

Operational Challenges

As mining operations and overall production increased in 2017, Baffinland faced a number of operational challenges, including sedimentation events at Project sites during freshet, the construction of a camp pad along an ephemeral stream at Milne Port and the development of potential acid rock drainage (ARD) at the Mine Site Waste Rock Facility (WRF).

During freshet in May and June, there were a number of Project related sedimentation events and incidents where water samples collected downstream of Project construction and operation areas exceeded the applicable discharge criteria for total suspended solids (TSS). To address the 2017 sedimentation events and ongoing sedimentation concerns at the Project, Baffinland continued to implement corrective and mitigation measures, including initiatives outlined in the Sedimentation Mitigation Action Plan, Dust Mitigation Action Plan and TREEP.

On June 9, 2017, Baffinland received an Inspector's Direction from Indigenous and Northern Affairs Canada (INAC) regarding a camp pad that had been constructed in a location at Milne Port during freshet 2017 that impeded the flow of an ephemeral stream. In response, Baffinland submitted a modification application to the NWB for the construction of a surface water diversion ditch to redirect surface water flows around the pad. Upon receiving approval for the modification from the NWB in September 2017, Baffinland completed the construction of the diversion ditch by late October 2017.

During August 2017, the pH of runoff collected in the Waste Rock Facility surface water management pond (WRF pond) dropped below the pH discharge criterion outlined in the MMER and the Type A Water Licence. Observations indicated the decrease in pH may have been the result of potential ARD. The pond was subsequently batch treated with sodium carbonate in mid-August 2017 to increase the pH within the permissible range for discharge. Although the batch treatment was initially successful in raising the pH of runoff contained with the pond, subsequent active discharges from the WRF pond during late August and September resulted in several exceedances of the MMER and Type A Water Licence discharge criteria for pH and total suspended solids (TSS). Exceedances for the non-compliant discharges were reported to the relevant regulators and are documented in NT-NU Spill Reports 17-289, 17-312, 17-328 and 17-361.

During an on-site INAC and Environment and Climate Change Canada (ECCC) inspection in late August, uncontrolled seepage originating from the toe of the WRF pond's berm was observed that had not been previously identified in routine internal inspections and annual third party geotechnical and regulator inspections. The seepage was reported by Baffinland to relevant regulators and is documented in NT-NU Spill Report 17-312. Investigations into the origin of the seepage are ongoing. As a result of the concerns identified at the WRF, INAC issued an Inspector's Direction to Baffinland on September 5, 2017. On September 7, 2017 and September 13, 2017, the QIA and ECCC, respectively, notified Baffinland that both parties had initiated investigations into the 2017 events at the WRF.

In response to the non-compliant discharges from the WRF, Baffinland has taken multiple corrective actions to prevent additional non-compliant discharges from the WRF and retained Golder Associates (Golder) to determine the appropriate corrective actions required to address the seepage observed at the WRF in 2017 and investigate the potential for ARD and develop mitigation measures, as required. Preliminary mitigation measures planned for 2018 include the mobilization of a water treatment system to manage potential non-compliant waters in the WRF pond during 2018.

Modifications to Project Infrastructure

During 2017, 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, the Mine Site, and along the Tote Road. Modifications approved by the NWB and implemented at the Project in 2017, included the expansion of the Mine Site Crusher Facility (Modification No. 1), increasing fuel capacity at the Milne Port Bulk Fuel Storage Facility (Modification No. 2), completion of a surface water diversion ditch for the new camp pad at Milne Port (Modification No. 3a), and construction of a new accommodations camp and supporting infrastructure at the Mine Site (Modification No. 4).

Spills

During 2017, a total of forty-eight (48) spills were reported to the NT-NU Spill Line, INAC, NWB, and QIA, including six (6) spills associated with the Waste Rock Facility, eight (8) sediment releases, ten (10) sewage spills, and twenty-four (24) spills involving other operational effluents and materials. Baffinland continued to investigate the basic causes of all spills that occurred on-site in 2017 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 2017 to sustain three key activities at the Project: potable water supply (domestic), dust suppression, and for miscellaneous (industrial) uses. During 2017, 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 four (4) dust suppression water sources along the Tote Road during summer months.

Throughout 2017, Baffinland continued to implement the monitoring program outlined in the Type A Water Licence, Schedule I, 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 water licence effluent results reported as part of the water licence monitoring program, exceedances of applicable discharge criteria in 2017 involved mainly surface water runoff and effluents with elevated 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 monitoring program outlined in the Type A Water Licence, Schedule I, ongoing environmental monitoring and effects studies, including the Project's Aquatic Effects Monitoring Plan (AEMP), were conducted during 2017 in accordance with the commitments made in the ERP, and the Final Environmental Impact Statement (FEIS) approved under the Project Certificate.

Community Consultation

Throughout 2017, Baffinland continued to consult with the North Baffin communities and organizations, regarding construction activities at site, operations and the 2017 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 2018

The 2018 Work Plan was prepared and provided to relevant parties on November 6, 2017 as required under Section 6.1 of the Commercial Lease and under the Type A Water Licence, Part J, Item 3. Following discussions with the NWB, QIA and INAC to clarify the scope of the Annual Security Review, a Revision 1 of the 2018 Work Plan, dated January 10, 2018, was submitted by Baffinland to relevant parties.

The 2018 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 2018 Work Plan Addendum in mid-2018.

On March 8, 2018, Baffinland submitted a modification application to the NWB under the Type A Water Licence for changes to Project infrastructure planned for 2018. Infrastructure improvements proposed in the modification include a water treatment system to address concerns at the Waste Rock Facility, surface water management upgrades at Milne Port and other infrastructure upgrades to support current Project operations.

Project environmental monitoring programs prescribed by the Project Certificate, water licences, authorizations, management plans and environmental effects monitoring plans will continue through 2018.

RAPPORT ANNUEL D'ACTIVITÉ 2017 DESTINÉ À LA QIKIQTANI INUIT ASSOCIATION (QIA) ET
À L'OFFICE DES EAUX DU NUNAVUT (OEN)

SOMMAIRE EXÉCUTIF

Ce rapport destiné 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 du Projet menées en vertu du permis d'utilisation des eaux de type A de Baffinland Iron Mines Corporation (Baffinland) 2AM-MRY1325 (le Permis d'utilisation des eaux de type A) et du bail commercial No. Q13C301 (le Bail commercial) entre le QIA et Baffinland pour le projet Mary River (le Projet) au cours de 2017. Toutes les exigences de déclaration annuelle pour le Bail commercial effectuées en 2017 sont incluses dans ce rapport, à l'exception des activités d'exploration et de forage. Un rapport annuel distinct a été préparé pour le QIA et l'OEN pour résumer les activités d'exploration et de forage géotechniques menées dans le cadre du Permis d'utilisation des eaux de type B de Baffinland n° 2BE-MRY1421 (Permis d'utilisation des eaux de type B) et du Bail commercial en 2017.

En 2017, les activités minières du Gisement no 1 ont continué d'augmenter et ont produit un total de 4,6 Mt de minerai de fer, contre 3,4 Mt en 2016. Le minerai produit par les activités minières du site minier de Mary River (le Site minier) a été transporté par camions de transport de minerai le long de la route Milne Inlet Tote Road (la Route d'approvisionnement) et stocké au Port de Milne. Au cours de la saison de transport maritime 2017 (juillet à octobre), un total de 4,1 Mt ont été expédiés sur le marché en 56 expéditions utilisant des navires-transporteurs de minerai, dont la majorité a été livrée aux ports d'Europe du Nord. Après la saison de transport maritime, le minerai a continué à être stocké au Port de Milne pour être expédié au marché en 2018.

Les opérations minières ainsi que le développement des infrastructures du Projet se sont poursuivies tout au long de 2017. Les principales activités du Projet exécutées en vertu du Permis d'utilisation des eaux de type A et du Bail commercial sont décrites ci-dessous par domaines du Projet.

Site minier

Sur le Site minier, les principales activités du Projet ont compris :

-) l'exploitation du Gisement 1 et le broyage et stockage de minerai à l'installation de broyage;
-) l'extraction de matériaux rocheux de la carrière QMR2;
-) le dépôt continu de déchets non dangereux au site d'enfouissement du Site minier;
-) des mises à niveau de l'infrastructure de drainage des eaux de surface (c.-à-d. les ponceaux) pour résoudre les problèmes de sédimentation et améliorer le drainage des eaux de surface;
-) la construction et le montage d'un nouveau camp d'hébergement et d'une infrastructure de soutien
(la construction se poursuit);
-) l'installation d'aménagements muraux supplémentaires pour augmenter la capacité d'hébergement;

-) l'agrandissement de l'installation de broyage du Site minier;
-) la poursuite de la mise en service de l'installation de lavage de camions du Site minier; et
-) des mesures correctives prises en réponse aux préoccupations identifiées sur le site de l'Installation de traitement des roches stériles (en cours).

Milne Inlet Tote Road

Sur la Route d'approvisionnement, les principales activités du Projet ont compris :

-) le transport par camion du minerai de fer du Site minier au Port de Milne pour stockage;
-) le transport par camion de carburant et d'autres fournitures du Port de Milne au Site minier pour appuyer les opérations et le développement du Projet;
-) la poursuite de l'entretien de la Route d'approvisionnement pour améliorer le drainage des eaux de surface et répondre aux préoccupations opérationnelles et de sécurité, y compris les activités proposées dans le plan d'exécution des travaux de terrassement de la route d'approvisionnement (Tote Road Earthworks Execution Plan/TREEP);
-) la mise en œuvre d'un plan de gestion et de surveillance des crues, comportant la mise en place de mesures préventives et correctives (p. ex. barrages de retenue, clôtures anti-érosion, excavation de ponceaux de neige et de glace) pour résoudre les problèmes de sédimentation en période de fort débit;
-) la poursuite du développement de la zone d'emprunt du Km 97 pour l'entretien de la route;
-) l'enlèvement du pont à conteneurs maritimes au km 80 (CV-217); et
-) l'application de chlorure de calcium et d'eau à des fins de lutte contre la poussière.

Port de Milne

Au Port de Milne, les principales activités du Projet ont compris :

-) la poursuite du stockage de minerai à l'installation de stockage de minerai du Port de Milne avant et après la saison de transport maritime de 2017;
-) l'expédition maritime de minerai de fer vers les marchés européens;
-) l'extraction de matériaux rocheux de la carrière Q1;
-) l'assemblage et la mise en service d'un camp d'hébergement de 50 personnes pour appuyer les opérations (campement à parois dures transféré du Port de Steensby en 2016);
-) l'installation de deux réservoirs de carburant supplémentaires (0,75 ML et 3 ML) à l'installation de stockage en vrac de carburant du Port de Milne (travaux de construction en cours);
-) la construction de plates-formes de dépôt et l'infrastructure connexe de gestion de l'eau de surface pour stocker l'équipement et les fournitures nécessaires aux opérations et au développement du Projet; et,
-) plusieurs transports maritimes, y compris pour le renvoi d'équipements et de déchets au Canada du Sud et la livraison de carburant, d'équipements, de consommables et de matériel afin d'appuyer la poursuite des opérations et du développement du Projet.

Défis opérationnels

Comme les activités minières et la production globale ont augmenté en 2017, Baffinland a été confrontée à plusieurs défis opérationnels, notamment des phénomènes de sédimentation sur certains sites du Projet pendant une crue, la construction d'un campement le long d'un cours d'eau éphémère au Port de Milne et la construction d'un système de drainage des eaux des roches acides (DRA) sur le site de l'installation de traitement des roches stériles (ITR).

Au cours de la crue en mai et juin, un certain nombre de phénomènes de sédimentation et d'incidents se sont produits lors desquels des échantillons d'eau prélevés en aval des zones de construction et d'exploitation du Projet ont dépassé les critères de rejet applicables pour le total de solides en suspension (TSS). Afin de gérer les phénomènes de sédimentation de 2017 et les problèmes continus de sédimentation, Baffinland a continué de mettre en œuvre des mesures correctives et d'atténuation, notamment des initiatives décrites dans le plan d'action sur l'atténuation de la sédimentation, le plan d'action pour l'atténuation de la poussière et le TREEP.

Le 9 juin 2017, Baffinland a reçu une directive d'un inspecteur des Affaires indiennes et du Nord Canada (AINC) concernant un campement qui avait été construit sur un site au Port de Milne durant la crue de 2017 qui a gêné le flux d'un cours d'eau éphémère. En réponse, Baffinland a présenté une demande de modification à l'OEN pour la construction d'un fossé de dérivation des eaux de surface afin de rediriger les écoulements d'eau de surface autour de la plate-forme. Dès l'approbation de la modification par l'OEN en septembre 2017, Baffinland a entrepris la construction du fossé de dérivation achevée fin octobre 2017.

Courant août 2017, le pH des eaux de ruissellement collectées dans le bassin de gestion des eaux de surface de l'installation de traitement des roches stériles (bassin de l'ITR) a chuté en deçà des limites de rejet de pH indiquées dans le REMM. Les observations ont indiqué que la diminution du pH pourrait être le résultat d'un éventuel DRA. Le bassin a ensuite subi un traitement discontinu avec du carbonate de sodium à la mi-août 2017 pour élever le pH à la plage autorisée pour le rejet. Bien que le traitement discontinu ait réussi à élever le pH du ruissellement contenu dans le bassin, les rejets actifs du bassin de l'ITR qui ont suivi à la fin août et en septembre ont entraîné plusieurs dépassements des critères de rejet du REMM et du Permis d'utilisation des eaux du type A pour ce qui a trait au pH et au total des solides en suspension (TSS). Les dépassements pour les rejets non conformes ont été signalés aux organismes de réglementation pertinents et sont documentés dans les rapports de déversement NT-NU 17-289, 17-312, 17-328 et 17-361.

Au cours d'une inspection sur place par AINC et ECCC fin août, on a observé des infiltrations non contrôlées provenant de l'extrémité du talus du bassin de l'ITR qui ont été identifiées dans le passé au cours d'inspections internes de routine et d'inspections annuelles externes de géotechniciens ou d'organismes de réglementation. Les infiltrations ont été signalées par Baffinland à des régulateurs et sont documentées dans le rapport de déversement NT-NU 17-312. Des enquêtes sur l'origine des infiltrations sont en cours. À la suite des préoccupations soulevées à l'ITR, AINC a émis une directive d'un inspecteur

à l'intention de Baffinland le 5 septembre 2017. Le 7 septembre 2017 et le 13 septembre 2017, QIA et ECCC, respectivement, ont notifié à Baffinland que les deux parties avaient ouvert une enquête sur les événements de 2017 à l'ITR.

En réponse aux rejets non conformes de l'ITR, Baffinland a pris de multiples mesures correctives pour empêcher d'autres rejets non conformes de l'ITR et a retenu les services de Golder Associates (Golder) afin de déterminer les mesures correctives appropriées pour remédier aux infiltrations observées à l'ITR en 2017 et étudier le risque potentiel de DRA et élaborer des mesures d'atténuation, au besoin. Les mesures d'atténuation préliminaires prévues pour 2018 comprennent la mobilisation d'un système de traitement de l'eau pour gérer les eaux potentiellement non conformes dans le bassin de l'ITR en 2018.

Modifications des infrastructures de projet

En 2017, 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, au Site minier et le long de la Route d'approvisionnement. Les modifications approuvées par l'OEN et mises en œuvre sur les sites du Projet en 2017 ont inclus l'agrandissement de l'installation de broyage de la mine (Modification 1), l'augmentation de la capacité de stockage de carburant de l'installation de stockage en vrac du Port de Milne (Modification 2), l'achèvement de la construction du fossé de dérivation pour le nouveau site de campement du Port de Milne (Modification 3a) et la construction d'un nouveau camp d'hébergement et des infrastructures nécessaires sur le Site minier (Modification 4).

Déversements

En 2017, quarante-huit (48) déversements ont été signalés à l'organisme de signalement des déversements de NT et NU (NT-NU Spill Line), AINC, l'OEN et QIA, y compris six (6) déversements associés à l'Installation de traitement des roches stériles, huit (8) rejets de sédiments, dix (10) déversements d'eaux usées et vingt-quatre (24) déversements impliquant d'autres effluents et matériaux opérationnels. Baffinland a continué à enquêter sur les causes fondamentales de tous les déversements qui se sont produits sur le site en 2017 afin que des mesures correctives efficaces à long terme puissent être mises en œuvre pour 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 2017 pour soutenir trois activités clés du Projet : l'approvisionnement en eau potable (domestique), la suppression de la poussière et divers usages (industriels). En 2017, les limites quotidiennes 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 quatre (4) sources d'eau pour la suppression de la poussière se trouvant le long de la Tote Road pendant les mois d'été.

Tout au long de 2017, Baffinland a continué de mettre en œuvre le programme de surveillance décrit dans le Permis d'utilisation des eaux de type A, Annexe I, en analysant les effluents (par exemple, les eaux usées traitées, les eaux grasses de ruissellement traitées) déversés dans l'environnement et en surveillant la qualité des eaux de surface dans des zones spécifiques du Projet (par exemple, le ruissellement des eaux de surface en aval des zones du Projet). Sur la base d'un examen des résultats des permis d'eau déclarés dans le cadre du programme de surveillance des permis d'eau, le dépassement des critères de rejet applicables en 2017 a concerné principalement les eaux de ruissellement et des effluents avec des niveaux élevés de TSS. Dans chaque cas, des mesures de contrôle appropriées ont été mises en œuvre pour faire baisser les niveaux de TSS au-dessous des limites applicables. Baffinland continue d'évaluer et de mettre en œuvre les mesures correctives et d'atténuation appropriées pour régler les problèmes de sédimentation en cours sur le site du Projet.

En plus du programme de surveillance décrit dans le Permis d'utilisation des eaux de type A, Annexe I, une surveillance de l'environnement et des études d'effets continues, notamment dans le cadre du plan de surveillance des répercussions sur le milieu aquatique du Projet (Project's Aquatic Effects Monitoring Plan/AEMP) ont été réalisées en 2017, conformément aux engagements pris dans le cadre de la demande de Permis d'accès aux ressources environnementales (Environmental Resource Permit/ERP) et de la Déclaration d'impact environnemental définitive (Final Environmental Impact Statement/FEIS) approuvés dans le cadre du certificat du Projet.

Consultation communautaire

Tout au long de 2017, Baffinland a continué de consulter les communautés et les organismes du nord de Baffin concernant les activités de construction sur le site, les opérations et la saison de navigation 2017, les progrès en matière d'emploi des communautés du nord de Baffin, les activités de surveillance de l'environnement et leurs résultats, et les étapes ultérieures du Projet. Baffinland reste attaché à poursuivre ses consultations avec les parties prenantes susceptibles d'être touchées par le Projet, les autorités réglementaires concernées et le grand public.

Résumé des plans pour 2018

Le Plan de travail de 2018 a été préparé et fourni aux parties concernées le 6 novembre 2017, comme l'exigent l'article 6.1 du Bail commercial et le Permis d'utilisation des eaux de type A, partie J, article 3. Après des discussions avec l'OEN, QIA et AINC visant à clarifier la portée de l'Examen annuel de la sécurité, une Révision 1 du Plan de travail de 2018, datée du 10 janvier 2018, a été soumise par Baffinland aux parties concernées.

Le plan de travail de 2018 décrit le développement et l'exploitation prévue de la mine, du broyage et du transport terrestre, du stockage et de l'expédition maritime du minerai, et la poursuite du développement et de la construction des infrastructures nécessaires au Port de Milne, sur la Route d'approvisionnement et sur le Site minier. Afin de continuer de mettre à niveau et d'améliorer les infrastructures du Projet, Baffinland prévoit de soumettre un addendum au Plan de travail 2018 à la mi-2018.

Le 8 mars 2018, Baffinland a présenté une demande de modification à la NWB dans le cadre du Permis d'utilisation des eaux de type A concernant des modifications des infrastructures du Projet prévues pour 2018. Les améliorations des infrastructures proposées dans la modification comprennent une station de traitement de l'eau pour résoudre les problèmes de l'Installation de traitement des roches stériles, des mises à niveau de la gestion des eaux de surface au Port de Milne et d'autres mises à niveau aux infrastructures pour appuyer les opérations actuelles du Projet.

Les programmes de surveillance environnementale du Projet prescrits par le Certificat de Projet, les permis d'utilisation d'eau, les autorisations, les plans de gestion et les plans de surveillance des effets environnementaux se poursuivront en 2018.

TABLE OF CONTENTS

	<u>PAGE</u>
EXECUTIVE SUMMARY (ENGLISH)	ii
EXECUTIVE SUMMARY (INUKTITUT)	vii
EXECUTIVE SUMMARY (FRENCH)	xii
SECTION 1.0 - INTRODUCTION	1
1.1 SUMMARY OF PROJECT ACTIVITES FOR 2017	1
1.2 REGULATORY FRAMEWORK.....	7
SECTION 2.0 - WATER USE AND WASTE DISPOSAL ACTIVITIES	9
2.1 WATER USE	9
2.1.1 Quantities of Freshwater for Domestic and Industrial Purposes and Dust Suppression.....	9
2.1.2 Quantities of Reclaimed and Recycled Water.....	10
2.2 WASTEWATER MANAGEMENT	10
2.2.1 Quantity of Treated Sewage Effluent and Sludge from Project STPs and PWSPs ...	10
2.2.2 Quantity of Treated Wastewater from Oily Water Treatment System (OWTS).....	11
2.2.3 Quantity of Effluent from Project Surface Water Management Ponds	11
2.3 WASTE MANAGEMENT	12
2.3.1 Site Incinerators.....	12
2.3.2 Open Burning	13
2.3.3 Landfill Facility	13
2.3.4 Milne Port Landfarm Facility	13
2.3.5 Hazardous Waste Storage and 2017 Backhaul Sealift	14
2.4 WASTE ROCK MANAGEMENT.....	15
2.4.1 Mine Site Waste Rock Facility	15
SECTION 3.0 - SPILLS	16
3.1 2017 SPILL REPORTING	16
3.2 REPORTED SEDIMENT RELEASES DURING FRESHET.....	17
3.3 NON-COMPLIANT DISCHARGES FROM WASTE ROCK FACILITY.....	17
3.4 MILNE INLET SPILL RESPONSE TRAINING ACTIVITIES	18
3.5 IMMEDIATE CAUSE ANALYSIS.....	18

SECTION 4.0 - MODIFICATIONS	19
4.1 2017 MODIFICATION APPLICATIONS	19
4.2 MODIFICATIONS APPROVED AND IMPLEMENTED	20
4.2.1 Modification No. 1 - Mine Site Crusher Pad Expansion	20
4.2.2 Modification No. 2 – Capacity Increase of Milne Port Bulk Fuel Storage Facility	20
4.2.3 Modification No. 3a – Surface Water Diversion Ditch at Milne Port	20
4.2.4 Modification No. 4 – New Mine Site Camp and Supporting Infrastructure	21
SECTION 5.0 - MONITORING.....	22
5.1 SEWAGE DISPOSAL	22
5.1.1 2017 Mine Site PWSP Discharge to Sheardown Lake	22
5.2 STORM WATER FROM CONTAINMENT AREAS	23
5.3 SURFACE WATER RUN-OFF AND SEEPAGE	24
5.3.1 Milne Port Ore Stockpile Facility	24
5.3.2 Mine Site Non-Hazardous Landfill Facility.....	25
5.3.3 Mine Site Waste Rock Facility	25
5.3.4 Deposit 1 and the 2008 Bulk Sample Program	26
5.3.5 Mine Site Crusher Facility.....	27
5.4 SURFACE WATER RUNOFF DOWNSTREAM OF PROJECT AREAS AND QUARRIES	27
5.5 2017 GROUNDWATER MONITORING PILOT PROGRAM	29
5.6 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC).....	29
5.7 AQUATIC EFFECTS MONITORING PLAN (AEMP).....	31
SECTION 6.0 - CLOSURE AND RECLAMATION.....	33
6.1 PROGRESSIVE RECLAMATION	33
6.2 CURRENT RESTORATION LIABILITY	33
SECTION 7.0 - PLANS, REPORTS AND STUDIES	34
7.1 SUMMARY OF STUDIES REQUESTED BY THE NUNAVUT WATER BOARD	34
7.2 REVISIONS TO PLANS REPORTS AND MANUALS	34
7.3 SUMMARY OF CONSTRUCTION ACTIVITIES	35
7.4 SUMMARY OF FUEL STORAGE	36
7.5 RESULTS OF CHEMICAL ANALYSIS OF INCINERATOR BOTTOM ASH.....	38
7.6 REGULATORY INSPECTIONS AND ENFORCEMENTS ACTIONS	38

7.6.1	Enforcement Actions	38
7.6.2	Regulatory Inspections	42
7.7	QUANTITIES OF AGGREGATES FROM QUARRIES AND BORROW PITS.....	43
7.8	SUMMARY OF GEOCHEMICAL ANALYSIS FOR QUARRIES	43
7.9	GEOCHEMICAL WASTE ROCK STUDIES AND OPERATIONAL TESTING RESULTS	44
SECTION 8.0 - PUBLIC CONSULTATIONS		46
SECTION 9.0 - QUANTITY OF IRON ORE GENERATED BY THE PROJECT		47
SECTION 10.0 - SUMMARY OF PROJECT PLANS FOR 2018		48

LIST OF TABLES

TABLE 2.1	REV 0	DAILY, MONTHLY AND ANNUAL QUANTITIES OF WATER USED FOR PROJECT SITES ON INUIT-OWNED LANDS AND CROWN LAND
TABLE 2.2	REV 0	DAILY AND ANNUAL QUANTITIES OF WATER USED FOR DUST SUPPRESSION
TABLE 2.3	REV 0	MONTHLY AND ANNUAL QUANTITIES OF TREATED OILY WATER EFFLUENT DISCHARGED
TABLE 2.4	REV 0	MONTHLY AND ANNUAL QUANTITIES OF EFFLUENT DISCHARGED FROM PROJECT SURFACE WATER MANAGEMENT PONDS
TABLE 2.5	REV 0	MONTHLY AND ANNUAL QUANTITIES OF TREATED SEWAGE EFFLUENT DISCHARGED AND SLUDGE REMOVED
TABLE 2.6	REV 0	LOCATION OF TEMPORARY AND PERMANENT WASTE STORAGE AREAS
TABLE 2.7	REV 0	MONTHLY AND ANNUAL QUANTITIES OF WASTE DISPOSED IN NON- HAZARDOUS LANDFILL FACILITY
TABLE 2.8	REV 0	MONTHLY AND ANNUAL QUANTITIES OF HYDROCARBON IMPACTED SOIL, WATER AND SNOW DEPOSITED AT LANDFARM FACILITY
TABLE 2.9	REV 0	MONTHLY AND ANNUAL QUANTITIES OF WASTE ROCK - DEPOSIT NO.1
TABLE 3.1	REV 0	SUMMARY OF UNAUTHORIZED DISCHARGES
TABLE 5.1	REV 0	WATER LICENCE WATER QUALITY MONITORING LOCATIONS
TABLE 5.2	REV 0	WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATIONS
TABLE 5.3	REV 0	ACUTE TOXICITY MONITORING RESULTS FOR WATER LICENCE MONITORING LOCATIONS
TABLE 5.4	REV 0	QA/QC WATER QUALITY DATA ANALYSIS
TABLE 6.1	REV 0	2017 MARY RIVER PROJECT TOTAL CLOSURE AND RECLAMATION SECURITY SUMMARY
TABLE 7.1	REV 0	QUARTERLY AND ANNUAL QUANTITIES OF SPECIFIED SUBSTANCES REMOVED FROM BORROWS AND QUARRIES (BCMs)
TABLE 7.2	REV 0	QUANTITIES OF SPECIFIED SUBSTANCES REMOVED FROM BORROWS AND QUARRIES (BCMs) FOR SEPTEMBER 1, 2016 TO AUGUST 31, 2017 REPORTING PERIOD
TABLE 7.3	REV 0	WASTE ROCK FACILITY - KEY EVENTS, ACTIONS TAKEN AND CORRESPONDENCE
TABLE 8.1	REV 0	MEETINGS WITH PUBLIC, GOVERNMENT AND INUIT ORGANIZATIONS
TABLE 8.2	REV 0	STAKEHOLDER SITE VISITS TO MARY RIVER
TABLE 9.1	REV 0	MONTHLY AND ANNUAL QUANTITIES OF ORE GENERATED BY THE PROJECT
TABLE 9.2	REV 0	MONTHLY AND ANNUAL QUANTITIES OF ORE SHIPPED BY THE PROJECT

LIST OF FIGURES

FIGURE 1.1	REV 0	PROJECT LOCATION MAP
FIGURE 1.2	REV 0	LOCATION OF PROJECT ACTIVITIES
FIGURE 1.3	REV 0	MILNE PORT SITE LAYOUT AND WATER LICENCE MONITORING LOCATIONS
FIGURE 1.4	REV 0	MILNE INLET TOTE ROAD
FIGURE 1.5	REV 0	MINE SITE LAYOUT AND WATER LICENCE MONITORING LOCATIONS
FIGURE 1.6	REV 0	MID-RAIL EXPLORATION CAMP SITE LAYOUT
FIGURE 1.7	REV 0	STEENSBY PORT EXPLORATION CAMP SITE LAYOUT
FIGURE 1.8	REV 0	LOCATIONS OF UNAUTHORIZED DISCHARGES IN 2017

APPENDICES

APPENDIX A	CONCORDANCE TABLES
APPENDIX B	NWB ANNUAL REPORT FORMS
APPENDIX C	AS BUILT AND INFRASTRUCTURE MONITORING REPORTS
	C.1 – CONSTRUCTION SUMMARY REPORTS
	C.2 – GEOTECHNICAL INSPECTIONS
	C.3 – DFO TOTE ROAD ANNUAL REPORT
APPENDIX D	PHOTO JOURNAL
	D.1 – MINE SITE PHOTO SHEET
	D.2 – TOTE ROAD PHOTO SHEET
	D.3 – MILNE PORT PHOTO SHEET
	D.4 – STEENSBY PORT AND MID-RAIL CAMPS PHOTO SHEET
	D.5 – COMMUNITY CONSULTATION PHOTO SHEET
APPENDIX E	OTHER SUPPORTING DOCUMENTS
	E.1 – WASTE MANAGEMENT PROGRAM REPORT
	E.2 – INCINERATOR ASH TESTING RESULTS
	E.3 – STREAMFLOW DATA FOR TYPE A WATER LICENCE MONITORING LOCATIONS
	E.4 – SHIPPING MANIFESTS (INBOUND AND OUTBOUND)
	E.5 – INTERIM WASTE ROCK MANAGEMENT PLAN
	E.6 – WASTE ROCK GEOCHEMISTRY ANALYTICAL SAMPLING RESULTS
	E.7 – QUARRY GEOCHEMISTRY ANALYTICAL SAMPLING RESULTS
	E.8 – ENFORCEMENT ACTIONS AND REGULATORY CORRESPONDENCE
	E.8.1 – INAC INSPECTOR’S DIRECTION – MILNE PORT CAMP PAD
	E.8.2 – INAC INSPECTOR’S DIRECTION – WASTE ROCK FACILITY
	E.8.3 – KEY REGULATORY CORRESPONDENCE - WASTE ROCK FACILITY
	E.8.4 – INAC INSPECTION REPORTS AND BAFFINLAND RESPONSES
	E.8.5 – QIA INSPECTION REPORTS AND BAFFINLAND RESPONSES
	E.8.6 – WSCC INSPECTION REPORTS
	E.8.7 – INITIAL AND FOLLOW-UP SPILL REPORTS
	E.9 – AQUATIC EFFECTS MONITORING REPORTS
	E.9.1 – 2017 CREMP MONITORING REPORT
	E.9.2 – 2017 LAKE SEDIMENTATION MONITORING REPORT
	E.9.3 – 2017 HYDROMETRIC MONITORING REPORT
	E.9.4 – 2017 PHASE 1 EEM INTERPRETIVE REPORT
	E.10 – 2017 FRESHET MONITORING REPORTS
	E.11 – GROUNDWATER MONITORING REPORT – 2017 PILOT PROGRAM

SECTION 1.0 - INTRODUCTION

This report to the Qikiqtani Inuit Association (QIA) and the Nunavut Water Board (NWB) has been prepared to summarize the 2017 Project activities and monitoring conducted under Baffinland Iron Mines Corporation's (Baffinland) Type A Water Licence 2AM-MRY1325 (Type A Water Licence) and the Commercial Lease No. Q13C301 (Commercial Lease) between the QIA and Baffinland for the Mary River Project (the Project). All annual reporting requirements for the Commercial Lease except a summary of exploration and drilling activities conducted in 2017 are included within this report. A separate annual report has been prepared for the QIA and NWB to summarize the 2017 exploration and geotechnical drilling 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 construction areas, storm water from an engineered containment structure, sewage and oily water effluent, 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 subsequent sections.

Figures 1.1 and 1.2 present the locations of the key areas associated with the Project where activities in 2017 were undertaken. These areas included Milne Port (Figure 1.3), the Milne Inlet Tote Road (Tote Road; Figure 1.4) and the Mary River Mine Site (Mine Site; Figure 1.5). Accommodations at Steensby Port and Mid-Rail Camp, as shown in Figures 1.7 and 1.6, respectively, remained closed and unoccupied during 2017.

1.1 SUMMARY OF PROJECT ACTIVITIES FOR 2017

The Project activities undertaken in 2017 were conducted at Milne Port, along the Tote Road, Mine Site and Steensby Port. The general Project activities conducted during 2017 included the following:

-) The continued development and construction of infrastructure required at Milne Port and the Mine Site for the Project.
-) Mining operations at Deposit No. 1, including the crushing, trucking and shipping of iron ore.
-) 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 2017).
-) 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.

- J 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.
- J Operation of helicopter and fixed wing aircraft to service regional exploration and environmental monitoring studies, and other general site activities.
- J Care and maintenance of the inactive Steensby Port camp.
- J Continued progressive reclamation of areas of current and past use in association with the historical exploration and bulk sample programs.
- J Completion of environmental studies and monitoring programs identified in the FEIS, FEIS Addendum and Type A Water Licence.
- J Operation of the Bruce Head observation camp to support the 2017 monitoring program focused on documenting narwhal and marine mammal response to shipping activities.
- J Continued engineering and environmental studies to support future phases of the Project (i.e. Phase 2 Expansion).

The 2017 Project sealift at Milne Port occurred between August and October 2017 and consisted of the following:

- J Multiple sealift vessels providing consumables, equipment and materials required for the operation and continued development of the Project.
- J The receipt of 42.2 ML of P-50 diesel fuel and 1.8 ML of Jet-A1 fuel at the Milne Port Bulk Fuel Storage Facility via three (3) ship-to-shore floating hose fuel transfers.
- J The shipment off-site of various waste and hazardous materials generated from Project activities for disposal at approved/licensed facilities in Southern Canada via sealift to the Ports of Valleyfield and Becancour, Quebec, and subsequent ground transportation to final disposal facilities.

As required by the Commercial Lease and Type A Water Licence, Baffinland submitted to the NWB and QIA a 2017 Work Plan on November 4, 2016. On May 26, 2017, a 2017 Work Plan Addendum was submitted by Baffinland to the NWB and QIA to facilitate the implementation of infrastructure upgrades not included in the original 2017 Work Plan. The table below summarizes the activities proposed by Baffinland in the 2017 Work Plan and 2017 Work Plan Addendum, and the status of the activities, therein.

Property Section	Description	Activity Completed in 2017
2017 Work Plan (Nov. 4, 2016)		
New Work for 2017		
Milne Port	Mobilization and occupation of additional 49 person soft-walled camp inclusive of kitchen, dining, locker, recreational and washroom facilities.	No. Deferred.
Milne Port	Portable batch plant setup inclusive of water heating and storage, aggregate bins, stockpile areas and batching equipment.	No. Deferred.
Site Wide	Implementation of 'Sedimentation Mitigation Action Plan, Rev.1' initiatives as described in Appendix C of the Completion Report: Environment and Climate Change Canada Fisheries Act Direction (File: 4408-2016-05-10-001) and INAC Letter of Non-Compliance (NWB Licence 2AM-MRY1325) issued by Baffinland on September 30, 2016.	Yes. Baffinland continues to implement initiatives outlined in the Sedimentation Mitigation Action Plan to address sedimentation concerns at the Project, including the execution of the Tote Road Earthworks Execution Plan (i.e. culvert repairs and upgrades)
Mine Site	Use old bladder farm as a hazardous waste storage area. Treatment of oily water contact water as necessary using portable oily water treatment plant.	Yes. Baffinland continues to manage and treat Project oily contact water at the old bladder farm berm, referred to as monitoring location MS-MRY-6 under the Type A Water Licence and hazardous materials berm MS-HWB-7.
Mine Site	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.	Yes. The crusher pad was expanded in early 2017 as outlined in Water Licence Modification Request No. 1 approved by the NWB. Baffinland continues to work on upgrading the pad's surface water management to accommodate the pad expansion.
Milne Port	Expansion of Ore Stockpile Storage Area to provide increased area for equipment mobility, ore, and extra room for snow storage. Ditching and settling pond to be modified as warranted to address any drainage concerns.	No. Deferred.
Milne Port	Additional lighting and poles required to be installed for safety around Milne Port Site. Assumed approximately 3-4 km length for cabling and 20 light poles required.	No. Deferred.
Mine Site	Assembly of a tire shop (sea can construction) and parts staging area at ore haul truck line up pad	No. Deferred.
Mine Site	Construction of additional Truck Wash Building (anticipated to be 50% larger than existing Truck Wash Building at Mine Site)	No. Deferred.

Property Section	Description	Activity Completed in 2017
Milne Port	Additional power distribution infrastructure to be installed to allow for dedicated power to the ship loader.	No. Deferred.
Mine Site	Additional lighting and poles required to be installed to safety around Mine Site. Assumed approximately 3-4 km length for cabling and 20 light poles required.	No. Deferred.
Site Wide	Implementation of 'Dust Mitigation Action Plan, Rev.1' initiatives as described in Appendix B of the Completion Report: Environment and Climate Change Canada Fisheries Act Direction (File: 4408-2016-05-10-001) and INAC Letter of Non-Compliance (NWB Licence 2AM-MRY1325) issued by Baffinland on September 30, 2016.	Yes. Baffinland continued to implement initiatives outlined in the Dust Mitigation Action Plan during 2017 to address dust and sedimentation concerns at the Project.
Work Carried over from 2016 Work Plan		
Milne Port	Consideration given to designing and constructing a new landfill. Note this activity would require application and approval from NWB and QIA. Security will be adjusted accordingly should Baffinland decide to proceed with this activity.	No. Deferred.
Milne Port	Construct approved PWSP at Milne Port	No. Deferred.
Tote Road	Dust Suppression along the Tote Road (Water and Calcium Carbonate and EK 35 for the Airstrip)	Yes. Ongoing.
Mine Site	Consideration given to designing and constructing a new landfarm during 2016, located adjacent to existing landfill area. Security will be adjusted accordingly should Baffinland decide to proceed with this activity.	No. Deferred.
Mine Site	Temporary contractor infrastructure determines and required by construction contractors (including lunchrooms, offices etc.), no new units required.	Yes.
Mine Site	Construct and install three hazardous waste berms.	No. Deferred.
Progressive Reclamation		
Milne Port	Management of hydrocarbon impacted soils within the existing landfarm facility.	Yes. Ongoing.
Milne Port	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.	Yes. Ongoing.

Property Section	Description	Activity Completed in 2017
Milne Port	Ongoing clean-up at Milne Port Fuel Storage Area from Spill 16-283 that includes continued removal and storage of remaining residual P-50 fuel within the engineered containment and the treatment and discharge of impacted stormwater from the facility as required.	Yes. Ongoing. Stormwater within the Milne Port Bulk Fuel Storage Facility continued to be treated and discharged in 2017. Recovered fuel stored in bladders and tanks within the Facility's secondary containment in 2016 continues to be consumed by operations.
Milne Port and Mine Site	Discharge and treatment of residual treated sewage effluent stored in PWSP at Mary River Exploration Camp and Milne Port Site.	Yes. Discharges from Project PWSPs during 2017 are detailed in Section 5.1.1 of this report.
Tote Road	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.	No. Deferred.
Tote Road	Reclamation of sections of the exploration phase Tote Road no longer in use by means of scarifying and culvert removals.	No. Deferred.
Mine Site	Continued development of the Mine Site landfill and deposition of non-hazardous waste in accordance with the Landfill Maintenance and Operations Manual.	Yes. Ongoing.
Site Wide	Ongoing removal from site, or safe disposal on-site of infrastructure, equipment and supplies no longer required for ongoing construction and operations.	Yes. Ongoing.
Site Wide	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.	No. Deferred.
Site Wide	Areas that have been contaminated by hydrocarbons from normal fuel transfer, handling and storage activities will be reclaimed to meet objectives as outlined in the Government of Nunavut's Environmental Guideline for Site Remediation 2010. Use of reclamation soils for purpose of back fill or general site grading may be carried out with approval of applicable inspectors and agencies.	Yes. Hydrocarbon impacted soils continued to be managed at the Milne Port Landfarm in 2017.
2017 Work Plan Addendum		
New Work for 2017		
Tote Road (additional details for work proposed in 2017 Work Plan)	Execution of Tote Road Earthworks Execution Plan and Design Report, including replacement of culverts: BG01, BG03, BG04, BG10, BG11, BG 11-B&C, BG14-B, BG14-C, BG17, BG19, BG19-B-DS, BG19-C-DS, BG25 (A&B), and BG27.	Yes. A complete list of culvert repairs/upgrades completed during 2017 is provided in the 2017 DFO Tote Road Upgrades Monitoring Report provided as Appendix C.3 of this report.

Property Section	Description	Activity Completed in 2017
Mine Site	Installation of 800-person temporary camp inclusive of, potable water treatment, sewage treatment, incinerator, kitchen, dining, locker, recreational and washroom facilities.	Yes. Construction of camp and sewage treatment is ongoing, Incinerator installation deferred.
Mine Site	Installation of 35-person soft-walled camp inclusive of locker and recreational facilities.	Yes. Soft-wall accommodations setup near existing Mine Site Exploration Accommodations Complex, also known as the Mine Site Weatherhaven.
Mine Site	Laydown pad development approximately 45,000 m ² comprised of 6" and 1 1/4" aggregate, varying thickness with a minimum of 200 mm cover on all tundra. Free draining to appropriate ditches and water courses.	Yes, pad developed for 800 person camp facility.
Mine Site	Laydown pads approximately 15,000 m ² comprised of 6" and 1 1/4" aggregate, varying thickness with a minimum of 300 mm cover on all tundra. Free draining to appropriate ditches and water courses.	Yes, multiple laydowns constructed in 2017, with additional deferred to 2018.
Milne Port	Installation of 380-person temporary camp inclusive of potable water treatment, sewage treatment, incinerator, kitchen, dining, locker, recreational and washroom facilities.	No. Deferred.
Milne Port	Installation of 50-person soft wall rapid deploy camp inclusive of locker, recreational and washroom facilities.	Yes. 50 person modular camp, transferred from Steensby Port in 2016, was commissioned and setup during 2017 south of the Milne Port Ore Stockpile Facility.
Milne Port	Laydown pads approximately 45,000 m ² comprised of 6" and 1 1/4" aggregate, varying thickness with a minimum of 300 mm cover on all tundra. Free draining to appropriate ditches and water courses.	No. Deferred.
Milne Port	Laydown pads and access roads approximately 150,000 m ² comprised of 6" and 1 1/4" aggregate, varying thickness with a minimum of 300 mm cover on all tundra. Free draining to appropriate ditches and water courses.	Yes, multiple laydowns constructed in 2017, with additional deferred to 2018.
Milne Port	Install 15 ML and 3 ML arctic diesel fuel tanks and 750,000 liter Jet-A1 fuel tank to same design criteria as existing tanks, in existing containment and interconnecting pipelines to existing filling and distribution system.	Yes. In September 2017, Baffinland received approval from the NWB for Water Licence Modification Request No. 2 which proposed the installation of a 3 ML and 750,000 L fuel tank within the existing containment of the Milne Port Bulk Fuel Storage Facility. Construction of the 750,000 L tank is complete with commissioning planned for 2018. Construction and commissioning of the 3 ML tank is planned for 2018. Construction of the 15 ML tank is deferred pending regulatory approval.

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 Mary River Project. A list of the key regulatory permits and authorizations that allowed for the work to be completed at the Mary River Project in 2017 is presented below.

Permit or Licence No.	Licence Name	Status Update for 2017	Expiry
Nunavut Impact Review Board			
No. 005	Amended Project Certificate	All works and activities proposed have been screened by the NIRB and have been considered in the amended Project Certificate issued by the NIRB in May 2014. A NIRB Annual Report is submitted by March 31 of each year 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 made during 2017.	June 10, 2025
2BE-MRY1421	Type B Water Licence	In good standing; no amendments were made during 2017.	April 16, 2021
Qikiqtani Inuit Association			
Q13C301	Inuit Owned Land Commercial Lease	Compliance with the lease is outlined in the <i>2017 QIA and NWB Annual Reports</i> submitted by March 31 st of each year.	December 31, 2043
-	Inuit Impact and Benefit Agreement	Compliance with the agreement is outlined in the annual IIBA implementation report submitted by March 31 st 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.	June 30, 2019

Permit or Licence No.	Licence Name	Status Update for 2017	Expiry
N2014C0013	Steensby and Milne Land Use Permit	In good standing, no changes from previous year.	June 30, 2019
N2014J0011	Bruce Head Land Use Permit	In good standing, no changes from previous year.	June 30, 2019
N2014X0012	Milne Foreshore Land Use Permit	In good standing, no changes from previous year.	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. Monitoring and reporting to DFO occurs annually.	N/A
14-HCAA-00525	Fisheries Authorization – Milne Ore Dock	A monitoring report for the ore dock was submitted to DFO on December 31, 2017.	December 31, 2020
NU-06-0084	Fisheries Authorization – Tote Road	-	N/A
Various Letter of Advice	Fisheries Crossings along Tote Road and 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
4306-2-6- P/B	Occasional-Use Marine Facility	In good standing, no changes from previous year. Planned to be renewed.	June 30, 2018
Licence under the Explosives Act			
F76068	Division 1 Factor Licence	Held by explosives contractor for the Project.	-

SECTION 2.0 - WATER USE AND WASTE DISPOSAL ACTIVITIES

2.1 WATER USE

During 2017, water was withdrawn and used at Milne Port, the Tote Road and the Mine Site for operation and construction activities under the authorization of the Type A Licence. Water use for 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 *2017 QIA and NWB Annual Report for Exploration and Geotechnical Drilling Activities*.

Under the authorization of the Type A Water Licence, fresh water was withdrawn during 2017 to sustain three key activities: potable water supply for camp use, dust suppression and miscellaneous (industrial) uses. The following sections describe water use at the Project during 2017.

2.1.1 Quantities of Freshwater for Domestic and Industrial Purposes and Dust Suppression

Under the Type A Water Licence (Part E, Item 3), fresh water for domestic camp use, dust suppression, and other purposes was obtained for the Mine Site, Milne Port, and Tote Road in 2017. Approved water source locations for Project sites are detailed in Table 5.1 and presented in Figures 1.3, 1.4 and 1.5. Water was not withdrawn to support the Mid Rail and Steensby Port camps in 2017.

Potable water for the Mine Site was withdrawn from a wet well jetty structure positioned 30 metres from shore at Camp Lake (MS-MRY-1, Figure 1.5). Water was pumped directly from the lake source to water storage tanks located at the Mine Site Exploration Camp and the Potable Water Treatment Plant using heat traced water pipelines. Potable water was supplied to the Milne Port camps from Km 32 Lake (MS-MRY-3, Figure 1.4) using a water truck.

Water withdrawn for dust suppression from the various approved water sources along the Tote Road and applied to roadways was conducted using water trucks.

Water volumes withdrawn in 2017 from authorized sources for domestic and industrial purposes and dust suppression was completed in accordance with the Type A Water Licence, Part I, Item 9. The total water used for domestic and industrial purposes and dust suppression was monitored for compliance with the maximum daily withdraw limits stipulated by the terms of the Type A Water Licence, Part E, Item 4 and 25. During 2017, no exceedances of the authorized 657.5 m³ (Mine Site) and 367.5 m³ (Milne Port) daily water withdrawal limits were reported.

During June, July and August several exceedances of daily withdrawal water limits occurred at four (4) approved dust suppression water sources along the Tote Road, as outlined in Table 2-3 of the Type A Water Licence. All exceedances occurred at Tote Road dust suppression water sources that did not have low flow year restrictions and were based on the daily withdraw rates, with monthly withdrawal volumes being within

the approved monthly withdrawal rates during summer months. Baffinland will continue to work on improving the enforcement of daily withdraw limits at approved water sources along the Tote Road.

Refer to Tables 2.1 and 2.2 for a summary of daily, monthly, and annual volumes of freshwater withdrawn from approved water sources on Inuit-Owned Lands (IOL) during 2017. No freshwater was withdrawn from Crown Lands in 2017 under the authorization of the Type A Water Licence.

2.1.2 Quantities of Reclaimed and Recycled Water

Under the Type A Water Licence (Part E, Item 5), freshwater was reclaimed and recycled from four locations throughout the Project and applied along the Tote Road and Mine Haul Road for dust suppression purposes. A summary of reclaimed and recycled water used during 2017 is provided in Table 2.2.

2.2 WASTEWATER MANAGEMENT

Treated sewage and wastewater effluents were generated under the Type A Water Licence in 2017.

2.2.1 Quantity of Treated Sewage Effluent and Sludge from Project STPs and PWSPs

Throughout 2017, treated sewage effluent and sludge were generated at Project Sewage Treatment Plants (STPs), equipped with Membrane Bioreactor (MBR) technology.

The monthly and annual quantities of treated sewage effluent discharged at the Mine Site and Milne Port STPs in 2017 are presented in Table 2.5. In 2017, sewage was treated or stored at the following locations:

-) Mine Site STP (MS-01);
-) Mine Site PWSPs (MS-MRY-04A, B, & C);
-) Milne Port STP (MP-01); and,
-) Milne Port PWSP (MP-01A).

Polishing Waste Stabilization Ponds (PWSPs) constructed at the Mine Site and Milne Port were utilized to store treated sewage effluent that did not meet the water quality discharge criteria stipulated in the Type A Water Licence. Quantities of sewage effluent discharged to Project PWSPs are provided in Table 2.5. During upset conditions, when untreated sewage was required to be removed from accommodation complex lift stations and/or Project STPs (during maintenance), the sewage was transported and discharged to PWSPs for temporary storage, and eventual treatment/discharge to the receiving environment, in accordance with the Type A Water Licence, Part F, Items 17 & 18. Refer to Section 5.1.1 for additional information on 2017 discharges from Project PWSPs. Quantities of sewage and sludge diverted to the PWSPs from accommodation complexes are provided in Table 2.5.

In 2017, treated sewage effluent that met the discharge criteria stipulated in the Type A Water Licence was direct discharged via a dedicated pipeline from the Mine Site STP to the approved discharge locations located near Mary River (refer to Figure 1.5). At Milne Port, compliant treated effluent was either direct

discharged from the Milne Port STP via a dedicated pipeline to the approved discharge location near Milne Inlet or transported from the Milne Port STP to the approved discharge location using a vacuum truck. Quantities of treated sewage effluent discharged to authorized discharge locations are provided in Table 2.5. Dewatered sludge (cake) generated at the Project in 2017 was removed daily from Project STPs and transported to camp incinerators for disposal. Refer to Table 2.5 for the volume of cake removed from Project STPs.

Refer to Figures 1.3 and 1.5 for the locations of Project STPs and related infrastructure (PWSPs) at Milne Port and the Mine Site.

2.2.2 Quantity of Treated Wastewater from Oily Water Treatment System (OWTS)

Throughout 2017, the mobile Oily Water Treatment System (OWTS) was transported between Project sites to treat hydrocarbon-impacted water at the Project.

At the Mine Site, the OWTS was operated from mid-June to late August at the Exploration Camp Bulk Fuel Storage Facility (MS-MRY-6). In 2016, bulk fuel infrastructure (bladders, piping) was removed and the Exploration Camp Bulk Fuel Storage Facility was repurposed to store and manage hydrocarbon impacted water, hazardous materials and waste generated by the Project. At Milne Port, the OWTS was operated from late-June to early-July at the Milne Port Bulk Fuel Storage Facility (MP-03) and from mid-July to early-September at the Milne Port Landfarm Facility (MP-04) and Snow Dump (MP-04A). During 2017, a total of 2,221 m³ of hydrocarbon-impacted water was treated and discharged via the OWTS. Refer to Table 2.3 for the monthly and annual quantities of effluent discharged from the OWTS and Project containment areas at the Mine Site and Milne Port.

2.2.3 Quantity of Effluent from Project Surface Water Management Ponds

To manage and monitor the water quality of surface water flows originating from stockpile areas, four (4) surface water management ponds have been established at the Project.

Mine Site

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

Milne Port

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

Runoff from Project stockpile areas are directed to surface water management ponds by a network of ditches and swales established around the perimeter of each stockpile area.

At the Mine Site, a total of approximately 13,500 m³ was actively discharged from the Waste Rock Facility Pond (MS-08) in 2017. Effluent from MS-08 was pumped to the final discharge point, established under

MMER, using a pump and sections of non-rigid hose. No discharges occurred at the Crusher Facility Pond (MS-06) in 2017. For additional information on the non-compliant discharges that occurred at the Waste Rock Facility in 2017 refer to Sections 5.3.3 and 7.6.1.2 of this report.

At Milne Port, approximately 23,900 m³ (21,600 m³ at MP-05 and 2,300 m³ at MP-06) of effluent was actively discharged from the Milne Port Ore Stockpile Ponds to Milne Inlet during 2017. Effluent from MP-05 and MP-06 was discharged to Milne Inlet using pumps and sections of non-rigid hose.

Table 2.4 provides the monthly and annual quantities of effluent discharged from Project surface water management ponds during 2017. Inline flow meters and pumping rate extrapolation were used to monitor volumes discharged to the receiving environment during periods of flow. Refer to Section 5 for additional information pertaining to the monitoring of surface water discharges from Project surface water management ponds in 2017.

2.3 WASTE MANAGEMENT

During 2017, Project operations generated various waste types, including domestic, hazardous, and non-hazardous wastes. Waste types were managed in 2017 as outlined in Baffinland'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 Landfill Facility
-) 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 snow dump)
-) Open Burning Facility (near Km 2)

Locations of the Project waste management facilities listed above are detailed in Table 2.6 and presented in Figures 1.3 and 1.5. The following subsections describe the waste management and disposal activities conducted at the Project in 2017.

2.3.1 Site Incinerators

In 2017, Mine Site and Milne Port incinerators were operated throughout the year to incinerate project solid waste as per regulatory guidelines including the Canadian Wide Standard (CWS) (*Government of Nunavut - Environmental Guideline for the Burning and Incineration of Solid Waste by the Department of the Environment, 2012*) and *Baffinland's Waste Management Plan (BAF-PH1-830-P16-0028)*. Refer to Section

7.5 for information pertaining to 2017 monitoring activities completed for incinerator ash generated at the Project.

2.3.2 Open Burning

Untreated wood, cardboard, and paper products generated on-site are disposed of by authorized open-burning. Open-burning disposal reduces the volume of inert waste deposited at the Mine Site Non-Hazardous Landfill Facility (Landfill Facility) and/or directed to Project incinerators. Open burning was conducted throughout 2017 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)*. Baffinland's open-burning authorization prohibits the burning of hazardous wastes, non-combustible materials, food waste, plastics, Styrofoam or treated wood products (plywood). To ensure removal of prohibited waste, secondary waste segregation is completed during the loading process at Project open-burn facilities.

Bottom ash generated from open burn activities are suitable to be deposited at the Project's Landfill Facility.

2.3.3 Landfill Facility

In 2017, inert, non-combustible waste (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 which 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 2017 for various components and operation of the Landfill Facility as per Baffinland's *Landfill Maintenance and Operation Manual (refer to Baffinland's Waste Management Plan - BAF-PH1-830-P16-0028)*.

Table 2.7 provides the monthly and annual quantities of waste deposited at the Landfill Facility during 2017. A total of 8,600 cubic metres (m³) of waste was deposited at the Landfill Facility in 2017. Since the commissioning of the Landfill Facility, a total volume of approximately 32,600 m³ of non-hazardous waste has been deposited at the Landfill Facility.

2.3.4 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 2017, the OWTS was used to treat hydrocarbon impacted water that had accumulated in the Landfarm Facility since the previous summer. Refer to Section 2.2.2 and Table 2.3 for volumes of treated effluent discharged from the Landfarm Facility in 2017.

In 2017, hydrocarbon contaminated soils generated from on-site spills continued to be placed and spread during summer months for remediation through natural microbiological and evaporative processes. Table 2.8 provides the estimated monthly and annual quantities of soil and contaminated water deposited at the Milne Port Landfarm Facility during 2017. Ongoing operation and treatment in accordance with Baffinland's *Landfarm Operation Maintenance and Monitoring Manual (BAF-PH1-320-T07-0005)* will be undertaken during the 2018 summer season to address the increasing amount of impacted soils stored at the Landfarm Facility.

2.3.5 Hazardous Waste Storage and 2017 Backhaul Sealift

During 2017, there were two sealift backhaul events for Project waste. The backhaul sealift vessels departed Milne Port in September 2017 carrying non-hazardous and hazardous waste materials generated and stored on-site by the Project since the previous sealift backhaul in 2016. Prior to the 2017 backhaul, non-hazardous and hazardous waste materials were collected, packaged, and manifested at Milne Port under the direction of Qikiqtaaluk Environmental (QE). Shipment off-site 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 2017 waste management program, including inventories and shipping manifests identifying materials shipped offsite in 2017 for disposal, treatment and/or recycling in Southern Canada. No Project waste was transported and deposited in communities located in Nunavut during 2017.

Hazardous waste materials back-hauled off site in 2017 that were regulated by the Transportation of Dangerous Goods Act (TDGA) included (in alphabetical order):

-) Ammonium nitrate (empty bags with AN residue) - UN 1942
-) Lab waste - UN 3316
-) Waste aerosol cans - UN 1950
-) Waste batteries – UN 3028, 2794
-) Waste fuel - UN 1202, 1863

Non-hazardous and hazardous waste materials back-hauled off site in 2017 that were not regulated by the TDGA included (in alphabetical order):

-) Contaminated oily solids
-) Contaminated water (sewage, oily water)
-) Domestic waste
-) Electrical waste (e-waste)
-) Kitchen grease

-) Scrap metal
-) Spent water treatment media
-) Used tires
-) Waste glycol
-) Waste oil and grease
-) Waste packaging

Hazardous waste and waste material (designated for disposal off-site) generated after the 2017 backhaul sealift continues to be sorted and stored in designated waste storage areas at the Project where it will be packaged and prepared for the next backhaul sealift in 2018.

2.4 WASTE ROCK MANAGEMENT

2.4.1 Mine Site Waste Rock Facility

Mining operations at Deposit No. 1 (Nuluujaak Pit) continued throughout 2017. A total of 1.2 Mt of waste rock was generated during 2017. The waste rock generated at Deposit 1 was analytically tested based on operational testing protocols developed for the waste rock (refer to the approved Phase 1 - Waste Rock Management Plan - BAF-PH1-830-P16-0029 r0). Based on analytical testing, waste rock was classified as Potentially Acid Generating (PAG) or Non-Potentially Acid Generating (NPAG) material. The 2017 results for the geochemical operational testing program are provided in Section 7.9 and Appendix E.6. NPAG waste rock generated in 2017 that was not utilized for construction purposes was deposited at the Waste Rock Facility. All PAG waste rock generated from mining operations in 2017 was deposited at the Waste Rock Facility. Table 2.9 presents the monthly and annual quantities of waste rock generated, deposited at the Waste Rock Facility and used for construction purposes. Refer to Section 7.6.1.2 for details on the concerns identified at the Waste Rock Facility in 2017 and the corrective actions taken and planned to address the identified concerns in 2018.

SECTION 3.0 - SPILLS

3.1 2017 SPILL REPORTING

During 2017, forty-eight (48) spills were reported to the NT-NU Spill Line. A basic summary of the spills reported by Baffinland in 2017 is provided in the table below.

2017 Reported Spills			
Product Spilled	Number of Spill Reports by Location		
	Mine Site	Tote Road	Milne Port
Ammonia Nitrate (Prill)	0	1	0
Contaminated Water	2	1	0
Coolant	2	0	0
Diesel Exhaust Fluid (DEF)	0	0	1
Diesel (P50)	2	3	1
Greywater	2	0	1
Jet-A1	1	0	0
Non-Compliant Effluent (MS-08)	6	0	0
Potable Water (Treated)	1	0	0
Sediment	3	1	4
Sewage (Treated)	0	0	2
Sewage (Untreated)	8	0	2
Waste Oil	2	0	2
Sub-Total	29	6	13
Annual Total	48		

In addition to the original spill report submitted within 24 hours of each spill event in 2017, a detailed follow-up report was submitted within thirty days of each reported spill, with the exception of the sediment releases reported during freshet 2017. 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. Corrective and preventative actions taken in response to the sediment releases reported during freshet 2017 were documented and provided to regulators and stakeholders in the 2017 Freshet Monitoring Reports (Appendix E.10).

All spills reported to the NT-NU Spill Line in 2017 are summarized in Table 3.1 and locations are shown in Figure 1.8. The follow-up spill reports and original spill reports are provided in Appendix E.8.7. It should be noted that five (5) of the reported spills occurred in secondary containment and did not result in hazardous materials (waste oil, fuel) being released to the receiving environment. Spills that did not result in a release to the receiving environment are identified in Table 3.1.

3.2 REPORTED SEDIMENT RELEASES DURING FRESHET

Surface water management during freshet continued to remain a challenge at the Project in 2017. Six (6) unauthorized releases of sediment into water bodies near Project sites were reported by Baffinland during freshet 2017. To address sedimentation and surface water management concerns, Baffinland continued to implement initiatives outlined in Sedimentation Mitigation Action Plan, Tote Road Earthworks Execution Plan (TREETP) and Dust Mitigation Action Plan. Initiatives completed in 2017 to address concerns regarding sedimentation included various maintenance activities, including culvert replacements and repairs, armouring and re-grading of ditches and swales near Project roads and the installation of shrouding on ore crushers to reduce dust emissions. Corrective and preventative actions undertaken in 2017 and planned for 2018 to address sedimentation concerns at the Project are detailed in the 2017 Freshet Monitoring Reports, provided in Appendix E.10.

3.3 NON-COMPLIANT DISCHARGES FROM WASTE ROCK FACILITY

During August 2017, the pH of runoff collected in the Waste Rock Facility surface water management pond (WRF pond) dropped below the pH discharge criteria outlined in the MMER and Type A Water Licence. Observations indicated the decrease in pH may have been the result of potential ARD. The pond was subsequently batch treated with sodium carbonate in mid-August 2017 to increase the pH within the permissible range for discharge. Although the batch treatment was initially successful in raising the pH of runoff contained with the pond, subsequent active discharges from the WRF pond during late August and September resulted in several exceedances of the MMER and Type A Water Licence discharge criteria for pH and total suspended solids (TSS). Exceedances for the non-compliant discharges were reported to the relevant regulators and are documented in NT-NU Spill Reports 17-289, 17-312, 17-328 and 17-361.

During an on-site INAC and ECCC inspection in late August, uncontrolled seepage originating from the toe of the WRF pond's berm was observed that had not been previously identified in routine internal inspections and annual third party geotechnical or regulator inspections. The seepage was reported by Baffinland to relevant regulators and is documented in NT-NU Spill Report 17-312. Investigations into the origin of the seepage are ongoing. As a result of the concerns identified at the WRF, INAC issued an Inspector's Direction to Baffinland on September 5, 2017. On September 7, 2017 and September 13, 2017, the QIA and ECCC, respectively, notified Baffinland that both parties had initiated investigations into the 2017 events at the WRF.

In response to the non-compliant discharges from the WRF, Baffinland has taken multiple corrective actions to prevent additional non-compliant discharges from the WRF and retained Golder Associates (Golder) to determine the appropriate corrective actions required to address the seepage observed at the WRF in 2017 and investigate the potential for ARD and develop mitigation measures, as required. Preliminary mitigation measures planned for 2018 include the mobilization of a water treatment system to manage potential non-compliant waters in the WRF pond during 2018. Refer to Section 7.6.1.2 for

additional details on corrective actions taken in 2017 and planned for 2018 to address identified concerns at the WRF.

3.4 MILNE INLET SPILL RESPONSE TRAINING ACTIVITIES

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 2017 fuel resupply. During the training, the Project Emergency Response Plan (ERP), Spill Contingency Plan (SCP) and Milne Inlet Oil Pollution Emergency Plan (OPEP) documents were reviewed, as well as the Incident Command structure. During the practical deployment exercises, the responders were provided with the opportunity to learn and then practice skills responding to marine spills using the Milne Inlet resident spill response gear. The findings related to the training are used to inform revisions to the OPEP, ERP and SCP.

3.5 IMMEDIATE CAUSE ANALYSIS

A basic analysis of the spills reported in 2017 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.

SECTION 4.0 - MODIFICATIONS

4.1 2017 MODIFICATION APPLICATIONS

During 2017, 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, the Mine Site and along the Tote Road. The table below summarizes the modification applications submitted by Baffinland to the NWB during 2017 as defined on the NWB's registry and the modification applications current approvals status.

2017 Modification Applications		
Modification No.	Description of Proposed Modification	Current Approval Status
No. 1	Expansion of the Mine Site Crusher Facility pad to increase stockpile capacity.	Approved by the NWB on May 26, 2017.
No. 2	Increase the capacity of the Milne Port Bulk Fuel Storage Facility 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. Construction and installation of the 15 ML tank not approved.
No. 3a	Construction of a surface water diversion ditch around the 380 man camp pad, as per INAC Inspection Direction issued to Baffinland on June 9, 2017.	Approved by the NWB on September 8, 2017.
No. 3b	Construction of a new 380 person camp and associated support infrastructure to upgrade and expand accommodations at Milne Port.	Withdrawn October 20, 2017.
No. 4	Construction of a new camp and associated supporting infrastructure to upgrade and expand accommodations at the Mine Site.	Approved by the NWB on September 20, 2017.
No. 5	Expansion of the Mine Site Crusher Facility pond to accommodate the pad's previous expansion (Modification No. 1).	Withdrawn by Baffinland on November 17, 2017 to reassess pond design. Processing of application halted by NWB until further notice by Baffinland.
No. 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.

4.2 MODIFICATIONS APPROVED AND IMPLEMENTED

The following subsections discuss the modifications applications that were approved by NWB and initiated by Baffinland in 2017.

4.2.1 Modification No. 1 - Mine Site Crusher Pad Expansion

The expansion of the Mine Site Crusher Pad is complete with the exception of the perimeter ditching near the oversize ore stockpile. Baffinland continues to work with Golder Associates (Golder) to address concerns highlighted by INAC regarding the pad's perimeter ditching near the oversize ore stockpile. Upon addressing INAC concerns, Baffinland will provide a Construction Summary Report, including as-built drawings, to the NWB, QIA and other relevant parties.

In addition, Baffinland continues to work with Golder in assessing the capacity of Crusher Facility pond. Once complete, Baffinland will notify the NWB, QIA and other relevant parties of the Company's plans.

4.2.2 Modification No. 2 – Capacity Increase of Milne Port Bulk Fuel Storage Facility

The 0.75 ML pre-fabricated fuel tank has been installed at the Milne Port Bulk Fuel Storage Facility with commissioning of the tank planned for 2018. Supplies required to construct the 3 ML fuel tank at the Milne Port Bulk Fuel Storage Facility are currently stored on-site at Milne Port. Baffinland plans to install and commission the 3 ML fuel tank during the summer of 2018. Once both fuel tanks are fully commissioned, Baffinland will provide a Construction Summary Report, including as-built drawings, to the NWB, QIA and other relevant parties. Further approvals may be sought by Baffinland in 2018 to permit the installation of the 15 ML fuel tank.

4.2.3 Modification No. 3a – Surface Water Diversion Ditch at Milne Port

On June 9, 2017, Baffinland received an INAC Inspector's Direction following an on-site inspection conducted by INAC Water Resource Officers at the Project from May 29 to June 1, 2017. The INAC Inspector's Direction documented a stop work order issued to Baffinland for a new accommodations camp pad that was in the process of being constructed during the time of inspection at Milne Port, in a location that impeded the flow of an ephemeral stream. To remedy the situation, Baffinland submitted a modification application under the Type A Water Licence for the construction of a surface water diversion ditch that would redirect surface water from the ephemeral stream around the pad.

Upon receiving approval for the modification from NWB on September 8, 2017, Baffinland commenced construction of the surface water drainage ditch around the pad's east and south perimeter. Construction of the diversion ditch was completed by late October 2017 and on January 24, 2018, a Construction Summary Report, including as-built drawings, was provided to the NWB, QIA and other relevant parties. A copy of the Construction Summary Report submission is provided in Appendix C.1 of this report.

4.2.4 Modification No. 4 – New Mine Site Camp and Supporting Infrastructure

Upon receiving approval from the NWB for the modification on September 20, 2017, Baffinland began the assembly of the new accommodations camp and supporting infrastructure at the Mine Site. Construction and assembly of the new accommodations camp and associated supporting infrastructure (i.e sewage treatment plant), remains ongoing at this time. Once construction is complete, Baffinland will provide a Construction Summary Report, including as-built drawings, to the NWB, QIA and other relevant parties.

SECTION 5.0 - MONITORING

5.1 SEWAGE DISPOSAL

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

During 2017, sewage generated from Project sites was directed to the Project STPs located at Milne Port and the Mine Site. Treated effluent was discharged to freshwater (Mary River) and the ocean (Milne Inlet) in accordance with the applicable effluent discharge criteria as outlined in the Type A Water Licence.

In 2017, there was one exceedance of effluent discharge criteria for treated sewage effluent generated by Project operations. On February 28, 2017, a treated sewage effluent sample from the Milne Port STP (MP-01) exceeded the discharge criterion for faecal coliforms of 10,000 CFU/100 mL with a result of 50,000 CFU/100 mL. The exceedance was a result of effluent contamination due to operator error and involved the use of the same vacuum truck for transporting both raw sewage and treated sewage effluent. The use of the same vacuum truck for both raw and treated sewage effluent goes against the Project's sewage management procedures and protocols. The operator involved has since been retrained on the Project's procedures for transporting sewage and treated effluent. The cause of the exceedance remains an isolated incident and has not been repeated since.

Table 2.5 provides monthly and annual quantities of treated sewage effluent and sludge from Project STPs. Tables 5.2 and 5.3 provide water quality monitoring results for treated effluent discharged from Project STPs (MS-01 and MP-01) during 2017.

5.1.1 2017 Mine Site PWSP Discharge to Sheardown Lake

In accordance with the *PWSP Effluent Discharge Plan* as presented in the approved *Fresh Water Supply, Sewage and Wastewater Management Plan* (BAF-PH1-830-P16-0010), wastewater stored at the Mine Site PWSP No. 2 (MS-MRY-04B) was discharged to Sheardown Lake in June 2017.

As outlined in the *PWSP Effluent Discharge Plan*, a pre-discharge sample of wastewater from the Mine Site PWSP No. 2 (MS-MRY-04B) was analyzed and confirmed to be compliant with applicable discharge criteria. A discharge of compliant effluent from Mine Site PWSP No. 2 to Sheardown Lake occurred from June 13 to 20, resulting in a total discharge volume of approximately 1,650 (m³). During the discharge, in field monitoring was conducted to ensure effluent discharged to Sheardown Lake remained in compliance with applicable discharge criteria.

Table 2.5 provides the monthly quantities of effluent discharged from the Mine Site PWSPs in 2017 and Tables 5.2 and 5.3 present the external laboratory effluent analytical results for the 2017 discharge. No

external laboratory results or in field monitoring demonstrated exceedances of the applicable water quality discharge criteria.

In the event of a water quality monitoring exceedance during a discharge, the effluent discharge would be stopped immediately and would not be continued until compliance with applicable discharge criteria could be demonstrated by additional water quality monitoring.

5.2 STORM WATER FROM CONTAINMENT AREAS

Throughout 2017, the OWTS was transported between Project sites to treat hydrocarbon-impacted water at the Project, including storm water that had accumulated within containment areas associated with bulk fuel storage facilities and hazardous materials storage berms (HWB) at the Project.

In accordance with the Type A Water Licence (Part F, Item 9), during 2017, storm water from the lined containment areas associated with bulk fuel storage facilities and HWBs at Milne Port and the Mine Site was tested and treated to ensure compliance with the applicable Type A Water Licence (Part F Items 22 and 23) water quality discharge criteria.

During 2017, the OWTS, coupled with polishing trains of metal removal media, was in most 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. Periodic sampling and analyses by an independent laboratory (ALS) were conducted for applicable parameters. 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.

Three (3) exceedances of applicable water quality criteria occurred during discharges from Project containment areas in 2017 while using the OWTS. A sample collected on July 21, 2017 of treated effluent discharged from the Mine Site MS-HWB-7 (MS-MRY-6) exceeded the total lead water quality criterion of 0.001 mg/L with an effluent concentration of 0.0016 mg/L. On August 22, treated effluent discharged from the Milne Port Landfarm Facility (MP-04A) exceeded the applicable water quality criteria for TSS and total lead of 15 mg/L and 0.001 mg/L, respectively, with results of 23 mg/L TSS and 0.0012 mg/L total lead. In all cases, upon receiving the results, discharge of effluent was stopped until samples of treated effluent from the OWTS could be collected and demonstrated to be in compliance with the applicable water quality criteria stipulated in the Type A Water Licence. External analytical results for compliance water samples taken during the 2017 discharges are presented in Table 5.2. Refer to Section 2.2.2 and Table 2.3 for the volumes of effluent discharged from Project containment areas during 2017.

5.3 SURFACE WATER RUN-OFF AND SEEPAGE

In accordance to the terms of Type A Water Licence (Part I), surface run-off/ seepage from all 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 for the Mine Site and Milne Port are presented in Figures 1.3 and 1.5, respectively, and in Table 5.1.

In accordance with the terms of the Type A Water Licence, Schedule I, these 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 2017 monitoring results is provided in the subsections below.

5.3.1 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. Surface water runoff from the pad is directed to the ponds by a network of ditches along the pad's perimeter. During July 2017, repairs were conducted on the liner key-in near the inlets of both ponds to address concerns previously identified by on-site inspections.

Station MP-MRY-12 represents runoff/seepage originating from the Milne Bulk Sample Stockpile under Schedule I of the Type A Water Licence. Construction of the Milne Port Ore Stockpile Facility and the Ore Dock in 2013/2014 has impacted this area and this monitoring location is now within the footprint of these new facilities. During 2017, no flows were observed from this monitoring station and as a result samples were not collected, and this monitoring station is considered inactive. Baffinland intends to submit an application to the NWB to remove this monitoring station from Schedule I of the Type A Water Licence.

During late May 2017, a dramatic rise in ambient temperatures resulted in a significant influx of snow melt to be directed to the east pond (MP-05). Due to the pond's frozen state, the influx of snow melt and runoff overtopped the pond's berms and resulted in an uncontrolled discharge to Milne Inlet. In addition to release of runoff with elevated TSS, the overtopping of pond resulted in bank erosion downstream of the pond and the unauthorized release of sediment into Milne Inlet. The overtopping of the pond was observed on May 25, 2017 and reported to the NT-NU Spill Line on May 26, 2017 (NT-NU Spill 17-178). To mitigate additional bank erosion and overtopping of the pond's berms, Baffinland notified regulators and stakeholders of its intention to conduct a controlled discharge in NT-NU Spill Report 17-178.

During the controlled discharges in freshet 2017, water quality monitoring was conducted to monitor compliance with the applicable discharge criteria outlined in the Type A Water Licence. Exceedances identified during the controlled discharges during freshet 2017 consisted of several exceedances of the 15 mg/L TSS grab sample criterion outlined in *Table 10: Effluent Quality Discharge Limits for Open Pit*,

Stockpiles, and Sedimentation Ponds of the Type A Water Licence that occurred between May 26 to May 30, 2017 as well as on June 6, 2017. For additional details on the TSS exceedances that occurred during freshet 2017 at MP-05 and the corrective actions taken in response to the associated sediment release into Milne Inlet, refer to the 2017 Freshet Monitoring Reports provided in Appendix E.10 of this report. With the exception of the above noted TSS exceedances that occurred during freshet 2017, no other exceedances of the applicable discharge criteria were observed during discharges in 2017 from both ponds (MP-05 and MP-06).

Volumes of effluent discharged from the east (MP-05) and west (MP-06) ponds in 2017 are presented in Table 2.4. Water quality data from monitoring conducted during controlled discharges from both ponds are provided in Tables 5.2 and 5.3. All controlled discharges were conducted using a pump and sections of hose.

5.3.2 Mine Site Non-Hazardous 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. In 2017, surface water runoff from the Mine Site Landfill was initially sampled on May 29, 2017 and continued to be sampled until freeze-up in September. Water quality monitoring data collected during 2017 were compared to water quality criteria outlined in Table 7: *Effluent Quality Discharge Limits for the Landfill Facilities* of the Type A Water Licence. In comparing the water quality monitoring data collected at MS-MRY-13A and MS-MRY-13B during flows in 2017, no exceedances of the applicable water quality criteria were observed. Water quality monitoring data collected in 2017 for MS-MRY-13A and MS-MRY-13B are presented in Tables 5.2 and 5.3, respectively.

During 2017, Baffinland continued to monitor flows at MS-MRY-13A using an existing weir and a pressure transducer logger installed in late June 2017. Daily surface flows at MS-MRY-13A during 2017 are presented in Appendix E.3.

A pilot groundwater monitoring program was conducted at the Project in September 2017 to evaluate program feasibility and involved establishing shallow groundwater wells up-gradient and down-gradient of the Landfill Facility at the Mine Site using drive-point piezometers. Groundwater monitoring wells were established to the depth of permafrost (approx. 1 – 1.5 metres) and water samples were collected at well locations where groundwater was present. For additional information on the 2017 groundwater monitoring pilot program, refer to Section 5.5 and Appendix E.11 of this report.

5.3.3 Mine Site Waste Rock Facility

During 2017, controlled effluent discharges from the WRF pond (MS-08) began in early July and continued, as required, until freeze-up in September. Controlled discharges from the WRF pond involved pumping effluent from the pond to the final discharge point (MS-08-FDP) established under the MMR.

During controlled discharges from the WRF pond, effluent water quality samples were collected as outlined in the MMER and Type A Water Licence to ensure effluent discharged to the receiving environment was in compliance with applicable water quality discharge criteria. During 2017, exceedances of the applicable water quality discharge criteria during controlled discharges from the WRF pond consisted of two (2) minor exceedances of the 15 mg/L TSS criterion in early July followed by multiple exceedances of the applicable pH and TSS criteria in August and September. Acute toxicity samples taken on August 1, 2017 and September 5, 2017 at the WRF pond failed for select organisms with mortality rates greater than 50% of test organisms. Applicable NT-NU Spill Reports were submitted for these exceedances to the appropriate regulators. Water quality monitoring data collected for MS-08 under the Type A Water Licence are provided in Table 5.2.

Following the discovery of uncontrolled seepage from the WRF on August 23, 2017, surface water sampling of surface water downstream of the WRF pond indicated nickel concentrations greater than the applicable criterion (0.5 mg/L) stipulated in the MMER and Type A Water Licence.

Exceedances associated with controlled effluent discharges from MS-08 were reported to the NT-NU Spill Line and other parties, and are documented in the initial and follow up spill reports submitted by Baffinland (NT-NU Spills 17-289, 17-312, 17-328 and 17-361).

Exceedances associated with the seepage discovered at the WRF were reported to the NT-NU Spill Line and other parties and are documented in the initial and follow up spill reports submitted by Baffinland (NT-NU Spill 17-312).

In response to the non-compliant discharges from the WRF, Baffinland took multiple corrective actions to prevent additional non-compliant discharges from the WRF and retained Golder to determine the appropriate corrective actions required to address the seepage observed at the WRF in 2017 and investigate the potential for ARD and develop mitigation measures, as required. Refer to Section 7.6.1.2 and Appendix E.8.3, for additional details on the events, correspondence and corrective actions taken to address concerns identified at the WRF.

5.3.4 Deposit 1 and the 2008 Bulk Sample Program

Monitoring station MS-MRY-9 under Schedule I of the Type A Water Licence represents surface flow/seepage from the 2008 Bulk Sample Pit. During 2017, no flows were observed from this monitoring station and as a result samples were not collected. This area has been repurposed into a laydown and the monitoring station has become inactive.

Monitoring station MS-MRY-10 under Schedule I of the Type A Water Licence represents the surface water flow/seepage collected from the 2008 Bulk Sample weathered ore stockpile located adjacent to the 2008 Bulk Sample Pit. During 2017, no flows were observed from this monitoring station and as a result samples

were not collected. This area has been repurposed into the growing Deposit No. 1 Pit, and the monitoring station has become inactive.

Monitoring station MS-MRY-11 under Schedule I of the Type A Water Licence represents surface water flow/seepage from the 2008 Bulk Sample coarse and fine ore stockpiles at the Mine Site. These stockpiles have been removed and/or capped due to construction and development of the area. During 2017, no flows were observed from this monitoring station and as a result samples were not collected. This monitoring station has become inactive.

Baffinland plans on submitting an application to the NWB in 2018 to discontinue the above monitoring locations associated with the 2008 Bulk Sample Program (MS-MRY-9, MS-MRY-10 and MS-MRY-11). The application will also outline a proposed future monitoring strategy, including new monitoring stations, for monitoring surface water runoff from Deposit No. 1 and ongoing mining operations.

5.3.5 Mine Site Crusher Facility

Monitoring station MS-06 under Schedule I of the Type A Water Licence represents the surface water management pond that collects surface water runoff from the pad associated with the Mine Site Crusher Facility. Surface water runoff from the pad is directed to the pond by a network of ditches along the pad's perimeter. During early 2017, a pad expansion (Modification No. 1) was completed at the Mine Site Crusher Facility. Following the pad expansion, INAC identified concerns regarding the pad's perimeter ditching during on-site inspections in 2017. Baffinland continues to work with Golder and INAC to address concerns identified. Refer to Appendix E.8.4 for Baffinland's response and plans to address INAC's concerns.

During 2017, effluent from the pond (MS-06) was not discharged to the receiving environment. Water quality monitoring data collected during 2017 to characterize runoff contained with the pond are provided in Table 5.2.

5.4 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 2016, 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, as a result of incident response measures implemented during freshet, the majority of water samples taken downstream of Project construction and operations areas returned to TSS levels below the applicable discharge criterion for TSS, stipulated in the Type A Water Licence.

Surface water monitoring locations are presented in Figures 1.3 and 1.5, and in Table 5.1. In accordance with the terms of the Type A Water Licence (Part I, Item 27), the water quality results for these locations are provided in Table 5.2 and are compared to applicable water licence discharge criteria. Daily discharge volumes were also measured where practicable at or near the surface runoff monitoring locations. These flow data and the methods used are presented in Appendix E.3.

In accordance to the terms of Type A Water Licence (Part I, Item 23), runoff and/or discharge water quality monitoring from borrow pits and quarry sites was conducted during 2017.

During 2017, there were five (5) incidents where water samples collected downstream of quarry locations exceeded applicable discharge criterion for TSS. All five exceedances occurred during freshet; three (3) exceedances occurred on June 13 and 20, 2017 downstream of the Q1 Quarry, and two (2) exceedances occurred on May 23 and 29, 2017 downstream of the QMR2 Quarry as a result of high flows and rapid snow melt downstream of the quarries. The water quality monitoring results for surface water runoff from developed quarries are provided in Tables 5.2 and 5.3 and are compared to the applicable discharge criteria. Monitoring locations downstream of developed quarries are presented in Figures 1.3 and 1.5, and in Table 5.1.

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 the Q1 Quarry at Milne Port and the QMR2 Quarry at the Mine Site during 2017. Water quality monitoring results for surface runoff downstream of active quarries are presented in Tables 5.2 and 5.3 of this report. Acute toxicity results demonstrated that runoff from both the Q1 and QMR2 quarries was not acutely toxic for all sampling events in 2017.

Sediment control measures were implemented where monitoring stations downstream of quarries and Project areas with elevated TSS levels were identified, including silt fences, rip-rap, geotextile, silt curtains and check dams. In most cases, results from subsequent water samples confirmed that periods of flow with elevated TSS levels were short term in nature and that sediment control measures employed were effective in returning TSS levels below applicable discharge criteria.

To address the 2017 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, Dust Mitigation Action Plan and Tote Road Earthworks Execution Plan (TREETP). Corrective actions and mitigation measures implemented to address sedimentation concerns at the Project in 2017 are further detailed in the 2017 Freshet Monitoring Reports provided in Appendix E.10 of this report. For the best management practices implemented at the Project to mitigate the impacts of sedimentation and erosion on the receiving waters, aquatic ecosystems, fish and fish habitat areas, refer to Baffinland's *Surface Water and Aquatic Ecosystem Management Plan (BAF-PH1-830-P16-0026)*.

5.5 2017 GROUNDWATER MONITORING PILOT PROGRAM

A pilot groundwater monitoring program was conducted at the Project in September 2017 to confirm program feasibility and involved establishing shallow groundwater wells up-gradient and down-gradient of the Landfill Facility at the Mine Site using drive-point piezometers. Groundwater monitoring wells were established to the depth of permafrost (approx. 1 – 1.5 metres) and water samples were collected at well locations where groundwater was detected.

During the pilot program, groundwater was detected and sampled at three (3) monitoring wells down-gradient and one (1) monitoring well located up-gradient of the Landfill Facility. Water quality results for groundwater samples collected during the 2017 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 2017 groundwater monitoring pilot program conducted at the Landfill Facility, refer to Appendix E.11 of this report.

Baffinland plans to continue the groundwater monitoring program in 2018 using a consistent methodology to the 2017 pilot program. The 2018 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 2018 year, Baffinland will provide further recommendations to the NWB and other relevant parties.

5.6 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

Water quality samples related to monitoring required under the Type A Water Licence are presented in Table 5.4 of this report. Samples collected for testing follow the general recommendations presented in *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* (INAC, 1996).

Field QA/QC procedures adopted by the Project are described in detail in Baffinland's Surface Water Sampling Program - Quality Assurance and Quality Control Plan (QA/QC Plan). Field QA/QC samples consist of the collection of field duplicates, and the use of field and travel blanks. Of the 446 discrete sets of Type A Water Licence regulatory samples collected in 2017, field QA/QC samples (27 duplicates, 14 field blanks and 12 travel blanks) comprised 11.9% of the total samples collected. This satisfies 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 5.4 of this report. The results for the field QA/QC program are mostly acceptable, however, there was some variation in five (5) field duplicates as indicated by relative percent differences (RPD) of greater than 38.2%. A RPD of greater than 50% was reported for TSS on October 17th and total phosphorus on December 12th, and a RPD of 38.2% for ammonia on October 17th for MP-01. A RPD greater than 50% was also reported for faecal coliforms on February 7th for MS-01. The above samples were treated sewage effluent and variation seen in the field duplicates for this type of monitoring can be attributed to normal variability in the effluent stream. A RPD of 41% was reported for turbidity for MP-Q1-01 on September 12th. This sample was taken during low flow conditions, therefore a possible explanation for the variation seen in the field duplicates could be the disturbance and suspension of bottom sediment from collecting the initial sample set.

A total of ten (10) field and travel blanks with result values greater than their respective parameter MDLs were identified in 2017, however all were within 3 times the value of the method detection limit (MDL), with the exception of; MP-C-B02 on September 12th, MP-C-B0102 on August 22nd, and MS-0802 on July 21st. Sampling error or laboratory analytical error could have contributed to these elevated values.

Laboratory analyses of water samples were carried out by three (3) accredited analytical laboratories during 2017. A laboratory operated by ALS Environmental located in Waterloo, ON and run by ALS Canada Ltd. (ALS) performed the majority of sample analyses in 2017. An on-site accredited field laboratory, located at the Mine Site¹ and also operated by ALS performed select analyses in 2017 (i.e. pH, TSS, turbidity), 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.

¹ Mary River Mine Site accredited laboratory operated by ALS Laboratory Group commenced operation in September 2014.

5.7 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 short-term and long-term effects of the Project's activities on the aquatic environment resulting from the Project;
-) 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 2017 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. The 2017 study report is provided in Appendix E.9.1.
-) Lake Sedimentation Monitoring Program evaluates baseline and Project-influenced lake sedimentation rates at Sheardown Lake NW. The 2017 study report is provided in Appendix E.9.2.
-) Hydrometric Monitoring Program assesses flow in several streams and rivers near Project sites and supports the AEMP. The 2017 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 2017 study report is provided in the *2017 NIRB Annual Report*.
-) Stream Diversion Barrier Study is an initial study evaluating 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 much reduced footprint of the Waste Rock Facility during the Early Revenue Phase of the Project.

- J Environmental Effects Monitoring (EEM) Program, as required under the Metal Mining Effluent Regulations (MMER). The interpretive report for the first EEM study, Phase 1, conducted in August 2017, was submitted to ECCC during January 2018 and is provided in Appendix E.9.4.

The 2017 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 water bodies following the third full year of mine operation.

On November 8 and 9, 2017, Baffinland chaired the 2017 Freshwater Workshop in Iqaluit, NU with regulators and stakeholders (ECCC, INAC, 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 April 2018 to regulators and stakeholders for final review and approval. Once approved, Baffinland plans to implement the revised AEMP in 2018.

SECTION 6.0 - CLOSURE AND RECLAMATION

6.1 PROGRESSIVE RECLAMATION

Throughout 2017, 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. The Borrow Source Reclamation Plan, Milne Inlet Tote Road, Km 97 was submitted to INAC on June 19th, 2015. Borrowing in this area has led to thawing of the underlying permafrost soils, which has caused considerable increase in ponded water, and as a result there is settlement from thaw of both the ground ice in the soil matrix and thaw of ice wedges. Although approved, due to resource limitations, no additional work was completed in 2017. Work completed to date includes the excavation of a ditching and swale structure at the southwest end of the former borrow area. Work will proceed with improved weather and when the appropriate resources are scheduled.
-) 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.
-) Removal of the sea container bridge at Km 80 (CV-217) along the Tote Road.
-) On-going management of hydrocarbon impacted soils at the Milne Port Landfarm Facility generated from historical decommissioning efforts and ongoing operations.
-) Decommissioning of the Km 60 Maintenance Shop along the Tote Road and the Waste Concrete Containment Pond at the Mine Site. Results of initial soil sampling conducted in 2017 indicate that the footprints for both structures will require additional soil excavation and remediation in 2018 to ensure the underlying soils meet the applicable criteria outlined in Government of Nunavut's *Environmental Guideline for Contaminated Site Remediation* (GN, 2009). Once remediation efforts are complete, a decommissioning report for each structure will be provided to the NWB and other relevant parties.

6.2 CURRENT RESTORATION LIABILITY

During 2017, approximately \$12,900,000 CAD of additional security was posted for activities outlined in the 2017 Work Plan and 2017 Work Plan Addendum. Closure and reclamation security posted for Project activities as of December 31, 2017 is summarized in Table 6.1.

SECTION 7.0 - PLANS, REPORTS AND STUDIES

7.1 SUMMARY OF STUDIES REQUESTED BY THE NUNAVUT WATER BOARD

In 2017, studies were not requested by the NWB.

7.2 REVISIONS TO PLANS REPORTS AND MANUALS

In 2017, updates to Project management and monitoring plans were minor and focused on ensuring plans reflected current site conditions, policies and procedures.

Under the Type A Water Licence, management plans are to be periodically reviewed and revised annually as required. The management plans pertinent to the Type A Water Licence are stand-alone documents and are provided to the NWB in digital copies submitted along with this report.

The current document registry of management plans related to the Type A Water Licence, Project Certificate No. 005 and the Commercial Lease are presented in the table below.

Management Plan	Current Revision	Updated since 2016 QIA/NWB Annual Report for Operations
Air Quality and Noise Abatement Management Plan	March 2016	No update.
Emergency Response Plan	March 2018	Yes
Spill Contingency Plan	March 2017	No update.
Environmental Protection Plan	August 2016	No update
Fresh Water, Sewage and Wastewater Management Plan	March 2018	Yes
Hazardous Materials and Hazardous Waste Management Plan	March 2017	No update
Interim Reclamation and Closure Plan	March 2016	No update
Surface Water Sampling Program - Quality Assurance and Quality Control Plan	March 2017	No update
Aquatic Effects Monitoring Plan	October 2015	No update
Waste Management Plan	March 2018	Yes
Life of Mine Waste Rock Management Plan	April 2014	No updated
Phase 1 Waste Rock Management Plan	November 2017	Yes
Explosives Management Plan	August 2013	No update

Management Plan	Current Revision	Updated since 2016 QIA/NWB Annual Report for Operations
Milne Port Oil Pollution Emergency Plan (OPEP)	June 2017	Yes
Exploration Spill Contingency Plan	June 2014	No update
Exploration Closure and Reclamation Plan	July 2014	No update
Terrestrial Environmental Management and Monitoring Plan	March 2016	No update
Roads Management Plan	March 2016	No update
Borrow Pits and Quarry Management Plan	March 2014	No update
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	Yes
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	Yes

7.3 SUMMARY OF CONSTRUCTION ACTIVITIES

Development and construction of infrastructure required at Milne Port and the Mine Site continued throughout 2017 simultaneously with on-going development and operation of the mining activities (ore crushing, transport, stockpiling and marine shipment of ore). Progress of construction activities presented as part of the 2017 Work Plan and 2017 Work Plan Addendum are summarized in Section 1.1 of this report.

On-going compliance monitoring with regulatory permits, authorizations, Baffinland Environmental Management Plans and Baffinland Standard Operating Procedures (SOPs) was conducted throughout 2017 for construction activities. Corrective actions and compliance monitoring findings continue to be incorporated into Baffinland’s Environmental Management Plans and SOPs. Refer to Section 7.2 of this

report for details pertaining to the status of Baffinland's Environmental Management Plans relevant to the Type A Water Licence, Project Certificate No. 005 and the Commercial Lease.

During 2017, Baffinland continued to work on sections of the Tote Road to improve operational efficiency and address safety concerns identified by Project personnel and the Mines Inspector (WSCC) as well as implement select maintenance activities outlined in the Tote Road Earthworks Execution Plan. Maintenance to the Tote Road and Project water crossings are outlined and discussed further in the 2017 DFO Annual Tote Road Report and 2017 Freshet Monitoring Reports provided in Appendices C.3 and E.10, respectively.

As required by the Type A Water Licence and Commercial Lease, the following Construction Summary Reports and as-built drawings are provided in Appendix C.1.

-) Construction Summary Report: Milne Port Camp Pad Natural Stream Diversion
-) As-Built Drawings – Camp Lake Water Jetty (Mine Site Raw Water Intake – Earthworks)

Significant changes to infrastructure completed in 2017 at the Mine Site and Milne Port, including approved modifications under the Type A Water Licence, are presented in Figures 1.3 and 1.5, respectively. Refer to Section 4 for modifications approved and implemented under the Type A Water Licence in 2017.

7.4 SUMMARY OF FUEL STORAGE

During 2017, 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 2017, the Milne Port Bulk Fuel Storage Facility included: three (3) 12 ML Arctic diesel field-fabricated tanks; two (2) 5 ML Arctic diesel field-fabricated tanks; and four (4) 0.75 ML Jet-A1 fuel 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, as of December 31st, 2017, consisted of 29.4 ML and 1.53 ML of Arctic diesel and Jet-A1, respectively.

During September and October 2017, one (1) of the above identified 0.75 ML Jet-A1 fuel prefabricated storage tanks was installed at the Milne Port Bulk Fuel Storage Facility. The tank was 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). Final commissioning of the tank along with the installation of an additional 3 ML Arctic diesel field-fabricated tank at the Milne Port Bulk Fuel Storage Facility is planned for 2018. Both fuel tanks were included in Baffinland's Water Licence Modification No. 2 application, approved by the NWB on September 14, 2017.

At the end of 2017, 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 fuel pre-fabricated tanks and two

(2) 50,000 L Jet-A1 fuel 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, 2017, fuel inventories at the Mine Site consisted of 1.53 ML of Arctic diesel at the Mine Site Bulk Fuel Storage Facility and 72,000 L of Jet-A1 fuel at the Mine Site Aerodrome. No significant modifications to the fuel management infrastructure at the Mine Site were completed in 2017.

During 2017, 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 the Milne Port via the Tote Road. The remaining fuel requirements needed for the various aspects of the Project during 2017 were supplied using day tanks and 205 L drums.

As described in the *2017 QIA and NWB Annual Report for Exploration and Geotechnical Drilling Activities*, drummed fuel was used mainly to support on-site helicopters involved with exploration and environmental field studies in 2017. As of December 31, 2017, there were 1,504 drums (205 L) of fuel (624 diesel and 880 Jet-A1) stored at Steensby Port, 416 drums (205 L) of fuel (408 Jet-A1 and 8 gasoline) at the Mine Site and 87 drums (205 L) of fuel (37 Jet-A1 and 50 gasoline) at Milne Port. No fuel was stored at the Mid-Rail camp in 2017.

It is Baffinland’s practice to construct and operate its fuel storage/dispensing facilities and fuel handling/management practices 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, as practical, 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.

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 2017 during early August and late September 2017. Reports for the geotechnical inspections were submitted to the NWB within 60 days of each inspection. Copies of the 2017 geotechnical inspection reports are provided in Appendix C.2.

7.5 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), continuing process monitoring was completed throughout 2017. This included monitoring of 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, as required by the Type A Water Licence (Part F, Item 7), to ascertain that disposal of residual bottom ash at the Landfill Facility did not have the potential to generate leachate at concentrations above water licence water quality criteria (refer to Baffinland's Waste Management Plan - BAF-PH1-830-P16-0028). In comparing the TCLP analytical results for the 2017 composite ash samples with the Nunavut environmental guideline threshold values², all ash samples, with the exception of one sample (MP-ASH-207) at Milne Port, were below the threshold values for monitored parameters. Bottom ash associated with sample MP-ASH-207, was resampled and confirmed to be below threshold values. As such, all ash generated during 2017 was disposed at the Landfill Facility. Appendix E.2 provides the analytical certificates for ash generated and sampled during 2017 as well as summary tables detailing the disposal method for ash generated by site incinerators in 2017.

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

7.6 REGULATORY INSPECTIONS AND ENFORCEMENTS ACTIONS

7.6.1 Enforcement Actions

During 2017, Baffinland received two (2) Inspector's Directions from INAC following on-site inspections conducted by INAC Water Resources Officers in June and August 2017. In addition, following the observation of potential ARD and the release of non-compliant discharges at the WRF, Baffinland was notified by the QIA and ECCC, that both parties had initiated investigations into the 2017 events that occurred at the WRF. The following subsections discuss the concerns identified at the Project that resulted in the 2017 INAC Inspector's Directions and notices of investigations issued by the QIA and ECCC.

² Government of Nunavut. Department of Sustainable Development. Environmental Protection Service. Environmental Guideline for Industrial Waste Discharges. April 2014

7.6.1.1 INAC Inspector's Direction – New Milne Port Camp Pad

On June 9, 2017, Baffinland received an Inspector's Direction from INAC following an inspection conducted by INAC Water Resources Officers of the Project from May 29 to June 1, 2017. The Inspector's Direction documented a stop work order issued to Baffinland for a new camp pad that was in the process of being constructed during the time of the inspection at Milne Port in a location that impeded the flow of an ephemeral stream. On June 14, 2017 Baffinland responded to the Inspector's Direction notifying INAC and other agencies of Baffinland's planned corrective actions and intention to submit a modification application, under the Type A Water Licence, to the NWB.

On June 23, 2017, Baffinland submitted a modification application to the NWB for the construction of a surface water diversion ditch to redirect surface water drainage around the pad. Upon receiving approval for the modification from the NWB in September 2017, Baffinland completed the construction of the surface water drainage ditch by late October 2017. In accordance with Part G, Item 4 of the Type A Water Licence, a Construction Summary Report, including as-built drawings, was submitted to the NWB on January 24, 2018. Because the construction of the ditch was completed following surface water freeze-up, the performance of the diversion ditch will be evaluated during freshet 2018. Water quality monitoring of surface water flows upstream and downstream of the pad during freshet 2017 is presented and discussed in the 2017 Freshet Monitoring Report No. 2, provided in Appendix E.10 of this report.

7.6.1.2 INAC Inspector's Direction and ECCC and QIA Investigations – Waste Rock Facility

During 2017, controlled effluent discharges from the WRF pond began in early July and continued, as required, until freeze-up in September. Controlled discharges from the WRF pond involved pumping effluent from the pond to the final discharge point (MS-08-FDP) established under the MMER.

During controlled discharges from the WRF pond, effluent water quality samples were collected as outlined in the MMER and Type A Water Licence to ensure effluent discharged to the receiving environment was in compliance with applicable water quality discharge criteria. During 2017, exceedances of the applicable water quality discharge criteria during controlled discharges from the WRF pond consisted of two (2) minor exceedances of the 15 mg/L TSS criterion in early July followed by multiple exceedances of the applicable pH and TSS criteria in August and September. Acute toxicity samples taken on August 1, 2017 and September 5, 2017 at the WRF pond failed for select organisms with mortality rates greater than 50% of test organisms. Applicable NT-NU Spill Reports were submitted for these exceedances to the appropriate regulators.

During August 2017, the pH of runoff collected in the WRF pond dropped below the pH discharge criteria outlined in the MMER and Type A Water Licence. Observations indicated the decrease in pH may have been the result of potential ARD. In addition, during July and early August several large precipitation events resulted in significant volumes of runoff being retained within the WRF pond. With limited capacity remaining in the pond for additional runoff, Baffinland submitted a letter on August 16, 2017 notifying

regulators and stakeholders of the Company's immediate need to treat and conduct a controlled discharge to the receiving environment.

The pond was subsequently batch treated with sodium carbonate in mid-August 2017 to increase the pH within the permissible range for discharge. Although the batch treatment was initially successful in raising the pH of runoff contained with the pond, subsequent active discharges from the pond during late August and September resulted in several exceedances of the applicable discharge criteria for pH and total suspended solids (TSS). Exceedances for the non-compliant discharges were reported to the relevant regulators and are documented in NT-NU Spill Reports 17-289, 17-312, 17-328 and 17-361.

During an on-site INAC and ECCC inspection in late August, uncontrolled seepage originating from the toe of the pond's berm was observed that had not been previously identified in routine internal inspections and third party geotechnical or regulator inspections. The seepage was reported by Baffinland to relevant regulators and is documented in NT-NU Spill Report 17-312. Investigations into the origin of the seepage are ongoing.

As a result of the concerns identified at the WRF, INAC issued an Inspector's Direction to Baffinland on September 5, 2017. The primary issues identified by INAC included three (3) uncontrolled discrete seepages originating from the central toe of the WRF pond; failure to adequately store and treat non-compliant water prior to discharge; and the use of unauthorized treatment methods (sodium carbonate) to raise the pH of the water in the WRF pond to a pH level that was suitable for discharge. Baffinland was subsequently directed by INAC to fix the WRF pond to the specifications provided in the approved for-construction drawing within 30 days; to ensure prevention of uncontrolled discharges; to amend the Waste Rock Management Plan for treating non-compliant waters and submit this to the NWB by October 31, 2017; to produce a report that reassesses the hydrological data of the WRF to determine if the size of the WRF pond meets industry standards in the North by September 31, 2017; and to stop all other uses of water from the WRF for any other purpose. On September 7, 2017 and September 13, 2017, the QIA and ECCC, respectively, notified Baffinland that both parties had initiated investigations into the 2017 events at the WRF.

In response to the non-compliant discharges from the WRF, Baffinland took multiple corrective actions to prevent additional non-compliant discharges from the WRF and retained Golder to determine the appropriate corrective actions required to address the seepage observed at the WRF in 2017 and investigate the potential for ARD and develop mitigation measures, as required. McCue Engineering has also been contracted to construct a water treatment system for the WRF to address potential non-compliant waters in the WRF pond in 2018. A timeline of key events, correspondence and corrective actions taken in regards to the concerns identified at the WRF in 2017 is presented in Table 7.3. It should be noted that the timeline presented in Table 7.3 is not a complete record of all events, correspondence and corrective actions taken in regards to the concerns identified at the WRF in 2017.

Key actions take to date to address concerns identified at the WRF include the following:

- J Batch treatment of the pond with sodium carbonate to raise the pH within applicable water quality discharge criteria, in consultation with the engineers from Wood Group PLC (formerly Amec Foster Wheeler);
- J Retained third party consultants (Hatch, Golder, Le Group Desfor) to assess the observed seepage and WRF pond design and make recommendations to Baffinland for the appropriate corrective actions;
- J Constructed an emergency ditch network and containment sumps around the outer perimeter of the WRF pond in efforts to contain observed seepage;
- J Injected rhodamine dye into the WRF pond to identify the potential source of observed seepage;
- J Sourced a dedicated water treatment plant to manage effluent discharges from the WRF pond in 2018 (the water treatment plant is planned to be installed by May 1, 2018);
- J Developed a MMER Emergency Response Plan to: clarify roles & responsibilities; clarify emergency spill response procedures; and outline the controls in place to ensure effluent discharges from Project infrastructure are compliant with the applicable water quality discharge criteria;
- J Developed an Interim Waste Rock Deposition Plan detailing how waste rock would be managed in the short-term;
- J Continue to engage with regulators, and provide updates and responses to information requests as required; and,
- J Continue to work with Golder on developing the appropriate corrective actions to address concerns identified in 2017 at the WRF.

Although not included as a water treatment method in original Phase 1 Waste Rock Management Plan (Rev. 0; Baffinland, 2014), it should be noted that the use of sodium carbonate to adjust pH of wastewater is an industry-accepted practice and is routinely conducted at the Project's existing STPs and PWSPs to adjust the pH of treated sewage effluent. Revision 1 of the Phase 1 Waste Rock Management Plan (Baffinland, 2017), submitted by Baffinland to regulators on November 15, 2017 in response to INAC's Inspector's Direction, was updated to reflect water treatment methods Baffinland plans to use at the WRF pond.

An Interim Waste Rock Management Plan (Golder, 2018) is provided in Appendix E.5 of this report. The Interim Waste Rock Management Plan supersedes the Phase 1 Waste Rock Management Plan (Rev. 1) submitted by Baffinland on January 15, 2018, and details the deposition and management of waste rock at the Project up until April 2019. Baffinland plans on submitting an updated revision of the Interim Waste Rock Management Plan by the end of 2018. The revised plan will outline the management of waste rock and surface water at the WRF for the next five years and will incorporate geochemistry data collected during the field monitoring programs planned at the WRF in 2018, updated water quality modelling results and lessons learned from the 2017 events.

7.6.2 Regulatory Inspections

In 2017, Baffinland hosted numerous regulatory inspections from INAC, ECCC and QIA, as well as the WSCC Mines Inspector.

7.6.2.1 INAC Inspections

In 2017, three (3) inspections were conducted by INAC Water Resources Officers. The dates of the inspection were as follows:

-) May 29 – June 1
-) August 22 – 24
-) November 7 - 9

Inspection results were conveyed during close-out meetings and are documented in Water Licence Inspection Reports subsequently distributed to Baffinland. INAC inspection reports and Baffinland's responses are provided in Appendix E.8.4.

7.6.2.2 QIA Inspections

In 2017, two (2) inspections were conducted on the following dates by the QIA under the agreement of the Commercial Lease. The dates of the inspection are as follows.

-) June 20 - 22
-) August 1 - 3

In addition to inspections, the QIA conducted one (1) environmental audit September 14 – 20, 2017.

The findings from the audit and inspections were conveyed during the close-out meetings between the QIA personnel and Baffinland representatives as well as documented in subsequent reports and correspondence. The QIA inspection and audit reports along with Baffinland's response to the audit are provided in Appendix E.8.5 of this report.

7.6.2.3 ECCC Inspections

In 2017, three (3) inspections were conducted on the following dates by ECCC Enforcement Officers. The dates of the inspection are as follows.

-) May 30 - June 1
-) July 18 – 19
-) August 22 – 24

Inspection results were conveyed during close-out meetings following each inspection and documented in subsequent correspondence.

7.6.2.4 Workers' Safety and Compensation Commission (WSCC) Mine Inspections

In 2017, the Workers' Safety & Compensation Commission (WSCC) conducted five (5) inspections of the Project.

-) March 7 – 14
-) May 9 – 16
-) August 18 – 23
-) August 23 - 30
-) October 12 - 19

The reports for these inspections were distributed to Baffinland management as well as Baffinland's Occupational Health & Safety (OHS) Committee. The inspections conducted throughout 2017 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.8.6 of this report.

7.7 QUANTITIES OF AGGREGATES FROM QUARRIES AND BORROW PITS

During 2017, Baffinland operated quarries and borrow sources to support Project road maintenance and infrastructure construction. Quarries and borrow sources in operation during 2017 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 7.1 and 7.2 provide quantities of each specified substance (rock, overburden, organics) quarried by quarter, calendar year and annual reporting period (September 1 – August 31) , broken down by individual quarry and borrow source.

7.8 SUMMARY OF GEOCHEMICAL ANALYSIS FOR 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 in 2017 for construction and road maintenance purposes are presented in Appendix E.7. Appendix E.7 provides a statistical summary of the 2017 geochemical results for each quarry, in addition to the laboratory analytical data.

During 2017, 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 / Metal Leaching (ARD/ML). Samples from this period were collected from blast hole cuttings. When assessing whether aggregate is PAG, the general cut-off criteria used was a Net Potential Ratio (NPR) value less than two (2) and sulphur concentration greater than 0.20%.

The geochemical analysis results and summaries are provided in Appendix E.7. Results for Q1 Quarry indicate low potential for ARD/ML as was originally predicted in the assessments made prior to development and documented in the applicable Quarry Management Plans.

The 2017 results from QMR2 Quarry show a slight increase in average sulphur concentration when compared to historical results. To further characterize and predict the potential ARD/ML production from the rock found at the QMR2 Quarry, the following items will be conducted as a part of an investigation.

-) Mapping of various rock types found in the quarry development area;
-) Exploratory drilling to confirm high quality aggregate with low potential for ARD/ML;
-) Increased density of borehole sampling;
-) Visual inspection of newly exposed outcrop; and,
-) Continued analysis and monitoring of surface water runoff from the QMR2 Quarry.

The objective of the investigation is to ensure only high quality, non-acid generating aggregate will be exposed and extracted within the QMR2 Quarry.

7.9 GEOCHEMICAL WASTE ROCK STUDIES AND OPERATIONAL TESTING RESULTS

During 2017, the following activities related to the mine rock geochemistry program were conducted:

-) Ongoing monitoring of the operating humidity cells at SGS Canada Ltd.
-) Operational geochemical testing of waste rock during the mining at Deposit No. 1.

The seepage water quality from the current waste rock stockpile had pH values near neutral ($8 > \text{pH} > 6$) to mildly acidic ($6 > \text{pH} > 4.5$) throughout 2017, with periodic observance of moderately acidic conditions ($4.5 > \text{pH} > 3.5$, with minimum observed value of pH 4.3). The observation of moderately acidic conditions is not consistent with previous humidity cell test results and interpretations. As such, the need for on-going humidity cell test work to assess the potential for ARD/ML from waste rock related to mining of Deposit No. 1 is currently under review and the results are not presented in this report. The humidity cells will be maintained at the laboratory until a final decision is made. Given the differences between predicted geochemical conditions from the humidity cell tests for the five year pit and observed acidity on site, a field based approach is proposed for on-going classification of PAG and Non-PAG material and to develop a better understanding of future weathering rates within the waste rock stockpile.

A geochemical evaluation program will be conducted in 2018 to supplement existing data, and to confirm characteristics of the mine rock currently generating acidity, as well as the waste rock classified as non-PAG. A field based approach to identifying and predicting PAG material is currently being developed and will depend on the results of the initial geochemical review that is ongoing. Future geochemical considerations will include soluble sulphate minerals, pile make-up and distribution and heat generated during acid generation reactions. In addition, the block model and the blasthole sample collection and

analysis program will be reviewed to confirm that they are appropriate for characterization of PAG waste materials. The results of the geochemical evaluation program and the proposed field based approach will be provided in the December 2018 update to the Interim Waste Rock Management Plan, included as Appendix E.5 of this report.

The operational testing results are presented in Appendix E.6 and are summarized in three tables. The methods used are outlined in the Life-of-Mine Waste Rock Management Plan (April 2014) and undertaken by means of on-site determination of total sulphur in blast hole cuttings. The operational testing results provide the basis for determination of waste rock material as being PAG and NPAG. PAG waste rock that can be effectively segregated in the pit is transported for permanent storage at the WRF located adjacent to the open pit. A 0.2% sulphur and NPR <2 cut-off limit is used as a basis for segregation. The operational procedures are being reviewed as part of the 2018 geochemical evaluation program. Additional on-site waste rock segregation criteria and lab testing (e.g., short-term leach testing) may be implemented with the proposed program outlined in the December 2018 update to the Interim Waste Rock Management Plan.

Appendix E.6 also includes an updated table which provides a status summary of the geochemical testing program that was presented as Table 7.1 in Appendix 3 of the Life-of-Mine Waste Rock Management Plan (Rev. 0; Baffinland, 2014).

SECTION 8.0 - PUBLIC CONSULTATIONS

Throughout 2017, Baffinland continued to consult with the North Baffin communities and organizations, regarding on-going construction activities at site, operations and the 2017 shipping season, progress regarding employment from the North Baffin communities, environmental monitoring activities and results, and future phases of the Mary River 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 site. The list of meetings held during 2017 and visits to Project sites are presented in Tables 8.1 and 8.2.

SECTION 9.0 - QUANTITY OF IRON ORE GENERATED BY THE PROJECT

During 2017, mining operations at the Deposit No. 1 continued to increase and produced a total of 4.6 Mt of iron ore, compared to 3.4 Mt produced in 2016. Ore produced by mining operations at the Mine Site was transported by ore haul trucks along the Milne Inlet Tote Road (Tote Road) and stockpiled at Milne Port. During the 2017 open-water shipping season (July to October), a total of 4.1 Mt of ore was shipped to market via 56 marine shipments using ore carrier vessels, with the majority of ore being delivered to ports in Northern Europe. Following the open water season, ore continued to be stockpiled at Milne Port to be shipped to market during 2018.

Monthly and annual quantities of iron ore generated and shipped to market by the Project during 2017 are provided in Tables 9.1 and 9.2, respectively.

SECTION 10.0 - SUMMARY OF PROJECT PLANS FOR 2018

The 2018 Work Plan was prepared and provided to relevant parties on November 6, 2017 as required under Section 6.1 of the Commercial Lease and under the Type A Water Licence, Part J, Item 3. Following discussions with the NWB, QIA and INAC to clarify the scope of the Annual Security Review, a Revision 1 of the 2018 Work Plan, dated January 10, 2018, was submitted by Baffinland to relevant parties.

The 2018 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 2018 Work Plan Addendum in mid-2018.

On March 8, 2018, Baffinland submitted a modification application to the NWB under the Type A Water Licence for changes to Project infrastructure planned for 2018. Infrastructure improvements proposed in the modification include a water treatment plant to address concerns at the WRF, surface water management upgrades at Milne Port and other infrastructure upgrades to support current Project operations.

The continued operation and development of the Project as described in the 2018 Work Plan will require a 2018 sealift. It is expected that sealifts carrying fuel, equipment and supplies for use at the Mine Site and Milne Port will occur during open water (July to October) in 2018. 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 2018.

TABLES

TABLE 2.1
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL QUANTITIES OF WATER USED FOR PROJECT SITES ON INUIT-OWNED LANDS AND CROWN LAND

Date	January			February			March			April			May				
	MS-MRY-1	MP-MRY-3	Total	MS-MRY-1	MP-MRY-3	Total	MS-MRY-1	MP-MRY-3	Total	MS-MRY-1	MP-MRY-3	Total	MS-MRY-1	MS-MRY-1 Other	MP-MRY-3	MP-MRY-3 Other	Total
1	44.4	34.8	79.2	33.8	44.6	78.3	77.8	0.0	77.8	55.4	17.4	72.9	59.9	0.0	39.1	1.9	100.9
2	55.1	17.4	72.5	87.7	20.0	107.7	55.8	60.6	116.4	72.8	52.2	125.0	51.1	10.5	37.3	1.9	100.8
3	63.3	17.4	80.7	57.9	39.7	97.5	50.0	15.1	65.1	58.4	52.2	110.7	58.4	0.0	39.1	1.9	99.4
4	49.8	17.4	67.2	77.2	36.2	113.5	67.5	30.3	97.8	38.7	34.8	73.5	61.8	6.4	14.1	1.9	84.2
5	60.9	17.4	78.3	27.9	28.3	56.2	101.6	60.6	162.2	60.5	34.8	95.3	62.6	0.0	57.7	1.9	122.2
6	75.2	34.8	110.1	89.4	31.9	121.3	58.2	0.0	58.2	73.4	17.4	90.8	59.3	0.0	42.9	1.9	104.1
7	31.2	17.4	48.6	53.7	37.8	91.5	39.2	15.1	54.3	57.6	69.7	127.3	52.9	15.9	34.3	1.9	105.0
8	90.0	34.8	124.8	62.6	31.8	94.3	82.0	15.1	97.1	62.2	0.0	62.2	48.0	0.0	34.5	1.9	84.4
9	74.9	17.4	92.3	63.6	35.3	98.9	55.4	52.2	107.7	49.1	52.2	101.4	58.4	7.2	48.6	1.9	116.1
10	76.8	34.8	111.7	63.6	36.3	99.9	46.8	34.8	81.7	52.4	52.2	104.6	59.6	0.0	29.6	1.9	91.0
11	49.2	0.0	49.2	46.4	25.6	72.0	92.2	52.2	144.4	55.6	17.4	73.0	71.0	11.6	34.6	1.9	119.0
12	62.2	49.2	111.4	60.3	30.1	90.3	38.2	34.8	73.0	39.9	34.8	74.7	57.4	0.0	50.8	1.9	110.1
13	84.7	17.4	102.1	54.3	34.2	88.5	60.4	0.0	60.4	75.7	34.8	110.5	55.2	19.5	46.2	1.9	122.8
14	37.7	17.4	55.1	84.5	32.9	117.4	83.0	52.2	135.3	42.5	34.8	77.3	55.9	0.0	40.8	1.9	98.6
15	53.9	17.4	71.3	66.8	34.6	101.4	27.1	17.4	44.5	63.9	87.1	150.9	54.4	8.9	48.7	1.9	113.9
16	71.8	17.4	89.2	63.9	36.7	100.6	78.9	34.8	113.8	68.2	17.4	85.6	60.8	21.7	33.5	1.9	117.9
17	42.0	17.4	59.4	63.7	44.6	108.2	51.4	52.2	103.6	63.8	34.8	98.6	44.4	0.0	43.9	1.9	90.2
18	44.9	0.0	44.9	64.0	24.3	88.3	56.0	34.8	90.8	48.5	34.8	83.3	68.9	9.9	37.4	1.9	118.1
19	42.4	52.2	94.7	49.3	31.4	80.7	51.8	17.4	69.2	52.3	69.7	122.0	60.5	0.0	41.8	1.9	104.2
20	58.3	34.8	93.2	70.7	28.0	98.7	31.1	89.0	120.0	61.8	34.8	96.6	71.7	14.8	30.9	1.9	119.3
21	82.8	17.4	100.2	64.2	39.8	104.0	81.3	69.7	150.9	56.7	52.2	108.9	64.0	0.0	34.4	1.9	100.3
22	62.4	0.0	62.4	39.3	34.5	73.9	59.2	69.7	128.8	80.6	34.8	115.4	53.7	14.4	56.7	1.9	126.7
23	39.1	52.2	91.3	66.6	31.8	98.4	56.8	17.4	74.2	52.9	52.2	105.1	65.1	11.6	41.8	1.9	120.4
24	73.1	34.8	107.9	39.1	35.6	74.6	63.8	34.8	98.6	67.8	52.2	120.1	49.8	9.6	0.0	1.9	61.3
25	50.4	34.8	85.2	62.8	23.2	86.0	56.5	34.8	91.4	51.3	34.8	86.1	62.0	102.6	75.7	1.9	242.2
26	35.0	34.8	69.8	53.2	43.4	96.6	74.6	69.7	144.2	47.4	34.8	82.2	39.3	54.7	45.0	1.9	140.9
27	67.3	34.8	102.1	52.7	20.6	73.3	43.5	17.4	60.9	73.8	34.8	108.6	84.4	46.9	42.2	1.9	175.4
28	57.8	52.2	110.1	80.2	55.9	136.1	70.5	17.4	87.9	57.1	52.2	109.3	65.8	34.7	49.9	1.9	152.3
29	83.1	52.2	135.3	---	---	---	62.7	52.2	115.0	61.2	69.7	130.9	38.0	31.7	30.3	1.9	101.9
30	54.6	34.8	89.4	---	---	---	65.7	52.2	117.9	51.6	34.8	86.4	58.9	81.8	42.7	1.9	185.2
31	50.9	52.2	103.1	---	---	---	49.1	17.4	66.6	---	---	---	55.6	58.6	52.5	1.9	168.6
Total	1,824.9	867.6	2,692.6	1,699.1	948.9	2,648.1	1,887.9	1,121.6	3,009.5	1,752.9	1,236.3	2,989.2	1,808.7	573.0	1,257.1	58.7	3,697.4

Note:
MS-MRY-1 Camp Lake Freshwater Use (Mine Site) - Daily Potable Water (m³)
MS-MRY-1 Other Camp Lake Daily Freshwater Use for Other Purposes (m³)
MP-MRY-3 Km 32 Lake Milne Port Camp Daily Potable Water (m³) MP-MRY-3
MP-MRY-3 Other Km 32 Milne Port Daily Water for Other Purposes (m³)
Potable water and water for other purposes was obtained solely from Inuit Owned Land (IOL) sources in 2017

TABLE 2.1
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL QUANTITIES OF WATER USED FOR PROJECT SITES ON INUIT-OWNED LANDS AND CROWN LAND

Date	June					July				August			
	MS-MRY-1	MS-MRY-1 Other	MP-MRY-3	MP-MRY-3 Other	Total	MS-MRY-1	MS-MRY-1 Other	MP-MRY-3	Total	MS-MRY-1	MS-MRY-1 Other	MP-MRY-3	Total
	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)
1	45.3	0.0	40.9	1.9	88.1	62.0	0.0	40.1	102.1	82.8	0.0	53.0	135.7
2	54.9	0.0	49.9	1.9	106.7	56.1	0.0	41.1	97.3	62.4	0.0	21.1	83.4
3	60.9	0.0	50.4	1.9	113.2	60.9	0.0	32.3	93.2	63.2	0.0	45.6	108.8
4	53.7	0.0	29.4	1.9	85.0	54.6	0.0	41.3	95.8	72.8	40.5	52.5	165.8
5	50.6	0.0	57.4	1.9	109.9	61.3	0.0	56.4	117.7	63.8	0.0	56.2	120.0
6	54.2	0.0	32.3	1.9	88.4	65.0	0.0	35.7	100.8	72.0	0.0	37.2	109.2
7	36.0	0.0	54.3	1.9	92.2	45.8	0.0	49.6	95.4	202.2	20.3	47.9	270.4
8	54.1	14.2	41.9	1.9	112.1	66.1	0.0	39.2	105.2	34.6	0.0	54.0	88.7
9	56.8	4.7	39.4	1.9	102.9	64.4	0.0	39.2	103.7	55.1	0.0	58.0	113.1
10	73.8	14.2	49.0	1.9	138.9	44.4	0.0	45.2	89.6	70.8	0.0	47.1	117.9
11	57.1	23.2	33.9	1.9	116.0	69.3	0.0	46.8	116.2	58.9	0.0	57.9	116.8
12	56.0	4.7	32.4	1.9	95.0	27.8	0.0	50.2	78.0	67.8	0.0	39.9	107.8
13	61.2	25.8	47.0	1.9	135.9	75.9	0.0	44.0	119.9	58.3	0.0	57.9	116.2
14	50.0	12.6	42.9	1.9	107.4	60.9	0.0	52.5	113.4	64.9	0.0	34.5	99.4
15	56.7	23.9	36.0	1.9	118.5	55.0	0.0	35.1	90.1	69.3	0.0	52.9	122.2
16	48.8	0.0	45.0	1.9	95.7	52.6	18.9	44.0	115.6	55.1	0.0	57.3	112.4
17	63.1	0.0	42.7	1.9	107.7	38.1	0.0	46.2	84.3	65.2	0.0	41.0	106.2
18	58.8	0.0	37.6	1.9	98.2	64.9	9.5	49.7	124.1	62.8	0.0	47.9	110.8
19	59.8	0.0	42.0	1.9	103.7	64.4	0.0	53.1	117.5	87.3	0.0	45.8	133.1
20	63.3	0.0	40.3	1.9	105.5	53.7	18.9	43.7	116.3	43.3	0.0	49.1	92.4
21	55.4	0.0	37.5	1.9	94.8	62.4	18.9	43.8	125.1	90.4	0.0	42.1	132.5
22	58.2	0.0	29.8	1.9	89.9	60.4	0.0	63.1	123.4	70.2	0.0	51.2	121.4
23	47.3	0.0	29.6	1.9	78.8	24.0	9.5	31.4	64.9	35.7	0.0	50.7	86.4
24	65.3	0.0	55.2	1.9	122.4	64.9	18.9	46.4	130.2	109.2	20.6	38.0	167.8
25	50.1	0.0	37.8	1.9	89.8	72.5	52.7	43.4	168.7	52.6	0.0	50.5	103.0
26	58.5	0.0	31.6	1.9	91.9	54.7	0.0	48.2	102.9	92.0	0.0	56.4	148.4
27	59.7	0.0	38.3	1.9	99.9	52.9	0.0	37.1	90.0	77.4	0.0	43.5	120.9
28	55.7	0.0	45.3	1.9	102.8	74.7	69.5	46.1	190.3	66.4	4.9	44.1	115.4
29	54.0	0.0	29.4	1.9	85.3	56.0	6.4	33.7	96.1	65.8	0.0	8.3	74.1
30	67.5	0.0	45.2	1.9	114.6	56.8	0.0	55.8	112.6	70.7	0.0	88.5	159.2
31	---	---	---	---	---	65.3	0.0	47.7	113.0	101.2	0.0	47.3	148.6
Total	1,686.8	123.3	1,224.4	56.8	3,091.3	1,787.8	223.3	1,382.1	3,393.2	2,244.5	86.3	1,477.3	3,808.1

Note:

MS-MRY-1 Camp Lake Freshwater Use (Mine Site) - Daily Potable Water (m³)

MS-MRY-1 Other Camp Lake Daily Freshwater Use for Other Purposes (m³)

MP-MRY-3 Km 32 Lake Milne Port Camp Daily Potable Water (m³) MP-MRY-3

MP-MRY-3 Other Km 32 Milne Port Daily Water for Other Purposes (m³)

Potable water and water for other purposes was obtained solely from Inuit Owned Land (IOL) sources in 2017

TABLE 2.1
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY, MONTHLY AND ANNUAL QUANTITIES OF WATER FOR CAMPS MARY RIVER PROJECT ON INUIT-OWNED LANDS AND CROWN LAND

Date	September				October				November			December		
	MS-MRY-1	MS-MRY-1 Other	MP-MRY-3	Total	MS-MRY-1	MS-MRY-1 Other	MP-MRY-3	Total	MS-MRY-1	MP-MRY-3	Total	MS-MRY-1	MS-MRY-3	Total
1	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)	(m ³)
1	91.5	0.0	60.4	151.9	53.9	0.0	44.4	98.3	80.0	41.8	121.8	75.9	51.9	127.9
2	71.5	0.0	73.3	144.8	100.2	0.0	48.8	149.1	67.3	47.9	115.2	79.8	39.7	119.5
3	89.5	28.2	22.6	140.2	71.5	0.0	53.1	124.6	68.1	41.4	109.4	71.5	40.9	112.4
4	76.5	0.0	62.7	139.2	66.8	0.0	48.5	115.3	80.8	28.4	109.2	92.7	30.1	122.9
5	55.7	0.0	43.7	99.4	78.2	0.0	51.8	130.0	55.9	32.1	88.0	29.6	33.6	63.2
6	75.5	0.0	52.0	127.5	82.0	0.0	48.7	130.7	66.3	52.2	118.5	80.8	46.0	126.8
7	127.3	6.7	50.5	184.6	70.2	0.0	48.4	118.6	96.2	41.8	138.0	80.9	38.2	119.1
8	72.1	0.0	48.9	120.9	69.8	0.0	48.6	118.3	76.3	44.6	120.9	35.3	26.0	61.4
9	48.6	0.0	50.3	98.9	76.8	0.0	49.4	126.2	62.7	31.6	94.3	125.0	36.1	161.1
10	71.5	0.0	58.1	129.7	63.3	0.0	58.5	121.8	42.0	46.0	88.0	50.9	22.7	73.6
11	62.9	0.0	55.0	117.9	80.3	0.0	64.8	145.2	104.3	46.9	151.2	125.7	32.5	158.2
12	92.4	0.0	52.8	145.2	91.8	0.0	38.9	130.7	61.0	29.5	90.5	96.0	49.3	145.3
13	77.1	0.0	57.8	134.9	63.9	0.0	43.6	107.5	79.7	47.4	127.2	60.1	30.4	90.5
14	93.2	0.0	35.4	128.5	91.5	0.0	49.4	140.9	113.0	58.0	171.0	88.4	33.3	121.7
15	80.7	0.0	61.2	141.9	75.3	0.0	50.3	125.6	65.6	37.3	102.9	49.7	41.8	91.5
16	68.8	0.0	48.3	117.1	102.2	20.4	53.1	175.7	64.4	37.1	101.6	61.3	30.9	92.2
17	65.7	0.0	54.2	119.9	78.0	0.0	51.5	129.6	94.6	48.8	143.4	96.4	27.4	123.8
18	67.7	0.0	46.2	113.9	67.7	0.0	50.1	117.8	49.0	46.4	95.4	46.3	44.7	91.0
19	107.2	11.9	51.4	170.5	82.3	0.0	50.1	132.4	44.9	43.2	88.1	94.9	29.7	124.6
20	63.9	0.0	43.8	107.8	78.5	0.0	50.1	128.6	128.1	33.9	161.9	71.3	35.3	106.6
21	40.0	0.0	44.9	84.9	62.6	0.0	42.8	105.4	98.2	39.1	137.3	9.8	37.2	46.9
22	93.9	0.0	38.3	132.3	63.6	0.0	38.7	102.3	50.6	47.4	97.9	67.0	29.8	96.8
23	79.0	0.0	48.0	126.9	49.8	0.0	40.9	90.6	74.3	42.1	116.4	104.1	27.3	131.4
24	85.9	0.0	61.3	147.2	71.6	0.0	42.4	114.0	76.3	43.1	119.5	77.6	41.6	119.2
25	76.0	0.0	32.5	108.6	85.5	0.0	38.1	123.7	62.3	47.3	109.7	36.2	27.4	63.6
26	75.5	0.0	57.6	133.1	80.5	0.0	31.7	112.2	153.0	33.7	186.8	47.4	25.3	72.7
27	89.4	0.0	80.5	170.0	101.8	0.0	47.3	149.1	79.2	64.4	143.6	83.8	39.9	123.7
28	91.0	0.0	45.7	136.7	65.4	0.0	42.6	108.0	100.0	31.5	131.5	80.8	33.7	114.5
29	79.8	0.0	43.2	123.0	67.3	0.0	41.0	108.3	70.3	37.6	107.8	49.9	42.0	91.8
30	88.2	0.0	49.7	137.8	75.5	0.0	37.1	112.7	83.2	39.0	122.2	64.4	27.7	92.0
31	---	---	---	---	46.7	0.0	35.6	82.3	---	---	---	85.4	31.4	116.8
Total	2,358.1	46.8	1,530.4	3,935.3	2,314.8	20.4	1,440.2	3,775.4	2,347.8	1,261.4	3,609.2	2,218.7	1,083.9	3,302.6

Note:

- MS-MRY-1 Camp Lake Freshwater Use (Mine Site) - Daily Potable Water (m³)
- MS-MRY-1 Other Camp Lake Daily Freshwater Use for Other Purposes (m³)
- MP-MRY-3 Km 32 Lake Milne Port Camp Daily Potable Water (m³) MP-MRY-3
- MP-MRY-3 Other Km 32 Milne Port Daily Water for Other Purposes (m³)

Potable water and water for other purposes was obtained solely from Inuit Owned Land (IOL) sources in 2017

TABLE 2.2
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
DAILY AND ANNUAL QUANTITIES OF WATER USED FOR DUST SUPPRESSION

Date ¹	Approved Water Sources for Dust Suppression (Type A Water Licence)								Recycled Water				Daily Total (m ³)
	Camp Lake	CV128 (Km 17)	Km 32 Lake	CV099 (Km 37)	Katiktok Lake (Km 52 - 58)	BG50 (Km 62)	CV217 (Km 80)	CV233 (Tom River)	Surface Water Pond at Milne Port ²	Km 6	Waste Rock Sedimentation Pond (MS-08) ³	Mag Road Pond ⁴	
July 22, 2017	0.0	0.0	0.0	0.0	0.0	90.8	181.7	181.7	0.0	0.0	0.0	0.0	454.2
July 23, 2017	0.0	0.0	0.0	0.0	0.0	212.0	121.1	121.1	0.0	0.0	151.4	0.0	605.7
July 24, 2017	0.0	0.0	0.0	0.0	0.0	121.1	181.7	242.3	0.0	0.0	181.7	0.0	726.8
July 25, 2017	56.8	0.0	0.0	0.0	0.0	60.6	30.3	121.1	0.0	0.0	0.0	0.0	268.8
August 2, 2017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.3	0.0	0.0	0.0	0.0	30.3
August 3, 2017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.8	0.0	0.0	0.0	0.0	90.8
August 4, 2017	37.9	0.0	0.0	0.0	0.0	0.0	0.0	302.8	0.0	0.0	0.0	0.0	340.7
August 5, 2017	0.0	0.0	0.0	0.0	0.0	0.0	212.0	242.3	0.0	0.0	0.0	0.0	454.2
August 6, 2017	18.9	0.0	0.0	0.0	0.0	30.3	121.1	181.7	0.0	0.0	0.0	0.0	352.0
August 7, 2017	56.8	0.0	0.0	0.0	0.0	60.6	60.6	333.1	0.0	0.0	0.0	0.0	511.0
August 11, 2017	0.0	13.6	10.2	0.0	0.0	0.0	0.0	0.0	13.6	0.0	0.0	0.0	37.5
August 12, 2017	121.1	0.0	0.0	0.0	0.0	0.0	60.6	90.8	0.0	0.0	0.0	143.8	416.4
August 13, 2017	0.0	0.0	23.8	0.0	0.0	0.0	151.4	272.5	13.6	0.0	0.0	60.6	522.0
August 14, 2017	0.0	0.0	13.6	0.0	0.0	0.0	90.8	60.6	13.6	0.0	0.0	30.3	209.0
August 15, 2017	0.0	0.0	0.0	0.0	0.0	0.0	60.6	90.8	0.0	0.0	0.0	0.0	151.4
August 16, 2017	0.0	0.0	0.0	0.0	0.0	30.3	242.3	0.0	0.0	0.0	0.0	60.6	333.1
August 17, 2017	0.0	0.0	0.0	0.0	0.0	60.6	212.0	242.3	0.0	0.0	0.0	181.7	696.5
August 18, 2017	0.0	0.0	0.0	0.0	0.0	60.6	181.7	181.7	0.0	0.0	0.0	181.7	605.7
August 19, 2017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	181.7	181.7
August 22, 2017	33.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.1
August 23, 2017	37.9	0.0	0.0	0.0	0.0	0.0	30.3	60.6	0.0	0.0	0.0	0.0	128.7
August 24, 2017	0.0	0.0	0.0	0.0	0.0	0.0	60.6	121.1	0.0	0.0	0.0	0.0	181.7
August 25, 2017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.8	0.0	0.0	0.0	0.0	90.8
Annual Totals (m³)	2045.3	313.4	244.5	103.3	375.5	2635.0	4281.3	7421.3	177.2	109.0	1506.6	1817.0	21030

Note:

¹ For dates not included, water was not withdrawn for dust suppression purposes

² Water applied to Milne Port camp pads and roads for dust suppression purposes

³ Water applied to Mine Site airstrip, camp pads and roads for dust suppression purposes

⁴ Water applied to Mine Haul Road for dust suppression purposes

Water was withdrawn for dust suppression purposes from water sources solely on Inuit-Owned Land in 2017

TABLE 2.3
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES OF TREATED OILY WATER EFFLUENT DISCHARGED

Day	June		July		August			September
	MS-MRY-6	MP-03	MS-MRY-6	MP-03	MS-MRY-6	MP-04	MP-04a	MP-04a
1	0.0	0.0	0.0	113.9	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	120.4	22.3	0.0	0.0	25.0
3	0.0	0.0	0.0	118.9	30.5	0.0	0.0	13.6
4	0.0	0.0	0.0	67.4	0.0	0.0	0.0	9.8
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	77.2	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	9.1	0.0
15	11.9	0.0	0.0	0.0	0.0	0.0	11.2	0.0
16	48.5	0.0	0.0	0.0	0.0	0.0	8.7	0.0
17	36.4	0.0	0.0	0.0	0.0	0.0	12.5	0.0
18	21.7	0.0	0.0	0.0	0.0	0.0	9.5	0.0
19	12.9	0.0	0.0	0.0	0.0	0.0	9.8	0.0
20	10.5	0.0	5.2	0.0	0.0	16.2	18.9	0.0
21	6.2	0.0	4.7	0.0	0.0	202.4	17.0	0.0
22	15.8	0.0	4.1	0.0	0.0	0.0	17.0	0.0
23	14.2	0.0	4.2	0.0	0.0	0.0	0.0	0.0
24	17.1	90.8	2.2	0.0	0.0	362.0	0.0	0.0
25	7.9	96.1	0.0	0.0	0.0	0.0	0.0	0.0
26	0.0	20.1	7.3	0.0	0.0	0.0	0.0	0.0
27	0.0	88.6	15.4	0.0	0.0	0.0	0.0	0.0
28	0.0	48.1	21.1	0.0	0.0	0.0	0.0	0.0
29	0.0	108.6	21.8	0.0	0.0	0.0	0.0	0.0
30	0.0	115.8	21.5	0.0	3.1	0.0	0.0	0.0
31	-	-	13.6	0.0	6.5	0.0	0.0	-
Total	203.1	568.2	121.1	497.8	62.4	580.7	113.8	73.4

Annual Total (m³): 2220.5

Note: Water Licence Type "A" (2AM-MRY1325) monitoring IDs. Volumes in cubic metres (m³)

TABLE 2.4
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT
2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES OF EFFLUENT DISCHARGED
FROM PROJECT SURFACE WATER MANAGEMENT PONDS

Day	May	June		July		August			September	
	MP-05	MP-05	MP-06	MP-06	MS-08	MP-05	MP-06	MS-08	MP-05	MS-08
1	0.0	156.0	0.0	0.0	1,715.8	0.0	234.0	465.6	108.0	2.9
2	0.0	351.0	312.0	0.0	936.5	0.0	657.0	0.0	324.0	1.7
3	0.0	7500.0	312.0	0.0	0.0	0.0	0.0	368.9	0.0	4.5
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
5	0.0	234.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
6	0.0	468.0	234.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3
7	0.0	351.0	312.0	0.0	11.8	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	351.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	171.6	0.0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.6	0.0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	487.5	0.0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	767.4	61.7	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	20.2	99.1	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	1,338.6	246.1	0.0	0.0	0.0	0.0
19	0.0	0.0	0.0	0.0	249.2	523.1	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	826.1	269.6	0.0	0.0	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	369.3	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	376.4	0.0	0.0
26	2,000.0	0.0	0.0	0.0	0.0	0.0	0.0	874.0	0.0	0.0
27	2,000.0	0.0	0.0	0.0	0.0	0.0	0.0	523.1	0.0	0.0
28	1,500.0	0.0	0.0	0.0	335.2	0.0	0.0	234.8	0.0	0.0
29	2,000.0	0.0	0.0	0.0	882.0	0.0	0.0	603.8	0.0	0.0
30	2,000.0	0.0	0.0	0.0	346.4	0.0	0.0	1,230.1	0.0	0.0
31	351.0	-	-	234.0	0.0	0.0	0.0	1,007.6	-	-
Total	9,851.0	9,060.0	1,170.0	234.0	7,429.1	1,199.7	891.0	6,053.6	1,457.7	19.0

Annual Total (m³): 27,514.1

Note: MS-08 is the surface water management pond for the Mine Site Waste Rock Stockpile. MS-06 is the Ore Stockpile Stormwater Pond. MP-05 & MP-06 are, respectively, the East and West Milne Port Ore Stockpile Settling Ponds. Volumes in cubic metres (m³).

TABLE 2.5
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES OF TREATED SEWAGE EFFLUENT DISCHARGED AND SLUDGE REMOVED

Day	January		February		March		April	
	MS-01	MP-01	MS-01	MP-01	MS-01	MP-01	MS-01	MP-01
1	44.4	34.8	33.8	44.6	77.8	0.0	55.4	17.4
2	55.1	17.4	87.7	20.0	55.8	60.6	72.8	52.2
3	63.3	17.4	57.9	39.7	50.0	15.1	58.4	52.2
4	49.8	17.4	77.2	36.2	67.5	30.3	38.7	34.8
5	60.9	17.4	27.9	28.3	101.6	60.6	60.5	34.8
6	75.2	34.8	89.4	31.9	58.2	0.0	73.4	17.4
7	31.2	17.4	53.7	37.8	39.2	15.1	57.6	69.7
8	90.0	34.8	62.6	31.8	82.0	15.1	62.2	0.0
9	74.9	17.4	63.6	35.3	55.4	52.2	49.1	52.2
10	76.8	34.8	63.6	36.3	46.8	34.8	52.4	52.2
11	49.2	0.0	46.4	25.6	92.2	52.2	55.6	17.4
12	62.2	49.2	60.3	30.1	38.2	34.8	39.9	34.8
13	84.7	17.4	54.3	34.2	60.4	0.0	75.7	34.8
14	37.7	17.4	84.5	32.9	83.0	52.2	42.5	34.8
15	53.9	17.4	66.8	34.6	27.1	17.4	63.9	87.1
16	71.8	17.4	63.9	36.7	78.9	34.8	68.2	17.4
17	42.0	17.4	63.7	44.6	51.4	52.2	63.8	34.8
18	44.9	0.0	64.0	24.3	56.0	34.8	48.5	34.8
19	42.4	52.2	49.3	31.4	51.8	17.4	52.3	69.7
20	58.3	34.8	70.7	28.0	31.1	89.0	61.8	34.8
21	82.8	17.4	64.2	39.8	81.3	69.7	56.7	52.2
22	62.4	0.0	39.3	34.5	59.2	69.7	80.6	34.8
23	39.1	52.2	66.6	31.8	56.8	17.4	52.9	52.2
24	73.1	34.8	39.1	35.6	63.8	34.8	67.8	52.2
25	50.4	34.8	62.8	23.2	56.5	34.8	51.3	34.8
26	35.0	34.8	53.2	43.4	74.6	69.7	47.4	34.8
27	67.3	34.8	52.7	20.6	43.5	17.4	73.8	34.8
28	57.8	52.2	80.2	55.9	70.5	17.4	57.1	52.2
29	83.1	52.2	-	-	62.7	52.2	61.2	69.7
30	54.6	34.8	-	-	65.7	52.2	51.6	34.8
31	50.9	52.2	-	-	49.1	17.4	-	-
Total	1,824.9	867.6	1,699.1	948.9	1,887.9	1,121.6	1,752.9	1,236.3

Day	May		June		MS-MRY-4b ¹	July		August	
	MS-01	MP-01	MS-01	MP-01		MS-01	MP-01	MS-01	MP-01
1	59.9	41.0	45.3	42.8	0.0	62.0	40.1	82.8	53.0
2	61.6	39.2	54.9	51.8	0.0	56.1	41.1	62.4	21.1
3	58.4	41.0	60.9	52.3	0.0	60.9	32.3	63.2	45.6
4	68.2	16.0	53.7	31.3	0.0	54.6	41.3	113.3	52.5
5	62.6	59.6	50.6	59.3	0.0	61.3	56.4	63.8	56.2
6	59.3	44.8	54.2	34.2	0.0	65.0	35.7	72.0	37.2
7	68.8	36.2	36.0	56.2	0.0	45.8	49.6	222.5	47.9
8	48.0	36.4	68.3	43.8	0.0	66.1	39.2	34.6	54.0
9	65.7	50.5	61.6	41.3	0.0	64.4	39.2	55.1	58.0
10	59.6	31.5	88.0	50.9	0.0	44.4	45.2	70.8	47.1
11	82.6	36.5	80.2	35.7	0.0	69.3	46.8	58.9	57.9
12	57.4	52.7	60.7	34.3	0.0	27.8	50.2	67.8	39.9
13	74.7	48.0	87.0	48.9	236.7	75.9	44.0	58.3	57.9
14	55.9	42.7	62.6	44.8	628.4	60.9	52.5	64.9	34.5
15	63.3	50.6	80.6	37.9	359.6	55.0	35.1	69.3	52.9
16	82.5	35.4	48.8	46.9	0.0	71.6	44.0	55.1	57.3
17	44.4	45.8	63.1	44.6	0.0	38.1	46.2	65.2	41.0
18	78.8	39.3	58.8	39.5	181.7	74.3	49.7	62.8	47.9
19	60.5	43.7	59.8	43.9	244.2	64.4	53.1	87.3	45.8
20	86.5	32.8	63.3	42.2	0.0	72.6	43.7	43.3	49.1
21	64.0	36.3	55.4	39.4	0.0	81.3	43.8	90.4	42.1
22	68.1	58.5	58.2	31.7	0.0	60.4	63.1	70.2	51.2
23	76.7	43.7	47.3	31.5	0.0	33.5	31.4	35.7	50.7
24	59.4	1.9	65.3	57.1	0.0	83.8	46.4	129.8	38.0
25	164.6	77.6	50.1	39.7	0.0	125.2	43.4	52.6	50.5
26	94.0	46.9	58.5	33.4	0.0	54.7	48.2	92.0	56.4
27	131.3	44.1	59.7	40.1	0.0	52.9	37.1	77.4	43.5
28	100.5	51.8	55.7	47.2	0.0	144.2	46.1	71.3	44.1
29	69.7	32.2	54.0	31.3	0.0	62.4	33.7	65.8	8.3
30	140.7	44.6	67.5	47.0	0.0	56.8	55.8	70.7	88.5
31	114.2	54.4	-	-	-	65.3	47.7	101.2	47.3
Total	2,381.7	1,315.8	1,810.1	1,281.2	1,650.6	2,011.1	1,382.1	2,330.9	1,477.3

TABLE 2.5
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES OF TREATED SEWAGE EFFLUENT DISCHARGED AND SLUDGE REMOVED

Day	September		October		November		December	
	MS-01	MP-01	MS-01	MP-01	MS-01	MP-01	MS-01	MP-01
1	91.5	60.4	53.9	44.4	80.0	41.8	75.9	51.9
2	71.5	73.3	100.2	48.8	67.3	47.9	79.8	39.7
3	89.5	22.6	71.5	53.1	68.1	41.4	71.5	40.9
4	76.5	62.7	66.8	48.5	80.8	28.4	92.7	30.1
5	55.7	43.7	78.2	51.8	55.9	32.1	29.6	33.6
6	75.5	52.0	82.0	48.7	66.3	52.2	80.8	46.0
7	127.3	50.5	70.2	48.4	96.2	41.8	80.9	38.2
8	72.1	48.9	69.8	48.6	76.3	44.6	35.3	26.0
9	48.6	50.3	76.8	49.4	62.7	31.6	125.0	36.1
10	71.5	58.1	63.3	58.5	42.0	46.0	50.9	22.7
11	62.9	55.0	80.3	64.8	104.3	46.9	125.7	32.5
12	92.4	52.8	91.8	38.9	61.0	29.5	96.0	49.3
13	77.1	57.8	63.9	43.6	79.7	47.4	60.1	30.4
14	93.2	35.4	91.5	49.4	113.0	58.0	88.4	33.3
15	80.7	61.2	75.3	50.3	65.6	37.3	49.7	41.8
16	68.8	48.3	122.6	53.1	64.4	37.1	61.3	30.9
17	65.7	54.2	78.0	51.5	94.6	48.8	96.4	27.4
18	67.7	46.2	67.7	50.1	49.0	46.4	46.3	44.7
19	107.2	51.4	82.3	50.1	44.9	43.2	94.9	29.7
20	63.9	43.8	78.5	50.1	128.1	33.9	71.3	35.3
21	40.0	44.9	62.6	42.8	98.2	39.1	9.8	37.2
22	93.9	38.3	63.6	38.7	50.6	47.4	67.0	29.8
23	79.0	48.0	49.8	40.9	74.3	42.1	104.1	27.3
24	85.9	61.3	71.6	42.4	76.3	43.1	77.6	41.6
25	76.0	32.5	85.5	38.1	62.3	47.3	36.2	27.4
26	75.5	57.6	80.5	31.7	153.0	33.7	47.4	25.3
27	89.4	80.5	101.8	47.3	79.2	64.4	83.8	39.9
28	91.0	45.7	65.4	42.6	100.0	31.5	80.8	33.7
29	79.8	43.2	67.3	41.0	70.3	37.6	49.9	42.0
30	88.2	49.7	75.5	37.1	83.2	39.0	64.4	27.7
31	-	-	46.7	35.6	-	-	85.4	31.4
Total	2,358.1	1,530.4	2,335.1	1,440.2	2,347.8	1,261.4	2,218.7	1,083.9

Month	Sludge from Mine Site WWTP (m ³) (cake)	Sludge from Mine Site WWTP (m ³) ²	Sludge from Mine Site Lift Stations (m ³) ³	Sludge from Mine Port WWTP (m ³) (cake)	Sludge from Mine Port WWTP (m ³) ⁴	Sludge from Mine Port Lift Stations (m ³) ⁵
January	10.1	5.0	17.1	8.7	4.6	0.0
February	13.4	0.0	0.0	7.2	0.0	0.0
March	15.1	0.0	0.0	8.3	11.4	0.0
April	13.2	1.2	0.0	8.2	2.5	0.5
May	12.9	3.8	3.7	9.6	8.3	1.0
June	14.0	4.2	0.0	12.2	1.0	7.1
July	13.7	2.0	0.0	10.6	5.1	4.5
August	14.5	2.0	0.0	11.7	21.1	35.6
September	14.8	30.3	295.3	13.0	3.3	48.3
October	15.4	0.0	45.4	10.6	1,420.0	133.5
November	14.3	2.0	20.0	8.7	7.0	8.5
December	12.3	8.5	8.0	8.3	0.0	11.4
Annual Totals	163.8	59.0	389.5	117.0	1,484.4	250.4

Notes:

All effluent from MS-01 (Mine Site Sewage Treatment Facilities) discharged to Mary River.
All effluent from MP-01 (Mine Port Sewage Treatment Facilities) discharged to Mine Inlet.
All sludge from WWTP pressed into cake and burned in Incinerators

¹ Treated effluent from Mine Site PWSP (MS-MRY-4b)

² Sewage sludge removed from Mine Site WWTP to Mine Site PWSP (MS-MRY-4a)

³ Sewage sludge removed from Mine Site Lift Stations to Mine Site PWSP (MS-MRY-4a)

⁴ Sewage sludge removed from Mine Port WWTP to Mine Port PWSP (MP-01a)

⁵ Sewage sludge removed from Mine Port Lift Stations to Mine Port PWSP (MP-01a)

During the open water season, at the Mine Site, there were several instances where untreated sewage was transferred to PWSP #1 for further processing. These included failed piping, lift station float malfunctions, and overloading of Mine Site STP.

TABLE 2.6

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
LOCATION OF TEMPORARY AND PERMANENT WASTE STORAGE**

Description	UTM Coordinates (NAD83)		Latitude	Longitude
	Easting (m)	Northing (m)		
Milne Port				
MP-HWB-1	503,869	7,976,308	71° 53' 12.4"	80° 53' 18.6"
MP-HWB-2	503,730	7,975,972	71° 53' 01.6"	80° 53' 33.1"
MP-HWB-3	503,543	7,975,959	71° 53' 01.2"	80° 53' 52.5"
MP-HWB-4	503,569	7,975,954	71° 53' 01.0"	80° 53' 49.8"
Milne Port Landfarm Facility (MP-04) (including Contaminated Snow Containment Berm)	503,751	7,975,570	71° 52' 48.6"	80° 53' 30.9"
Milne Port Waste Stabilisation Pond (PWSP - MP-01a)	503,625	7,976,015	71° 53' 03"	80° 53' 44"
Mary River Mine Site				
MS-HWB-1	558,170	7,914,598	71° 19' 35.5"	79° 22' 19.2"
MS-HWB-2	558,200	7,914,585	71° 19' 35.1"	79° 22' 16.2"
MS-HWB-3	558,283	7,914,563	71° 19' 34.3"	79° 22' 08.0"
MS-HWB-4	558,295	7,914,551	71° 19' 33.9"	79° 22' 06.8"
MS-HWB-5	558,161	7,914,580	71° 19' 34.9"	79° 22' 20.1"
MS-HWB-6	558,512	7,914,710	71° 19' 38.8"	79° 21' 44.5"
MS-HWB-7	558,284	7,914,449	71° 19' 30.6"	79° 22' 08.1"
Mine Site Landfill	560,879	7,912,513	71° 18' 25.9"	79° 17' 51.8"
Exploration Camp Polishing Waste Stabilization Ponds (PWSP - MS-MRY-4a, b, c)	558,470	7,914,237	71° 19' 23.6"	79° 21' 50"
Mid-Rail				
Temporary hazardous waste and barrel fuel storage area	595,660	7,876,369	70° 58' 19"	78° 22' 13"
Steensby Port				
Temporary hazardous waste and barrel fuel storage area	594,679	7,800,514	70° 17' 35"	78° 29' 1"

Note: Refer to Figures 1.3 and 1.5 for location of waste facilities within the Milne Port and Mary River Mine Site Camps.

TABLE 2.7

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS

MONTHLY AND ANNUAL QUANTITIES OF WASTE DEPOSITED IN NON-HAZARDOUS LANDFILL FACILITY

Quarter	Month and Year	Volume of Waste Deposited in Landfill (m ³)	Comments
Q1	January	536	Quarterly survey conducted on March 28th, 2017
	February	536	
	March	536	
Q2	April	931	Quarterly survey conducted on June 27th, 2017
	May	931	
	June	931	
Q3	July	794	Quarterly survey conducted on September 27, 2017
	August	794	
	September	794	
Q4	October	610	Quarterly survey conducted on December 27, 2017
	November	610	
	December	610	
Cumulative Total Volume for 2017 (m³)		8,613	

Note: Monthly volumes are calculated based on quarterly surveys of surfaces using methods agreed to with the QIA.

TABLE 2.8

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS

MONTHLY AND ANNUAL QUANTITIES OF HYDROCARBON IMPACTED SOIL, WATER AND SNOW DEPOSITED AT LANDFARM FACILITY

Date	Soil Deposited in Landfarm (m³)	Water Deposited in Contaminated Snow Containment Berm (m³)²	Comments
Jan-17	0.0	0.0	Could not be surveyed due to snow cover
Feb-17	0.0	3.0	Could not be surveyed due to snow cover
Mar-17	0.0	17.0	Could not be surveyed due to snow cover
Apr-17	59.7	14.0	
May-17	59.7	5.0	
Jun-17	59.7	10.0	
Jul-17	59.7	0.0	Surveyed July 21, 2017
Aug-17	59.7	0.0	
Sep-17	59.7	0.0	
Oct-17	59.7	7.0	
Nov-17	59.7	9.0	
Dec-17	59.7	18.5	Surveyed December 21, 2017
2017 Total	537	83.5	

Notes

1. Volume of water pumped from contaminated snow containment facility provided in Table 2.3
2. Water deposited in snow dump facility originated from project facility sumps
3. End of year survey for landfarm volumes conducted on December 21, 2017

TABLE 2.9

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES OF WASTE ROCK - DEPOSIT NO. 1

Month and Year	Total NPAG Waste Rock Used for Construction Purposes (t)	Total NPAG Waste Rock Deposited in Waste Rock Dump (t)	Total PAG Waste Rock Deposited in Waste Rock Dump (t)	Total Waste Rock Generated (t)
Jan-17	2,106	72,696	26,676	101,478
Feb-17	22,464	53,040	10,764	86,268
Mar-17	3,120	52,751	19,422	75,293
Apr-17	312	42,295	9,750	52,357
May-17	60,010	38,915	8,355	107,280
Jun-17	15,700	73,995	12,750	102,445
Jul-17	17,710	22,320	38,795	78,825
Aug-17	425	50,245	9,350	60,020
Sep-17	170	126,440	30,515	157,125
Oct-17	340	79,645	83,045	163,030
Nov-17	---	51,115	57,530	108,645
Dec-17	---	71,080	41,820	112,900
Cumulative Total for 2017 (t)	122,357	734,537	348,772	1,205,666

Notes:

NPAG = Non-Potentially Acid Generating

PAG = Potentially Acid Generating

t = Tonnes

Total quantities of waste rock excludes broken waste rock stored in-pit at the end of December 2016.

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
SUMMARY OF UNAUTHORIZED DISCHARGES**

Date of Occurrence	Quantity (L)	Product Spilled	Approximate Location	Project Area	Specific Location	Proximity to Water body?	Spill Line ID No.	Engineered Lined Facility
1-Jan-17	250	Sewage (Untreated)	17 W 558075 7914518	Mine Site	WH Dry LS	> 100 m	17-001	No
2-Jan-17	1000	Waste Oil	17 W 504247 7975591	Port Site	Snow Dump	> 100 m	17-002	Yes
7-Jan-17	200	Sewage (Untreated)	17 W 561363 7913431	Mine Site	MSC - AB Wing W	> 100 m	17-008	No
11-Jan-17	500	Sewage (Untreated)	17 W 561345 7913368	Mine Site	MSC - AF Wing W - LS15	> 100 m	17-012	No
13-Jan-17	600	Sewage (Untreated)	17 W 561333 7913430	Mine Site	MSC - AB Wing	> 200 m	17-014	No
24-Jan-17	1000	Sewage (Untreated)	17 W 561384 7913401	Mine Site	MCS - AC Wing	> 100 m	17-026	No
31-Jan-17	2000	Grey Water	17 W 561356 7913338	Mine Site	MSC - Laundry Wing	> 100 m	17-032	No
14-Feb-17	2000	Sewage (Untreated)	17 W 561329 7913244	Mine Site	MSC to WWTP	> 100 m	17-045	No
28-Feb-17	120	Coolant	17 W 564091 7915618	Mine Site	Mine Haul Road KM 108.5	> 100 m	17-061	No
28-Feb-17	120 000	Sewage (Treated)	17 W 503643 7976325	Port Site	WWTP Discharge	0 m	17-068	No
1-Mar-17	1000	Grey Water	17 W 503926 7976081	Port Site	PSC - Laundry Wing	> 100 m	17-063	No
20-Mar-17	4000	Contaminated Water	17 W 533822 7922647	Tote Road (KM 51-100)	KM 70	> 1000 m	17-088	No
25-Mar-17	400	Contaminated Water	17 W 561536 7913281	Mine Site	MTC Shop Pad	> 200 m	17-092	No
5-Apr-17	100	Fuel - Diesel	17 W 526578 7935094	Tote Road (KM 51-100)	KM 54	> 50 m	17-105	No
12-Apr-17	110	Fuel - Diesel	17 W 528466 7928395	Tote Road (KM 51-100)	KM 61	> 500 m	17-109	No
22-Apr-17	125	Sewage (Untreated)	17 W 560281 7913772	Mine Site	OHT Laydown	> 75	17-117	No
29-Apr-17	170	Sewage (Untreated)	17 W 561344 7913399	Mine Site	MSC - AF Wing W	> 100 m	17-133	No
29-Apr-17	270	Fuel - Diesel	17 W 561689 7913161	Mine Site	Wash Bay Pad	> 100 m	17-134	No
3-May-17	220	Coolant	17 W 563551 7915075	Mine Site	Mine Haul Road KM 109.5	> 500 m	17-141	No
11-May-17	-	Sediment	Sheardown Lake/Tributary	Mine Site	Sheardown Lake/Tributary	0 m	17-161	No
13-May-17	-	Sediment	Camp Lake/Tributary	Mine Site	Camp Lake/Tributary	0 m	17-162	No
23-May-17	-	Sediment	Water Bodies Along Tote Road	Tote Road	-	0 m	17-209	No
25-May-17	-	Sediment	17 W 503511 7974528	Port Site	MP-05	0 m	17-178	No
28-May-17	1000	Waste Oil	17 W 558285 7914462	Mine Site	MS-HWB-7	> 500 m	17-183	Yes
13-Jun-17	100	Contaminated Water	17 W 561526 7913312	Mine Site	MTC Shop Pad	> 100 m	17-207	No
17-Jun-17	-	Sediment	17 W 504144 7976481	Port Site	Milne Port Beach	0 m	17-214	No
17-Jun-17	200	Fuel - Diesel	17 W 561336 7913337	Mine Site	MSC Day Tank	> 100 m	17-215	No
18-Jun-17	-	Sediment	17 W 503240 7975705	Port Site	Construction Pad	0 m	17-217	No
1-Jul-17	-	Non-Compliant Effluent (MS-08)	17 W 562855 7916790	Mine Site	MS-08	> 3 km	17-230	No
12-Jul-17	-	Sediment	Mary River Tributary	Mine Site	Haul Road	> 100	17-253	No
7-Aug-17	465 000	Non-Compliant Effluent (MS-08)	17 W 562855 7916790	Mine Site	MS-08	> 3 km	17-289	No
26-Aug-17	-	Non-Compliant Effluent (MS-08)	17 W 562855 7916790	Mine Site	MS-08	> 3 km	17-312	No
27-Aug-17	523 000	Non-Compliant Effluent (MS-08)	17 W 562855 7916790	Mine Site	MS-08	> 3 km	17-328	No
30-Aug-17	5	Waste Oil	17 W 504086 7976853	Port Site	Milne Inlet	0 m	17-322	No
3-Sep-17	500	Diesel Exhaust Fluid (Urea)	17 W 504087 7976264	Port Site	Sea Lift Laydown	> 150 m	17-331	No
6-Sep-17	2000	Sediment	17 W 503131 7977099	Port Site	Ore Dock	0 m	17-336	No
8-Sep-17	200	Fuel - Jet A	17 W 558303 7914524	Mine Site	MS-HWB-4	> 500 m	17-340	Yes
11-Sep-17	-	Non-Compliant Effluent (MS-08)	17 W 562855 7916790	Mine Site	MS-08	> 3 km	17-361	No
12-Sep-17	100	Fuel - Diesel	17 W 529265 7926918	Tote Road (KM 51-100)	KM 62	> 10 m	17-342	No
12-Sep-17	200 lbs	Ammonium Nitrate	17 W 555003 7914654	Tote Road (KM 51-100)	KM 97	> 250 m	17-343	No
13-Sep-17	25 000	Water (Treated)	17 W 561269 7913242	Mine Site	Potable Water Plant	> 100 m	17-346	No
21-Sep-17	1000	Sewage (Treated)	17 W 503606 7976064	Port Site	WWTP Effluent Line	> 100 m	17-360 ¹	No
27-Sep-17	-	Non-Compliant Effluent (MS-08)	17 W 562855 7916790	Mine Site	MS-08	> 3 km	17-312 ²	No
23-Oct-17	200	Fuel - Diesel	17 W 503708 7976185	Port Site	MP Fuelling Station	> 200 m	17-392	Yes
25-Nov-17	300	Waste Oil	17 W 558305 7914462	Mine Site	MS-HWB-7	> 400 m	17-428	Yes
21-Dec-17	600	Grey Water	17 W 558106 7914488	Mine Site	WH Grey Water LS	> 200 m	17-451	No
23-Dec-17	150	Sewage (Untreated)	17 W 503981 7975985	Port Site	PSC - BA Wing S LS	> 150 m	17-452	No
24-Dec-17	300	Sewage (Untreated)	17 W 503914 7975985	Port Site	PSC - BD Wing S LS	> 100 m	17-453	No

¹ An additional spill event at the same location was reported as an update to Spill Report No. 17-360 on September 25, 2017.

² An update to Spill Report No. 17-312 previously submitted on August 26, 2017.

TABLE 5.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER LICENCE WATER QUALITY MONITORING LOCATIONS**

Monitoring Station	Description	UTM Coordinates (NAD83)		Latitude	Longitude	Status in 2017
		Easting (m)	Northing (m)			
Milne Port Site						
MP-MRY-2	Fresh Water Intake at Philips Creek (Summer)	514,503	7,964,579	71° 46' 52" N	80° 35' 4" W	Inactive
MP-MRY-3	Fresh Water Intake from Km 32 Lake (Winter)	521,547	7,953,735	71° 41' 00" N	80° 23' 09" W	Active
MP-01	Milne Port Sewage Treatment Facilities (discharge into ditch prior to ocean)	503,209	7,976,485	71° 53' 18" N	80° 54' 27" W	Active
MP-01a	Milne Port Waste Stabilisation Pond (PWSP)	503,625	7,976,015	71° 53' 03" N	80° 53' 44" W	Active
MP-03	Milne Port Bulk Fuel Storage Facility Stormwater	503,638	7,976,272	71° 52' 11" N	80° 53' 43" W	Active
MP-04	Milne Port Landfarm Facility Storm Water	503,710	7,975,574	71° 52' 49" N	80° 53' 35" W	Active
MP-MRY-04	Milne Exploration Phase Sewage Treatment Facilities	503,462	7,975,764	71° 52' 55" N	80° 54' 01" W	Inactive (Decommissioned)
MP-MRY-04a	Milne Exploration Phase Sewage PWSP	503,344	7,976,118	71° 53' 06" N	80° 54' 13" W	Inactive (Decommissioned)
MP-05	Milne Port Ore Stockpile Sedimentation Pond (East)	503,469	7,976,383	71° 53' 15" N	80° 54' 00" W	Active
MP-06	Milne Port Ore Stockpile Sedimentation Pond (West)	503,125	7,976,364	71° 53' 14" N	80° 54' 36" W	Active
MP-MRY-7	Milne Exploration Phase Bladder Farm Fuel Storage Facility Storm water	503,309	7,976,097	71° 53' 06" N	80° 54' 17" W	Inactive (Decommissioned)
MP-MRY-12	Bulk Sample Stockpile Area Seepage	503,357	7,976,453	71° 53' 17" N	80° 54' 11" W	Inactive
MP-C-A	Surface discharge downstream of construction area at Milne Port	503,214	7,976,483	71° 53' 18" N	80° 54' 27" W	Inactive
MP-C-B		503,191	7,975,396	71° 52' 43" N	80° 54' 29" W	Active
MP-C-B01		503,242	7,975,558	71° 52' 48" N	80° 54' 24" W	Active
MP-C-C		503,436	7,975,427	71° 52' 44" N	80° 54' 04" W	Inactive
MP-C-D		503,651	7,976,363	71° 53' 14" N	80° 53' 41" W	Inactive
MP-C-E		503,736	7,976,346	71° 53' 14" N	80° 53' 32" W	Active
MP-C-F		503,922	7,976,304	71° 53' 12" N	80° 53' 13" W	Active
MP-C-G		502,939	7,976,238	71° 53' 10" N	80° 54' 55" W	Inactive
MP-C-H		504,113	7,976,509	71° 53' 19" N	80° 52' 53" W	Active
MP-Q1-01		Surface Runoff and/or Discharge Quarries	503,828	7,975,062	71° 52' 32" N	80° 53' 23" W
MP-Q1-02	503,811		7,975,272	71° 52' 39" N	80° 53' 25" W	Active
Mary River Mine Site						
MS-MRY-1	Fresh Water Intake from Camp Lake	557,793	7,914,684	71° 19' 38.6" N	79° 22' 57" W	Active
MS-01	Mine Site Sewage Treatment Facilities	561,322	7,913,257	71° 18' 49.4" N	79° 17' 5.6" W	Active
MS-02	Mine Site Maintenance Shop Oily Water WWTF (Truck Wash)	561,638	7,913,222	71° 18' 48" N	79° 16' 34" W	Active (no discharge to receiving environment)

TABLE 5.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 QIA AND NWB ANNUAL REPORT
WATER LICENCE WATER QUALITY MONITORING LOCATIONS**

Monitoring Station	Description	UTM Coordinates (NAD83)		Latitude	Longitude	Status in 2017
		Easting (m)	Northing (m)			
MS-03	Mine Site Bulk Fuel Storage Facility Stormwater	561,258	7,913,304	71° 18' 51" N	79° 17' 12" W	Active (no discharge to receiving environment)
MS-MRY-4	Exploration Camp Sewage Treatment Facility (used as holding tank for Weatherhaven Camp)	558,141	7,914,427	71° 19' 30" N	79° 22' 22.6" W	Inactive (used as holding tank)
MS-MRY-4a	Exploration Camp Polishing Waste Stabilization Ponds (PWSP)	558,470	7,914,237	71° 19' 23.6" N	79° 21' 50" W	Active
MS-MRY-6	Exploration Camp Bulk Fuel Storage Facility (Bladder Farm) Stormwater	558,186	7,914,780	71° 19' 41" N	79° 22' 17" W	Active
MS-06	Ore Stockpile Pond Stormwater (Crusher Pad)	561,475	7,913,000	71° 18' 41" N	79° 16' 51" W	Active
MS-08	Waste Rock Stockpile West Pond	563,492	7,916,273	71° 20' 25" N	79° 13' 18" W	Active
MS-MRY-9	Bulk Sample Open Pit - Surface water drainage (to become inactive in future)	563,246	7,914,632	71° 19' 32" N	79° 13' 48" W	Inactive (no flow)
MS-MRY-10	Bulk Sample Weathered Ore Stockpile - Downstream surface water drainage (to become inactive in the future)	563,488	7,915,197	71° 19' 50" N	79° 13' 22" W	Inactive (no flow)
MS-MRY-11	Bulk Sample Processing - Downstream surface water discharge (to become inactive in the future)	560,690	7,913,350	71° 18' 53" N	79° 18' 09" W	Inactive (no flow)
MS-MRY-13a & MS-MRY-13b	Non-Hazardous Landfill Facility - Downstream surface water drainage	13a: 560,754 13b: 560,642	13a: 7,912,484 13b: 7,912,527	13a: 71° 18' 25" N 13b: 71° 18' 26.5" N	13a: 79° 18' 5" W 13b: 79° 18' 16.1" W	Active
MS-C-A	Surface discharge downstream of construction area at Mine Site	561,263	7,913,571	71° 19' 00" N	79° 17' 11" W	Active
MS-C-B		561,454	7,913,537	71° 18' 58" N	79° 16' 52" W	Active
MS-C-C		561,110	7,913,199	71° 18' 48" N	79° 17' 27" W	Active
MS-C-D		561,008	7,913,280	71° 18' 50" N	79° 17' 37" W	Active
MS-C-E		560,980	7,913,388	71° 18' 54" N	79° 17' 40" W	Active
MS-C-F		561,797	7,913,278	71° 18' 49" N	79° 16' 17" W	Active
MS-C-G		561,813	7,911,830	71° 18' 03" N	79° 16' 20" W	Active
MS-C-H		561,162	7,912,067	71° 18' 11" N	79° 17' 25" W	Active
MQ-C-A	Surface Runoff and/or Discharge Quarries	559,489	7,914,408	71° 19' 28" N	79° 20' 07" W	Active
MQ-C-B		560,076	7,913,888	71° 19' 11" N	79° 19' 09" W	Active
MQ-C-D		559,422	7,914,223	71° 19' 23" N	79° 20' 14" W	Active
MQ-C-E		563,351	7,912,902	71° 18' 36" N	79° 13' 42" W	Active

Notes:

Monitoring Station names beginning with MP-Q and MQ-C correspond to QIA Quarry Lease and Quarry Management Plans

TABLE 5.2.1
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-01

Analyte	Sample ID			MP-01	MP-01 EFFLUENT	MP-01 EFFLUENT DUP	WWTP DISCHARGE VAC	MP-01-TRUCK	MP-01-TRUCK	MP-01
	ALS Laboratory Sample ID			L1876935-1	L1888655-1	L1888655-2	L1896436-1	L1898972-3	L1904338-1	L1909692-1
	Sample Date & Time			1/3/2017 3:00:00 PM	2/7/2017 3:30:00 PM	2/7/2017 3:30:00 PM	2/28/2017 2:50:00 PM	3/7/2017 3:30:00 PM	3/21/2017 11:00:00 AM	4/4/2017 3:30:00 PM
	QA/QC Sample Type			N/A	N/A	Duplicate	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
pH	pH units	0.1	6.0 - 9.5	7.58	7.67	7.69	7.76	7.64	7.74	7.65
Total Suspended Solids	mg/L	2	<120	8.7	<2.0	<2.0	2.2	<2.0	<2.0	<2.0
Alkalinity, Total (as CaCO ₃)	mg/L	10	-	78	81	83	84	74	99	90
Ammonia, Total (as N)	mg/L	0.02	-	0.243	0.072	0.075	<0.020	0.039	0.103	0.06
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.69	2.37	2.12	9.6	8.6	6.9	7.2
Phosphorus, Total	mg/L	0.003	-	11.2	9.77	9.57	9.88	8.25	9.22	8.91
Fecal Coliforms	CFU/100mL	0	10,000	-	0	0	50000	0	20	11
BOD	mg/L	2	100	-	<2.0	<2.0	3.7	<2.0	<2.0	<2.0
COD	mg/L	10	-	38	28	28	93	31	28	30
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
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: Effluent Quality Discharge Limits for Sewage Treatment Facilities to the Ocean

² Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³ Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.1
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MP-01
	ALS Laboratory Sample ID			L1920536-1	233460	L1938021-1	L1954209-1	L1969204-1	L1987402-1	L2009586-1
	Sample Date & Time			5/2/2017 2:00:00 PM	5/2/2017 2:00:00 PM	6/6/2017 2:00:00 PM	7/4/2017 2:00:00 PM	8/1/2017 2:00:00 PM	9/5/2017 2:30:00 PM	10/17/2017 2:00:00 PM
	QA/QC Sample Type			N/A	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	6.85	-	7.7	7.73	7.57	7.63	7.51
Total Suspended Solids	mg/L	2	<120	3.8	-	<2.0	2.3	3	2.1	13.2
Alkalinity, Total (as CaCO ₃)	mg/L	10	-	26	-	85	96	83	88	79
Ammonia, Total (as N)	mg/L	0.02	-	0.327	-	0.052	0.099	2.28	0.106	0.114
Total Kjeldahl Nitrogen	mg/L	0.15	-	6.2	-	6.4	2.51	4.33	1.92	2
Phosphorus, Total	mg/L	0.003	-	11.7	-	10.5	11.1	10.3	8.54	8.16
Fecal Coliforms	CFU/100mL	0	10,000	5	-	0	0	0	<2	0
BOD	mg/L	2	100	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0
COD	mg/L	10	-	32	-	30	28	34	23	25
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	<2.0	<2.0	<2.0	<2.0	<2.0
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: Effluent Quality Discharge Limits for Sewage Treatment Facilities to the Ocean

² Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³ Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.1
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-01

Analyte	Sample ID			MP-0101	MP-0103	MP-01	MP-01	MP-0101	MP-0103
	ALS Laboratory Sample ID			L2009586-3	L2009586-4	L2023694-1	L2035927-1	L2035927-3	L2035927-4
	Sample Date & Time			10/17/2017 2:10:00 PM	10/17/2017 2:10:00 PM	11/14/2017 2:45:00 PM	12/12/2017 2:45:00 PM	12/12/2017 2:45:00 PM	12/12/2017 2:45:00 PM
	QA/QC Sample Type			Duplicate	Travel Blank	N/A	N/A	Duplicate	Travel Blank
	Units	LOR	Water Licence Criteria ¹						
pH	pH units	0.1	6.0 - 9.5	7.46	6.07	7.77	7.88	7.79	6.45
Total Suspended Solids	mg/L	2	<120	37	4.2	<2.0	2.3	3.6	<2.0
Alkalinity, Total (as CaCO ₃)	mg/L	10	-	80	<10	165	196	196	<10
Ammonia, Total (as N)	mg/L	0.02	-	0.199	<0.020	0.116	0.097	0.075	<0.020
Total Kjeldahl Nitrogen	mg/L	0.15	-	2.1	<0.15	1.91	1.85	1.63	<0.15
Phosphorus, Total	mg/L	0.003	-	8.29	<0.0030	8.67	10.4	10.3	0.0033
Fecal Coliforms	CFU/100mL	0	10,000	1	0	1	0	0	0
BOD	mg/L	2	100	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
COD	mg/L	10	-	28	<10	22	33	32	<10
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	<2.0	<2.0	2.5	<2.0
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: Effluent Quality Discharge Limits for Sewage Treatment Facilities to the Ocean

² Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³ Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.2
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-03

Analyte	Sample ID			MP-03 @ 1510 ²	MP-03 @ 1530 ²	MP-03-25
	ALS Laboratory Sample ID			L1933804-2	L1933804-1	L1945629-1
	Sample Date & Time			5/29/2017 3:10:00 PM	5/29/2017 3:30:00 PM	6/20/2017 11:45:00 AM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹			
pH	pH units	0.1	-	7.65	7.55	9.03
Total Suspended Solids	mg/L	2	-	<2.0	4.3	<2.0
Total Dissolved Solids	mg/L	20	-	305	176	506
Turbidity	NTU	0.1	-	14.8	41.4	-
Ammonia, Total (as N)	mg/L	0.02	-	0.483	0.326	0.428
Phosphorus, Total	mg/L	0.003	-	0.0155	0.0302	1.94
Aluminum (Al)-Total	mg/L	0.01	-	0.352	0.668	<0.010
Antimony (Sb)-Total	mg/L	0.0001	-	0.00023	0.00024	0.00046
Arsenic (As)-Total	mg/L	0.0001	-	0.00015	0.00016	0.00038
Barium (Ba)-Total	mg/L	0.0002	-	0.0107	0.0125	0.00195
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	-	0.072	0.034	<0.010
Cadmium (Cd)-Total	mg/L	0.00001	-	0.000069	0.000069	<0.000010
Calcium (Ca)-Total	mg/L	0.5	-	22	14.2	24.5
Cesium (Cs)-Total	mg/L	0.00001	-	0.000068	0.0001	0.00258
Chromium (Cr)-Total	mg/L	0.0005	-	<0.00050	0.00152	<0.00050
Cobalt (Co)-Total	mg/L	0.0001	-	0.00029	0.00039	<0.00010
Copper (Cu)-Total	mg/L	0.001	-	0.0028	0.0024	0.0012
Iron (Fe)-Total	mg/L	0.05	-	0.274	0.589	<0.050
Lead (Pb)-Total	mg/L	0.00005	0.001	0.000498	0.00152	0.000155
Lithium (Li)-Total	mg/L	0.001	-	0.0074	0.0047	0.0156
Magnesium (Mg)-Total	mg/L	0.05	-	10.7	7.6	20.6
Manganese (Mn)-Total	mg/L	0.0005	-	0.0899	0.0344	0.0039
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.0026	0.00165	0.0065
Nickel (Ni)-Total	mg/L	0.0005	-	0.00085	0.00101	<0.00050
Phosphorus (P)-Total	mg/L	0.05	-	<0.050	<0.050	2.15
Potassium (K)-Total	mg/L	0.05	-	5.7	3.09	37.7
Rubidium (Rb)-Total	mg/L	0.0002	-	0.00533	0.00325	0.123
Selenium (Se)-Total	mg/L	0.00005	-	0.000066	<0.000050	0.000505
Silicon (Si)-Total	mg/L	0.1	-	1.44	1.68	9.71
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	mg/L	0.5	-	53.3	43.3	107
Strontium (Sr)-Total	mg/L	0.001	-	0.0765	0.049	0.23
Sulfur (S)-Total	mg/L	0.5	-	4.49	2.75	8.02
Tellurium (Te)-Total	mg/L	0.0002	-	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	0.00001	-	0.000018	0.00002	<0.000010
Thorium (Th)-Total	mg/L	0.0001	-	0.00014	0.00024	<0.00010
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Total	mg/L	0.0003	-	0.00696	0.019	0.00031
Tungsten (W)-Total	mg/L	0.0001	-	0.00158	0.00016	<0.00010
Uranium (U)-Total	mg/L	0.00001	-	0.0894	0.0127	0.0455
Vanadium (V)-Total	mg/L	0.0005	-	<0.00050	0.00074	0.00053
Zinc (Zn)-Total	mg/L	0.003	-	0.0098	0.0189	<0.0030
Zirconium (Zr)-Total	mg/L	0.0003	-	0.00067	0.0009	<0.00030
Oil and Grease, Total	mg/L	2	15 and No Visible Sheen	8.9	<2.0	<2.0
Animal/Veg Oil & Grease	mg/L	2	-	-	-	<2.0
Mineral Oil and Grease	mg/L	1	-	-	-	<1.0
Benzene	ug/L	0.5	370	0.54	<0.50	<0.50
Ethylbenzene	ug/L	0.5	90	2.62	1.17	<0.50
Toluene	ug/L	0.5	2	5.83	1.89	<0.50
o-Xylene	ug/L	0.3	-	8.98	6.26	<0.30
m+p-Xylenes	ug/L	0.4	-	14.3	9.47	<0.40
Xylenes (Total)	ug/L	0.5	-	23.3	15.7	<0.50
4-Bromofluorobenzene	%	Surrogate	-	101.1	104.9	99.4
1,4-Difluorobenzene	%	Surrogate	-	97.6	101.6	99
F1 (C6-C10)	ug/L	25	-	104	98	<25
F1-BTEX	ug/L	25	-	71	80	<25
F2 (C10-C16)	ug/L	100	-	3550	1750	<100
F3 (C16-C34)	ug/L	250	-	1250	540	<250
F4 (C34-C50)	ug/L	250	-	<250	<250	<250
Total Hydrocarbons (C6-C50)	ug/L	370	-	4900	2400	<370
Chrom. to baseline at nC50		n/a	-	YES	YES	YES
2-Bromobenzotrifluoride	%	Surrogate	-	92.2	96.8	105.4
3,4-Dichlorotoluene	%	Surrogate	-	97.4	100.5	96.4

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 8: Effluent Quality Discharge Limits for the Bulk Fuel Storage Facilities

²Internal samples. Effluent not discharging to the environment.

TABLE 5.2.2
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-03-01
	ALS Laboratory Sample ID			L1952926-1	L1954231-1	L1973869-1
	Sample Date & Time			6/30/2017 7:45:00 AM	7/4/2017 12:15:00 PM	8/10/2017 1:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹			
pH	pH units	0.1	-	8.61	8.17	8.01
Total Suspended Solids	mg/L	2	-	<2.0	<2.0	3.2
Total Dissolved Solids	mg/L	20	-	-	-	-
Turbidity	NTU	0.1	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-
Phosphorus, Total	mg/L	0.003	-	-	-	-
Aluminum (Al)-Total	mg/L	0.01	-	-	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	-	-	-
Arsenic (As)-Total	mg/L	0.0001	-	-	-	-
Barium (Ba)-Total	mg/L	0.0002	-	-	-	-
Beryllium (Be)-Total	mg/L	0.0001	-	-	-	-
Bismuth (Bi)-Total	mg/L	0.00005	-	-	-	-
Boron (B)-Total	mg/L	0.01	-	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-	-	-
Calcium (Ca)-Total	mg/L	0.5	-	-	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	-	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	-	-	-
Copper (Cu)-Total	mg/L	0.001	-	-	-	-
Iron (Fe)-Total	mg/L	0.05	-	-	-	-
Lead (Pb)-Total	mg/L	0.00005	0.001	0.00026	0.00044	<0.00050
Lithium (Li)-Total	mg/L	0.001	-	-	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	-	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	-	-
Nickel (Ni)-Total	mg/L	0.0005	-	-	-	-
Phosphorus (P)-Total	mg/L	0.05	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	-	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	-	-	-
Silicon (Si)-Total	mg/L	0.1	-	-	-	-
Silver (Ag)-Total	mg/L	0.00005	-	-	-	-
Sodium (Na)-Total	mg/L	0.5	-	-	-	-
Strontium (Sr)-Total	mg/L	0.001	-	-	-	-
Sulfur (S)-Total	mg/L	0.5	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	-	-	-
Thorium (Th)-Total	mg/L	0.0001	-	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	-	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	-	-	-
Tungsten (W)-Total	mg/L	0.0001	-	-	-	-
Uranium (U)-Total	mg/L	0.00001	-	-	-	-
Vanadium (V)-Total	mg/L	0.0005	-	-	-	-
Zinc (Zn)-Total	mg/L	0.003	-	-	-	-
Zirconium (Zr)-Total	mg/L	0.0003	-	-	-	-
Oil and Grease, Total	mg/L	2	15 and No Visible Sheen	<2.0	<2.0	3.7
Animal/Veg Oil & Grease	mg/L	2	-	-	-	-
Mineral Oil and Grease	mg/L	1	-	-	-	-
Benzene	ug/L	0.5	370	<0.50	<0.50	<0.50
Ethylbenzene	ug/L	0.5	90	<0.50	<0.50	<0.50
Toluene	ug/L	0.5	2	<0.50	<0.50	1.03
o-Xylene	ug/L	0.3	-	<0.50	<0.50	1.53
m+p-Xylenes	ug/L	0.4	-	<1.0	<1.0	2.1
Xylenes (Total)	ug/L	0.5	-	<1.1	<1.1	3.6
4-Bromofluorobenzene	%	Surrogate	-	100.2	101.1	108.5
1,4-Difluorobenzene	%	Surrogate	-	99.1	99.4	102.7
F1 (C6-C10)	ug/L	25	-	<100	<100	<100
F1-BTEX	ug/L	25	-	<100	<100	<100
F2 (C10-C16)	ug/L	100	-	<100	<100	1560
F3 (C16-C34)	ug/L	250	-	<250	<250	720
F4 (C34-C50)	ug/L	250	-	<250	<250	<250
Total Hydrocarbons (C6-C50)	ug/L	370	-	<380	<380	2280
Chrom. to baseline at nC50		n/a	-	YES	YES	YES
2-Bromobenzotrifluoride	%	Surrogate	-	97.9	105.6	91.2
3,4-Dichlorotoluene	%	Surrogate	-	91.7	97.2	90.5

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 8: Effluent Quality Discharge Limits for the Bulk Fuel Storage Facilities

²Internal samples. Effluent not discharging to the environment.

TABLE 5.2.2
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-03

Analyte	Sample ID			MP-03-02	MP-03-3	MP-03-2
	ALS Laboratory Sample ID			L1973869-2	L1987159-1	L1987159-2
	Sample Date & Time			8/10/2017 1:10:00 PM	9/4/2017 10:15:00 AM	9/4/2017 10:30:00 AM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹			
pH	pH units	0.1	-	8.12	8.09	7.89
Total Suspended Solids	mg/L	2	-	2.6	<2.0	<2.0
Total Dissolved Solids	mg/L	20	-	-	519	-
Turbidity	NTU	0.1	-	-	4.31	-
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-
Phosphorus, Total	mg/L	0.003	-	-	-	-
Aluminum (Al)-Total	mg/L	0.01	-	-	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	-	-	-
Arsenic (As)-Total	mg/L	0.0001	-	-	-	-
Barium (Ba)-Total	mg/L	0.0002	-	-	-	-
Beryllium (Be)-Total	mg/L	0.0001	-	-	-	-
Bismuth (Bi)-Total	mg/L	0.00005	-	-	-	-
Boron (B)-Total	mg/L	0.01	-	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-	-	-
Calcium (Ca)-Total	mg/L	0.5	-	-	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	-	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	-	-	-
Copper (Cu)-Total	mg/L	0.001	-	-	-	-
Iron (Fe)-Total	mg/L	0.05	-	-	-	-
Lead (Pb)-Total	mg/L	0.00005	0.001	<0.00050	0.00037	0.00037
Lithium (Li)-Total	mg/L	0.001	-	-	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	-	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	-	-
Nickel (Ni)-Total	mg/L	0.0005	-	-	-	-
Phosphorus (P)-Total	mg/L	0.05	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	-	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	-	-	-
Silicon (Si)-Total	mg/L	0.1	-	-	-	-
Silver (Ag)-Total	mg/L	0.00005	-	-	-	-
Sodium (Na)-Total	mg/L	0.5	-	-	-	-
Strontium (Sr)-Total	mg/L	0.001	-	-	-	-
Sulfur (S)-Total	mg/L	0.5	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	-	-	-
Thorium (Th)-Total	mg/L	0.0001	-	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	-	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	-	-	-
Tungsten (W)-Total	mg/L	0.0001	-	-	-	-
Uranium (U)-Total	mg/L	0.00001	-	-	-	-
Vanadium (V)-Total	mg/L	0.0005	-	-	-	-
Zinc (Zn)-Total	mg/L	0.003	-	-	-	-
Zirconium (Zr)-Total	mg/L	0.0003	-	-	-	-
Oil and Grease, Total	mg/L	2	15 and No Visible Sheen	3.7	<2.0	<2.0
Animal/Veg Oil & Grease	mg/L	2	-	-	-	-
Mineral Oil and Grease	mg/L	1	-	-	-	-
Benzene	ug/L	0.5	370	<0.50	<0.50	<0.50
Ethylbenzene	ug/L	0.5	90	0.65	<0.50	<0.50
Toluene	ug/L	0.5	2	1.95	0.69	<0.50
o-Xylene	ug/L	0.3	-	3.01	1.29	0.74
m+p-Xylenes	ug/L	0.4	-	4.1	1.4	<1.0
Xylenes (Total)	ug/L	0.5	-	7.1	2.7	<1.1
4-Bromofluorobenzene	%	Surrogate	-	123.8	105.6	112.9
1,4-Difluorobenzene	%	Surrogate	-	103.1	101.5	101.9
F1 (C6-C10)	ug/L	25	-	<100	<100	<100
F1-BTEX	ug/L	25	-	<100	<100	<100
F2 (C10-C16)	ug/L	100	-	1630	1230	3430
F3 (C16-C34)	ug/L	250	-	700	670	1150
F4 (C34-C50)	ug/L	250	-	<250	<250	<250
Total Hydrocarbons (C6-C50)	ug/L	370	-	2340	1900	4580
Chrom. to baseline at nC50		n/a	-	YES	YES	YES
2-Bromobenzotrifluoride	%	Surrogate	-	93.2	93.1	92.7
3,4-Dichlorotoluene	%	Surrogate	-	97.3	92.3	95.6

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 8: Effluent Quality Discharge Limits for the Bulk Fuel Storage Facilities

²Internal samples. Effluent not discharging to the environment.

TABLE 5.2.2
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-03

Analyte	Sample ID			MP-03	MP-03
	ALS Laboratory Sample ID			L1988825-1	L1990185-1
	Sample Date & Time			9/9/2017 10:40:00 AM	9/10/2017 2:00:00 PM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence Criteria ¹		
pH	pH units	0.1	-	8.03	7.77
Total Suspended Solids	mg/L	2	-	<2.0	4
Total Dissolved Solids	mg/L	20	-	595	970
Turbidity	NTU	0.1	-	2.76	2.7
Ammonia, Total (as N)	mg/L	0.02	-	-	-
Phosphorus, Total	mg/L	0.003	-	-	-
Aluminum (Al)-Total	mg/L	0.01	-	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	-	-
Arsenic (As)-Total	mg/L	0.0001	-	-	-
Barium (Ba)-Total	mg/L	0.0002	-	-	-
Beryllium (Be)-Total	mg/L	0.0001	-	-	-
Bismuth (Bi)-Total	mg/L	0.00005	-	-	-
Boron (B)-Total	mg/L	0.01	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-	-
Calcium (Ca)-Total	mg/L	0.5	-	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	-	-
Copper (Cu)-Total	mg/L	0.001	-	-	-
Iron (Fe)-Total	mg/L	0.05	-	-	-
Lead (Pb)-Total	mg/L	0.00005	0.001	-	-
Lithium (Li)-Total	mg/L	0.001	-	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	-
Nickel (Ni)-Total	mg/L	0.0005	-	-	-
Phosphorus (P)-Total	mg/L	0.05	-	-	-
Potassium (K)-Total	mg/L	0.05	-	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	-	-
Silicon (Si)-Total	mg/L	0.1	-	-	-
Silver (Ag)-Total	mg/L	0.00005	-	-	-
Sodium (Na)-Total	mg/L	0.5	-	-	-
Strontium (Sr)-Total	mg/L	0.001	-	-	-
Sulfur (S)-Total	mg/L	0.5	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	-	-
Thorium (Th)-Total	mg/L	0.0001	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	-	-
Tungsten (W)-Total	mg/L	0.0001	-	-	-
Uranium (U)-Total	mg/L	0.00001	-	-	-
Vanadium (V)-Total	mg/L	0.0005	-	-	-
Zinc (Zn)-Total	mg/L	0.003	-	-	-
Zirconium (Zr)-Total	mg/L	0.0003	-	-	-
Oil and Grease, Total	mg/L	2	15 and No Visible Sheen	-	-
Animal/Veg Oil & Grease	mg/L	2	-	-	-
Mineral Oil and Grease	mg/L	1	-	-	-
Benzene	ug/L	0.5	370	-	-
Ethylbenzene	ug/L	0.5	90	-	-
Toluene	ug/L	0.5	2	-	-
o-Xylene	ug/L	0.3	-	-	-
m+p-Xylenes	ug/L	0.4	-	-	-
Xylenes (Total)	ug/L	0.5	-	-	-
4-Bromofluorobenzene	%	Surrogate	-	-	-
1,4-Difluorobenzene	%	Surrogate	-	-	-
F1 (C6-C10)	ug/L	25	-	-	-
F1-BTEX	ug/L	25	-	-	-
F2 (C10-C16)	ug/L	100	-	-	-
F3 (C16-C34)	ug/L	250	-	-	-
F4 (C34-C50)	ug/L	250	-	-	-
Total Hydrocarbons (C6-C50)	ug/L	370	-	-	-
Chrom. to baseline at nC50		n/a	-	-	-
2-Bromobenzotrifluoride	%	Surrogate	-	-	-
3,4-Dichlorotoluene	%	Surrogate	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 8: Effluent Quality Discharge Limits for the Bulk Fuel Storage Facilities

² Internal samples. Effluent not discharging to the environment.

TABLE 5.2.3
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-04

Analyte	Sample ID			MP-04 ²	MP-04-A ³	MP-04 ³	MP-04-2	MP-04-3	MP-04-1	MP-04A
	ALS Laboratory Sample ID			L1941239-2	L1941239-3	L1968278-1	L1973496-2	L1973496-3	L1973496-1	L1972638-1
	Sample Date & Time			6/12/2017 12:00:00 PM	6/12/2017 5:45:00 PM	8/1/2017 1:00:00 PM	8/7/2017 6:00:00 PM	8/7/2017 6:30:00 PM	8/8/2017 8:30:00 AM	8/8/2017 8:30:00 PM
	QA/QC Sample Type			N/A	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	8.02	9.04	8.36	8.02	8.06	8.14	7.99
Total Suspended Solids	mg/L	2	15	5.8	19.7	6.8	7.3	7.1	7.9	<2.0
Total Dissolved Solids	mg/L	20	-	-	-	-	-	-	-	-
Turbidity	NTU	0.1	-	-	-	-	-	-	-	-
Lead (Pb)-Total	mg/L	0.0001	0.001	0.00087	0.00136	0.00197	0.00054	0.00054	0.00056	0.00076
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	-	0.000815	-	-	-	0.000309
Oil and Grease, Total	mg/L	2	15 and No Visible Sheen	<2.0	8.1	<2.0	<2.0	<2.0	<2.0	<2.0
Benzene	ug/L	0.5	370	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	ug/L	0.5	90	<0.50	0.55	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	ug/L	0.5	2	<0.50	0.6	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	ug/L	0.5	-	<0.50	1.49	<0.50	<0.50	<0.50	<0.50	<0.50
m+p-Xylenes	ug/L	1	-	<1.0	3	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (Total)	ug/L	1.1	-	<1.1	4.5	<1.1	<1.1	<1.1	<1.1	<1.1
4-Bromofluorobenzene	%	Surrogate	-	102.9	102.6	103.1	103.7	107.2	100.8	104.1
1,4-Difluorobenzene	%	Surrogate	-	100.5	101.4	104.5	101.5	101.6	103.1	104.5
F1 (C6-C10)	ug/L	100	-	<100	<100	<100	<100	<100	<100	<100
F1-BTEX	ug/L	100	-	<100	<100	<100	<100	<100	<100	<100
F2 (C10-C16)	ug/L	100	-	290	4630	<100	380	380	390	<100
F3 (C16-C34)	ug/L	250	-	1170	2190	380	860	910	930	380
F4 (C34-C50)	ug/L	250	-	<250	<250	<250	<250	<250	<250	<250
Total Hydrocarbons (C6-C50)	ug/L	380	-	1460	6820	<380	1250	1290	1310	380
Chrom. to baseline at nC50		n/a	-	YES	YES	YES	YES	YES	YES	YES
2-Bromobenzotrifluoride	%	Surrogate	-	95.2	90.2	92	91.3	97.9	97.5	100.7
3,4-Dichlorotoluene	%	Surrogate	-	91.4	80.3	75.7	100.8	96	93.2	76.2

Notes:

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 9: Effluent Quality Discharge Limits for the Landfarm Facilities

²Samples taken from the Milne Port Landfarm.

³Internal samples. Effluent not discharging to the environment.

TABLE 5.2.3
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-04

Analyte	Sample ID			MP-04 ²	MP-04 ²	MP-04A	MP-04A-20 ³	MP-04 ²	MP-04A
	ALS Laboratory Sample ID			L1978396-1	L1978437-1	L1981236-1	L1980960-1	L1984227-1	L1984168-1
	Sample Date & Time			8/20/2017 7:05:00 PM	8/21/2017 12:30:00 PM	8/22/2017 8:15:00 AM	8/24/2017 12:50:00 PM	8/24/2017 2:50:00 PM	8/29/2017 3:30:00 PM
	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	8.34	8.29	8.03	7.92	8.17	8.03
Total Suspended Solids	mg/L	2	15	2.8	7.6	23.8	6.5	5.5	3.8
Total Dissolved Solids	mg/L	20	-	345	365	-	-	400	-
Turbidity	NTU	0.1	-	4.92	7.15	-	-	10.9	-
Lead (Pb)-Total	mg/L	0.0001	0.001	-	-	0.00121	0.00138	-	0.00049
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	-	-	-	-	-
Oil and Grease, Total	mg/L	2	15 and No Visible Sheen	-	-	<2.0	<2.0	-	<2.0
Benzene	ug/L	0.5	370	-	-	<0.50	<0.50	-	<0.50
Ethylbenzene	ug/L	0.5	90	-	-	<0.50	<0.50	-	<0.50
Toluene	ug/L	0.5	2	-	-	<0.50	<0.50	-	<0.50
o-Xylene	ug/L	0.5	-	-	-	<0.50	<0.50	-	<0.50
m+p-Xylenes	ug/L	1	-	-	-	<1.0	<1.0	-	<1.0
Xylenes (Total)	ug/L	1.1	-	-	-	<1.1	<1.1	-	<1.1
4-Bromofluorobenzene	%	Surrogate	-	-	-	102.2	95.8	-	99.8
1,4-Difluorobenzene	%	Surrogate	-	-	-	99.9	100.1	-	102.8
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	-	<100
F3 (C16-C34)	ug/L	250	-	-	-	1580	<250	-	<250
F4 (C34-C50)	ug/L	250	-	-	-	<250	<250	-	<250
Total Hydrocarbons (C6-C50)	ug/L	380	-	-	-	1580	<380	-	<380
Chrom. to baseline at nC50		n/a	-	-	-	YES	YES	-	YES
2-Bromobenzotrifluoride	%	Surrogate	-	-	-	87.3	92.4	-	71.1
3,4-Dichlorotoluene	%	Surrogate	-	-	-	76	83.2	-	88

Notes:

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 9: Effluent Quality Discharge Limits for the Landfarm Facilities

²All samples taken from the landfarm. Supersedes sample ID

³Internal samples. Effluent not discharging to the environment.

TABLE 5.2.4
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-B01	MP-C-B	MP-C-B	MP-C-B	MP-C-B	MP-C-B
	ALS Laboratory Sample ID			L1927995-1	L1931308-1	L1931308-2	L1938001-5	L1941239-4	L1945624-2	L1950072-4	L1954224-4
	Sample Date & Time			5/15/2017 5:30:00 PM	5/22/2017 5:20:00 PM	5/22/2017 5:20:00 PM	6/5/2017 12:10:00 PM	6/12/2017 4:00:00 PM	6/20/2017 9:05:00 AM	6/26/2017 12:00:00 PM	7/3/2017 5:00:00 PM
	QA/QC Sample Type			N/A	N/A	Duplicate	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹								
Conductivity	umhos/cm	3	-	337	-	-	473	-	401	-	624
pH	pH units	0.1	6.0 - 9.5	7.99	7.95	7.98	8.12	8.28	8.28	8.23	-
Total Suspended Solids	mg/L	2	Grab 30, Average 15	4.9	10.8	13.2	12.4	8	3	6.4	-
Total Dissolved Solids	mg/L	10	-	-	138	175	-	253	-	250	-
Turbidity	NTU	0.1	-	-	9.54	11.6	-	36.8	-	12.6	-
Ammonia, Total (as N)	mg/L	0.02	-	0.211	-	-	0.46	-	0.232	-	0.104
Nitrate (as N)	mg/L	0.02	-	0.12	-	-	0.696	-	1.93	-	2.15
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	-	<2.0	-	<2.0	-	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.4
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MP-C-B	MP-C-B	MP-C-B-01
	ALS Laboratory Sample ID			L1957697-2	L1961578-2	L1969210-2	L1974157-2	L1976363-2	L1984172-6	L1984172-5
	Sample Date & Time			7/10/2017 1:30:00 PM	7/17/2017 8:20:00 AM	8/1/2017 9:20:00 AM	8/8/2017 3:45:00 PM	8/14/2017 4:15:00 PM	8/22/2017 10:00:00 AM	8/22/2017 10:00:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	Duplicate
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	-	724	761	-	774	-	-
pH	pH units	0.1	6.0 - 9.5	8.23	8.16	8.1	8.21	8.25	8.26	8.24
Total Suspended Solids	mg/L	2	Grab 30, Average 15	3.8	2.6	3.3	<2.0	3.6	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	414	-	-	451	-	465	466
Turbidity	NTU	0.1	-	4.19	-	-	1.75	-	1.79	1.6
Ammonia, Total (as N)	mg/L	0.02	-	-	0.136	0.055	-	0.091	-	-
Nitrate (as N)	mg/L	0.02	-	-	0.809	2.06	-	3.57	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	-	<2.0	<2.0	-	<2.0	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.4
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-B02	MP-C-B	MP-C-B03
	ALS Laboratory Sample ID			L1984045-3	L1987600-1	L1990177-5	L1990177-4	L1995168-1	L1995168-2
	Sample Date & Time			8/28/2017 11:45:00 AM	9/5/2017 10:45:00 AM	9/12/2017 12:00:00 PM	9/12/2017 12:00:00 PM	9/20/2017 12:00:00 PM	9/20/2017 5:15:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	Field Blank	N/A	Travel Blank
	Units	LOR	Water Licence Criteria ¹						
Conductivity	umhos/cm	3	-	794	662	-	-	893	<3.0
pH	pH units	0.1	6.0 - 9.5	8.2	8.29	8.09	6.41	7.97	6.7
Total Suspended Solids	mg/L	2	Grab 30, Average 15	3.4	4.3	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	449	<10	-	-
Turbidity	NTU	0.1	-	-	-	1.68	1.07	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.115	0.087	-	-	0.14	<0.020
Nitrate (as N)	mg/L	0.02	-	3.3	3.59	-	-	3.86	<0.020
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	-	<2.0	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.5
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MP-C-B01	MP-C-B01	MP-C-B0101
	ALS Laboratory Sample ID			L1938001-4	L1941239-7	L1945624-3	L1950072-5	L1954224-5	L1957697-3	L1957697-4
	Sample Date & Time			6/5/2017 11:50:00 AM	6/12/2017 4:10:00 PM	6/20/2017 9:10:00 AM	6/26/2017 12:10:00 PM	7/3/2017 5:50:00 PM	7/10/2017 12:30:00 PM	7/10/2017 1:45:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	Duplicate
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	467	-	396	-	605	-	-
pH	pH units	0.1	6.0 - 9.5	8.13	8.22	8.28	8.21	-	8.26	8.27
Total Suspended Solids	mg/L	2	Grab 30, Average 15	13.7	7.1	5	12.4	-	3.8	4.4
Total Dissolved Solids	mg/L	10	-	-	259	-	265	-	399	402
Turbidity	NTU	0.1	-	-	39.4	-	19.1	-	3.75	3.14
Ammonia, Total (as N)	mg/L	0.02	-	0.478	-	0.231	-	<0.020	-	-
Nitrate (as N)	mg/L	0.02	-	0.708	-	2	-	2.57	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	<2.0	-	<2.0	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.5
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MP-C-B0102	MP-C-B01	MP-C-B01-02
	ALS Laboratory Sample ID			L1961578-3	L1969210-3	L1974157-3	L1976363-3	L1976363-1	L1984172-3	L1984172-4
	Sample Date & Time			7/17/2017 8:40:00 AM	8/1/2017 9:00:00 AM	8/8/2017 3:40:00 PM	8/14/2017 4:35:00 PM	8/14/2017 4:35:00 PM	8/22/2017 9:45:00 AM	8/22/2017 9:45:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Field Blank	N/A	Field Blank
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	644	748	-	747	<3.0	-	-
pH	pH units	0.1	6.0 - 9.5	8.21	8.24	8.31	8.46	5.66	8.31	5.73
Total Suspended Solids	mg/L	2	Grab 30, Average 15	2.8	4.4	<2.0	2.4	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	448	-	-	442	<10
Turbidity	NTU	0.1	-	-	-	1.68	-	-	1.8	0.63
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	0.047	-	0.056	<0.020	-	-
Nitrate (as N)	mg/L	0.02	-	2.82	2.18	-	3.8	<0.020	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	<2.0	<2.0	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.5
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MP-C-B0101	MP-C-B0102
	ALS Laboratory Sample ID			L1984045-4	L1987600-2	L1990177-3	L1995168-3	L1995168-4	L1995168-5
	Sample Date & Time			8/28/2017 11:30:00 AM	9/5/2017 10:30:00 AM	9/12/2017 12:10:00 PM	9/20/2017 11:40:00 AM	9/20/2017 11:45:00 AM	9/20/2017 11:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Duplicate	Field Blank
	Units	LOR	Water Licence Criteria ¹						
Conductivity	umhos/cm	3	-	796	620	-	875	872	<3.0
pH	pH units	0.1	6.0 - 9.5	8.21	8.3	8.12	8.1	8.11	6.68
Total Suspended Solids	mg/L	2	Grab 30, Average 15	4.1	<2.0	<2.0	2.8	2.4	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	424	-	-	-
Turbidity	NTU	0.1	-	-	-	2.47	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.102	0.06	-	0.169	0.17	0.059
Nitrate (as N)	mg/L	0.02	-	3.36	3.56	-	3.89	3.87	<0.020
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	<2.0	<2.0	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.6
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-H	MP-C-H	MP-C-H	MP-C-H
	ALS Laboratory Sample ID			L1941239-1	L1945624-1	L1950072-1	L1951128-1	L1954224-2	233905	L1957697-1
	Sample Date & Time			6/12/2017 11:45:00 AM	6/19/2017 6:25:00 PM	6/26/2017 9:20:00 AM	6/27/2017 7:44:00 AM	7/4/2017 11:30:00 AM	7/4/2017 11:30:00 AM	7/10/2017 12:30:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	175	107	-	-	138	-	-
pH	pH units	0.1	6.0 - 9.5	7.99	8.06	7.77	7.78	8.13	-	8.05
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0	2	<2.0	-	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	38	20	-	-	98
Turbidity	NTU	0.1	-	-	-	0.28	0.1	-	-	0.51
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020	-	-	<0.020	-	-
Nitrate (as N)	mg/L	0.02	-	0.04	<0.020	-	-	<0.020	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	-	<2.0	-	-
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: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

² Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³ Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.6
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MP-C-H	MP-C-H
	ALS Laboratory Sample ID			L1961578-1	L1961578-4	L1967088-1	L1969210-1	L1974157-1	L1976363-7	L1984172-2
	Sample Date & Time			7/17/2017 2:35:00 PM	7/17/2017 2:35:00 PM	7/24/2017 2:45:00 PM	8/1/2017 2:00:00 PM	8/8/2017 3:15:00 PM	8/15/2017 2:20:00 PM	8/22/2017 11:55:00 AM
	QA/QC Sample Type			N/A	Duplicate	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	213	213	-	239	-	299	-
pH	pH units	0.1	6.0 - 9.5	8.17	8.19	8.18	8.17	8.25	8.29	8.3
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	98	-	137	-	148
Turbidity	NTU	0.1	-	-	-	0.26	-	0.37	-	0.57
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020	-	<0.020	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	<0.020	<0.020	-	0.053	-	0.047	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	<2.0	-	<2.0	-
Acute Lethality ^{2,3}	N/A		-	-	-	-	-	-	-	-

Notes:

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

¹ Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

² Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³ Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.6
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MP-C-H01
	ALS Laboratory Sample ID			L1984045-1	L1984045-2	L1987600-5	L1990177-2	L1995168-6	L1995168-7
	Sample Date & Time			8/28/2017 11:00:00 AM	8/28/2017 11:00:00 AM	9/5/2017 9:00:00 AM	9/11/2017 3:05:00 PM	9/20/2017 10:40:00 AM	9/20/2017 10:45:00 AM
	QA/QC Sample Type			N/A	Duplicate	N/A	N/A	N/A	Duplicate
	Units	LOR	Water Licence Criteria ¹						
Conductivity	umhos/cm	3	-	335	334	290	-	320	321
pH	pH units	0.1	6.0 - 9.5	8.27	8.27	8.3	8.18	8.02	8.11
Total Suspended Solids	mg/L	2	Grab 30, Average 15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	-	178	-	-
Turbidity	NTU	0.1	-	-	-	-	0.37	-	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	0.028	<0.020	-	<0.020	<0.020
Nitrate (as N)	mg/L	0.02	-	0.08	0.078	0.077	-	0.063	0.058
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	<2.0	-	<2.0	<2.0
Acute Lethality ^{2,3}	N/A		-	-	-	-	-	-	-

Notes:

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

¹ Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

² Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³ Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.7
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-05

Analyte	Sample ID			MP-05
	ALS Laboratory Sample ID			L1994794-1
	Sample Date & Time			9/12/2017 4:30:00 PM
	QA/QC Sample Type			N/A
	Units	LOR	Water Licence Criteria ¹	
Hardness (as CaCO3)	mg/L	10	-	-
pH	pH units	0.1	6.0 - 9.5	8.2
Total Suspended Solids	mg/L	2	15	2.3
Total Dissolved Solids	mg/L	13	-	838
Turbidity	NTU	0.1	-	1.29
Alkalinity, Total (as CaCO3)	mg/L	10	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-
Bromide (Br)	mg/L	0.1	-	-
Chloride (Cl)	mg/L	0.5	-	-
Fluoride (F)	mg/L	0.02	-	-
Nitrate (as N)	mg/L	0.02	-	-
Nitrite (as N)	mg/L	0.01	-	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	-
Phosphorus, Total	mg/L	0.003	-	-
Sulfate (SO4)	mg/L	0.3	-	-
Dissolved Organic Carbon	mg/L	1	-	-
Total Organic Carbon	mg/L	1	-	-
Aluminum (Al)-Total	mg/L	0.01	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	-
Barium (Ba)-Total	mg/L	0.0002	-	-
Beryllium (Be)-Total	mg/L	0.0001	-	-
Bismuth (Bi)-Total	mg/L	0.00005	-	-
Boron (B)-Total	mg/L	0.01	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-
Calcium (Ca)-Total	mg/L	0.5	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	-
Iron (Fe)-Total	mg/L	0.05	-	-
Lead (Pb)-Total	mg/L	0.00005	0.2	-
Lithium (Li)-Total	mg/L	0.001	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	-
Phosphorus (P)-Total	mg/L	0.05	-	-
Potassium (K)-Total	mg/L	0.05	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-
Selenium (Se)-Total	mg/L	0.00005	-	-
Silicon (Si)-Total	mg/L	0.1	-	-
Silver (Ag)-Total	mg/L	0.00005	-	-
Sodium (Na)-Total	mg/L	0.5	-	-
Strontium (Sr)-Total	mg/L	0.001	-	-
Sulfur (S)-Total	mg/L	0.5	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	-
Thorium (Th)-Total	mg/L	0.0001	-	-
Tin (Sn)-Total	mg/L	0.0001	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	-
Tungsten (W)-Total	mg/L	0.0001	-	-
Uranium (U)-Total	mg/L	0.00001	-	-
Vanadium (V)-Total	mg/L	0.0005	-	-
Zinc (Zn)-Total	mg/L	0.003	0.5	-
Zirconium (Zr)-Total	mg/L	0.0003	-	-
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	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	-
Phenols (4AAP)	mg/L	0.001	-	-
Acute Lethality ^{2,3}	N/A		Non-Lethal	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Ponds

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.8
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-06

Analyte	Sample ID			MP-06	MP-06	MP-06	MP-06
	ALS Laboratory Sample ID			L1931746-2	L1933218-1	233644	L1937982-1
	Sample Date & Time			5/25/2017 2:15:00 PM	5/27/2017 8:45:00 AM	5/27/2017 8:45:00 AM	6/3/2017 2:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹				
Hardness (as CaCO3)	mg/L	10	-	86	113	-	-
pH	pH units	0.1	6.0 - 9.5	7.49	7.38	-	7.72
Total Suspended Solids	mg/L	2	15	2.4	4.3	-	4.9
Total Dissolved Solids	mg/L	13	-	133	175	-	485
Turbidity	NTU	0.1	-	11.8	13.2	-	30.4
Alkalinity, Total (as CaCO3)	mg/L	10	-	21	22	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.229	0.292	-	-
Chloride (Cl)	mg/L	0.5	-	19.1	25.8	-	-
Fluoride (F)	mg/L	0.02	-	<0.020	<0.020	-	-
Nitrate (as N)	mg/L	0.02	-	0.381	0.55	-	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.47	0.57	-	-
Phosphorus, Total	mg/L	0.003	-	<0.030	<0.030	-	-
Sulfate (SO4)	mg/L	0.3	-	54.8	85.4	-	-
Dissolved Organic Carbon	mg/L	0.5	-	<1.0	1.4	-	-
Total Organic Carbon	mg/L	0.5	-	1.2	1.2	-	-
Aluminum (Al)-Total	mg/L	0.01	-	0.077	0.125	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.00010	<0.00010	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010	<0.000010	-	-
Calcium (Ca)-Total	mg/L	0.5	-	12	15.2	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	<0.0010	<0.0010	-	-
Iron (Fe)-Total	mg/L	0.05	-	0.098	0.228	-	-
Lead (Pb)-Total	mg/L	0.0001	0.2	<0.00010	0.0001	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	13.8	17.5	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	0.454	0.522	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	<0.000010	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000445	0.000652	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00263	0.00268	-	-
Potassium (K)-Total	mg/L	0.05	-	1.11	1.43	-	-
Selenium (Se)-Total	mg/L	0.00005	-	0.000243	0.000314	-	-
Sodium (Na)-Total	mg/L	0.5	-	10	11.5	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	0.000013	0.000016	-	-
Uranium (U)-Total	mg/L	0.00001	-	0.000298	0.000547	-	-
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	-	12.3	15.2	-	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	<0.00020	<0.00020	-	-
Iron (Fe)-Dissolved	mg/L	0.01	-	<0.010	<0.010	-	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	<0.000050	0.00027	-	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	13.5	18.1	-	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	0.425	0.488	-	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010	-	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.000453	0.000633	-	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.00238	0.00225	-	-
Potassium (K)-Dissolved	mg/L	0.05	-	1.14	1.4	-	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.000259	0.000348	-	-
Sodium (Na)-Dissolved	mg/L	0.5	-	10.2	11.9	-	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.000013	0.000015	-	-
Uranium (U)-Dissolved	mg/L	0.00001	-	0.000265	0.000456	-	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0012	0.0014	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	-	<2.0	-	-
Acute Lethality ^{2,3}	N/A		Non-lethal	-	-	Non-lethal	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Ponds

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.8
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-06

Analyte	Sample ID			MP-06	MP-06	MP-06	MP-06
	ALS Laboratory Sample ID			L1937994-1	L1938471-2	L1939258-1	L1957704-2
	Sample Date & Time			5/4/2017 3:45:00 PM	6/6/2017 11:20:00 AM	6/8/2017 10:00:00 AM	7/12/2017 2:25:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹				
Hardness (as CaCO3)	mg/L	10	-	317	307	-	392
pH	pH units	0.1	6.0 - 9.5	7.72	7.9	7.77	8.13
Total Suspended Solids	mg/L	2	15	3.8	<2.0	5.2	<2.0
Total Dissolved Solids	mg/L	13	-	496	508	575	665
Turbidity	NTU	0.1	-	31.2	14.6	20.7	0.47
Alkalinity, Total (as CaCO3)	mg/L	10	-	42	50	-	69
Ammonia, Total (as N)	mg/L	0.02	-	0.297	0.325	-	0.041
Chloride (Cl)	mg/L	0.5	-	89	88.6	-	110
Fluoride (F)	mg/L	0.02	-	0.052	0.029	-	0.071
Nitrate (as N)	mg/L	0.02	-	2.51	1.99	-	2.8
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.95	0.86	-	0.77
Phosphorus, Total	mg/L	0.003	-	0.0138	0.0122	-	0.0061
Sulfate (SO4)	mg/L	0.3	-	217	214	-	293
Dissolved Organic Carbon	mg/L	0.5	-	3.1	3.2	-	1.63
Total Organic Carbon	mg/L	0.5	-	3.5	5.4	-	1.5
Aluminum (Al)-Total	mg/L	0.01	-	0.159	0.056	-	0.013
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00013	0.0001	-	0.00012
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010	<0.000010	-	<0.000010
Calcium (Ca)-Total	mg/L	0.5	-	39.5	38.5	-	60.8
Copper (Cu)-Total	mg/L	0.001	0.3	<0.0010	<0.0010	-	<0.0010
Iron (Fe)-Total	mg/L	0.05	-	0.376	0.1	-	<0.050
Lead (Pb)-Total	mg/L	0.0001	0.2	0.00013	<0.00010	-	<0.00010
Magnesium (Mg)-Total	mg/L	0.05	-	48.6	45.3	-	55.9
Manganese (Mn)-Total	mg/L	0.0005	-	0.731	0.663	-	0.11
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	<0.000010	-	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.00159	0.00168	-	0.00265
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00222	0.0018	-	0.0008
Potassium (K)-Total	mg/L	0.05	-	4.52	4.28	-	5.52
Selenium (Se)-Total	mg/L	0.00005	-	0.000862	0.000846	-	0.00102
Sodium (Na)-Total	mg/L	0.5	-	37.5	35.2	-	42.1
Thallium (Tl)-Total	mg/L	0.00001	-	0.000021	0.000021	-	0.000026
Uranium (U)-Total	mg/L	0.00001	-	0.0065	0.00619	-	0.00877
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.0030	<0.0030	-	<0.0030
Aluminum (Al)-Dissolved	mg/L	0.005	-	<0.0050	<0.0050	-	0.0086
Arsenic (As)-Dissolved	mg/L	0.0001	-	<0.00010	<0.00010	-	0.00012
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010	-	<0.000010
Calcium (Ca)-Dissolved	mg/L	0.05	-	45.3	43	-	63.9
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.00031	0.00028	-	0.00043
Iron (Fe)-Dissolved	mg/L	0.01	-	<0.010	<0.010	-	<0.010
Lead (Pb)-Dissolved	mg/L	0.00005	-	<0.000050	<0.000050	-	<0.000050
Magnesium (Mg)-Dissolved	mg/L	0.05	-	49.6	48.5	-	56.4
Manganese (Mn)-Dissolved	mg/L	0.0005	-	0.729	0.721	-	0.0941
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	<0.000010	-	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.00185	0.00181	-	0.00264
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.00175	0.00163	-	0.00056
Potassium (K)-Dissolved	mg/L	0.05	-	4.69	4.64	-	5.63
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.000906	0.000886	-	0.00105
Sodium (Na)-Dissolved	mg/L	0.5	-	37.3	37.4	-	43.3
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.000021	0.00002	-	0.000026
Uranium (U)-Dissolved	mg/L	0.00001	-	0.00647	0.0065	-	0.00864
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0026	0.0034	-	0.0015
Oil and Grease, Total	mg/L	2	No Visible Sheen	-	-	-	-
Acute Lethality ^{2,3}	N/A		Non-lethal	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Ponds

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.8
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-06

Analyte	Sample ID			MP-06	MP-06	MP-06	MP-06
	ALS Laboratory Sample ID			233946	L1966887-2	L1969284-2	L1974036-1
	Sample Date & Time			7/12/2017 2:00:00 AM	7/30/2017 3:00:00 PM	8/1/2017 2:15:00 PM	8/11/2017 10:05:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹				
Hardness (as CaCO3)	mg/L	10	-	-	422	-	-
pH	pH units	0.1	6.0 - 9.5	-	7.94	7.76	8.09
Total Suspended Solids	mg/L	2	15	-	<2.0	3.9	2
Total Dissolved Solids	mg/L	13	-	-	688	673	608
Turbidity	NTU	0.1	-	-	1.09	2.98	10.9
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	63	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	-	-
Chloride (Cl)	mg/L	0.5	-	-	111	-	-
Fluoride (F)	mg/L	0.02	-	-	0.082	-	-
Nitrate (as N)	mg/L	0.02	-	-	2.49	-	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	0.31	-	-
Phosphorus, Total	mg/L	0.003	-	-	<0.0030	-	-
Sulfate (SO4)	mg/L	0.3	-	-	300	-	-
Dissolved Organic Carbon	mg/L	0.5	-	-	1.7	-	-
Total Organic Carbon	mg/L	0.5	-	-	1.8	-	-
Aluminum (Al)-Total	mg/L	0.01	-	-	0.021	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	-	0.00013	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-	<0.000010	-	-
Calcium (Ca)-Total	mg/L	0.5	-	-	64.7	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	-	<0.0010	-	-
Iron (Fe)-Total	mg/L	0.05	-	-	<0.050	-	-
Lead (Pb)-Total	mg/L	0.0001	0.2	-	<0.00010	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	-	62.8	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	-	0.0153	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	-	<0.000010	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	0.00267	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	-	0.00064	-	-
Potassium (K)-Total	mg/L	0.05	-	-	5.56	-	-
Selenium (Se)-Total	mg/L	0.00005	-	-	0.001	-	-
Sodium (Na)-Total	mg/L	0.5	-	-	45.7	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	-	0.000024	-	-
Uranium (U)-Total	mg/L	0.00001	-	-	0.00927	-	-
Zinc (Zn)-Total	mg/L	0.003	0.5	-	<0.0030	-	-
Aluminum (Al)-Dissolved	mg/L	0.005	-	-	0.0113	-	-
Arsenic (As)-Dissolved	mg/L	0.0001	-	-	0.00013	-	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	<0.000010	-	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	63.5	-	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	0.00044	-	-
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	-	-	63.9	-	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	0.0131	-	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	<0.000010	-	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	0.00246	-	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	<0.00050	-	-
Potassium (K)-Dissolved	mg/L	0.05	-	-	6.04	-	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	0.00103	-	-
Sodium (Na)-Dissolved	mg/L	0.5	-	-	45.2	-	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	0.000025	-	-
Uranium (U)-Dissolved	mg/L	0.00001	-	-	0.00891	-	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	0.0012	-	-
Oil and Grease, Total	mg/L	2	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.

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Ponds

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.8
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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			L1976360-2	L1984164-2
	Sample Date & Time			8/15/2017 6:30:00 PM	8/29/2017 1:40:00 PM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence Criteria ¹		
Hardness (as CaCO ₃)	mg/L	10	-	397	-
pH	pH units	0.1	6.0 - 9.5	7.91	8.02
Total Suspended Solids	mg/L	2	15	2.8	<2.0
Total Dissolved Solids	mg/L	13	-	685	573
Turbidity	NTU	0.1	-	6.14	11.3
Alkalinity, Total (as CaCO ₃)	mg/L	10	-	76	-
Ammonia, Total (as N)	mg/L	0.02	-	0.042	-
Chloride (Cl)	mg/L	0.5	-	99.9	-
Fluoride (F)	mg/L	0.02	-	0.088	-
Nitrate (as N)	mg/L	0.02	-	2.22	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.7	-
Phosphorus, Total	mg/L	0.003	-	0.0079	-
Sulfate (SO ₄)	mg/L	0.3	-	258	0
Dissolved Organic Carbon	mg/L	0.5	-	2.8	-
Total Organic Carbon	mg/L	0.5	-	2.5	-
Aluminum (Al)-Total	mg/L	0.01	-	0.053	-
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00018	-
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010	-
Calcium (Ca)-Total	mg/L	0.5	-	66.1	-
Copper (Cu)-Total	mg/L	0.001	0.3	<0.0010	-
Iron (Fe)-Total	mg/L	0.05	-	0.086	-
Lead (Pb)-Total	mg/L	0.0001	0.2	<0.00010	-
Magnesium (Mg)-Total	mg/L	0.05	-	56.9	-
Manganese (Mn)-Total	mg/L	0.0005	-	0.0316	-
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.00261	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00076	-
Potassium (K)-Total	mg/L	0.05	-	5.63	-
Selenium (Se)-Total	mg/L	0.00005	-	0.000874	-
Sodium (Na)-Total	mg/L	0.5	-	46.3	-
Thallium (Tl)-Total	mg/L	0.00001	-	0.000026	-
Uranium (U)-Total	mg/L	0.00001	-	0.00818	-
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.0030	-
Aluminum (Al)-Dissolved	mg/L	0.005	-	0.0104	-
Arsenic (As)-Dissolved	mg/L	0.0001	-	0.00016	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	<0.000010	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	63.5	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.00063	-
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	-	57.9	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	0.0263	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.00262	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	<0.00050	-
Potassium (K)-Dissolved	mg/L	0.05	-	5.9	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.000961	-
Sodium (Na)-Dissolved	mg/L	0.5	-	46.1	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.000023	-
Uranium (U)-Dissolved	mg/L	0.00001	-	0.00805	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0011	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	-	-
Acute Lethality ^{2,3}	N/A		Non-lethal	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Ponds

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.9
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MP-Q1-01	MP-Q1-01	MP-Q1-01
	ALS Laboratory Sample ID			L1941239-8	233784	L1945624-5	L1967088-2	L1967544-1	L1969210-4	L1974157-6
	Sample Date & Time			6/13/2017 9:30:00 AM	6/13/2017 9:30:00 AM	6/20/2017 9:42:00 AM	7/24/2017 3:50:00 PM	7/25/2017 8:10:00 AM	8/1/2017 12:00:00 PM	8/8/2017 3:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	306	-	357	-	332	398	-
pH	pH units	0.1	6.0 - 9.5	8.17	-	8.28	8.2	8.2	8.19	8.24
Total Suspended Solids ²	mg/L	2	Grab 30, Average 15	89.8	-	2.9	2.5	4.4	9.4	4.3
Total Dissolved Solids	mg/L	10	-	-	-	-	179	-	-	291
Turbidity	NTU	0.1	-	-	-	-	1.69	-	-	3.74
Ammonia, Total (as N)	mg/L	0.02	-	0.075	-	0.07	-	<0.020	0.047	-
Nitrate (as N)	mg/L	0.02	-	4.12	-	5.94	-	2.4	5.34	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	<2.0	-	<2.0	<2.0	-
Acute Lethality ^{3,4}	N/A		Non-Lethal	-	Non-lethal	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

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

³Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

⁴Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.9
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MP-Q1-01	MP-Q1-01	MP-Q1-01
	ALS Laboratory Sample ID			L1976363-6	234167	L1984172-1	L1984045-6	L1987600-3	L1990177-1	L1990177-6
	Sample Date & Time			8/15/2017 10:50:00 AM	8/15/2017 10:50:00 AM	8/22/2017 5:50:00 PM	8/29/2017 2:10:00 PM	9/5/2017 10:00:00 AM	9/12/2017 11:40:00 AM	9/12/2017 11:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	Duplicate
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	382	-	-	298	303	-	-
pH	pH units	0.1	6.0 - 9.5	8.09	-	8.21	8.14	8.22	8.03	8.09
Total Suspended Solids ²	mg/L	2	Grab 30, Average 15	5.6	-	4.9	4.7	<2.0	3.9	3.5
Total Dissolved Solids	mg/L	10	-	-	-	203	-	-	194	202
Turbidity	NTU	0.1	-	-	-	4.71	-	-	2	2.82
Ammonia, Total (as N)	mg/L	0.02	-	0.061	-	-	<0.020	<0.020	-	-
Nitrate (as N)	mg/L	0.02	-	5.2	-	-	1.45	1.43	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	-	<2.0	<2.0	-	-
Acute Lethality ^{3,4}	N/A		Non-Lethal	-	Non-lethal	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

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

³Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

⁴Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.10
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MP-Q1-02	MP-Q1-02	MP-Q1-02
	ALS Laboratory Sample ID			L1941239-9	L1945624-6	L1950072-2	L1957697-6	233949	L1961578-5	L1967088-3
	Sample Date & Time			6/13/2017 9:10:00 AM	6/20/2017 9:30:00 AM	6/26/2017 9:40:00 AM	7/11/2017 11:55:00 AM	7/11/2017 11:55:00 AM	7/17/2017 2:20:00 PM	7/24/2017 4:10:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	373	296	-	417	-	484	-
pH	pH units	0.1	6.0 - 9.5	7.99	8.09	7.83	7.95	-	8.06	8.11
Total Suspended Solids ²	mg/L	2	Grab 30, Average 15	142	37.3	11.6	21.7	-	29.9	9.1
Total Dissolved Solids	mg/L	10	-	-	-	175	-	-	-	343
Turbidity	NTU	0.1	-	-	-	7.07	-	-	-	3.37
Ammonia, Total (as N)	mg/L	0.02	-	1.53	0.643	-	0.058	-	0.036	-
Nitrate (as N)	mg/L	0.02	-	5.7	4.34	-	9.36	-	10.8	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	<2.0	-	<2.0	-
Acute Lethality ^{3,4}	N/A		Non-Lethal	-	-	-	-	Non-lethal	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

²Average TSS for June and July exceeded maximum average TSS concentration discharge limits

³Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

⁴Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.10
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MP-Q1-02	MP-Q1-02	MP-Q1-02
	ALS Laboratory Sample ID			L1969210-5	234062	L1974157-4	L1976363-4	L1984172-7	L1984045-5	234255
	Sample Date & Time			8/1/2017 11:10:00 AM	8/1/2017 9:55:00 AM	8/8/2017 3:05:00 PM	8/14/2017 12:00:00 PM	8/22/2017 10:40:00 AM	8/29/2017 1:50:00 PM	8/29/2017 1:50:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	507	-	-	597	-	621	-
pH	pH units	0.1	6.0 - 9.5	8.06	-	8.11	8.09	8.11	8.08	-
Total Suspended Solids ²	mg/L	2	Grab 30, Average 15	<2.0	-	2	8.8	2.1	3.3	-
Total Dissolved Solids	mg/L	10	-	-	-	408	-	388	-	-
Turbidity	NTU	0.1	-	-	-	1.69	-	1.83	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.206	-	-	0.122	-	0.082	-
Nitrate (as N)	mg/L	0.02	-	12.9	-	-	17.5	-	20.1	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	-	<2.0	-	<2.0	-
Acute Lethality ^{3,4}	N/A		Non-Lethal	-	Non-lethal	-	-	-	-	Non-lethal

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

²Average TSS for June and July exceeded maximum average TSS concentration discharge limits

³Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

⁴Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.10
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MP-Q1-02

Analyte	Sample ID			MP-Q1-02
	ALS Laboratory Sample ID			L1987600-4
	Sample Date & Time			9/5/2017 10:10:00 AM
	QA/QC Sample Type			N/A
	Units	LOR	Water Licence Criteria ¹	
Conductivity	umhos/cm	3	-	650
pH	pH units	0.1	6.0 - 9.5	8.12
Total Suspended Solids ²	mg/L	2	Grab 30, Average 15	<2.0
Total Dissolved Solids	mg/L	10	-	-
Turbidity	NTU	0.1	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.039
Nitrate (as N)	mg/L	0.02	-	23.7
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0
Acute Lethality ^{3,4}	N/A		Non-Lethal	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

²Average TSS for June and July exceeded maximum average TSS concentration discharge limits

³Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

⁴Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.11
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-0101	MS-01	MS-01	MS-01	MS-01
	ALS Laboratory Sample ID			L1876933-1	L1888660-1	L1888660-3	L1898963-1	L1909694-1	L1920670-1	233461
	Sample Date & Time			1/3/2017 2:45:00 PM	2/7/2017 3:30:00 PM	2/7/2017 3:30:00 PM	3/7/2017 3:30:00 PM	4/4/2017 4:30:00 PM	5/2/2017 4:30:00 PM	5/2/2017 4:30:00 PM
	QA/QC Sample Type			N/A	N/A	Duplicate	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
pH	pH units	0.1	6.0 - 9.5	7.65	7.74	7.75	7.71	7.6	7.5	-
Total Suspended Solids	mg/L	2	35	2.9	<2.0	<2.0	2.4	<2.0	2.1	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	66	82	76	77	79	69	-
Ammonia, Total (as N)	mg/L	0.02	4	0.068	0.065	0.064	0.075	0.057	0.114	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.53	1.67	1.59	2.33	5.4	4.9	-
Phosphorus, Total	mg/L	0.003	4	1.02	1.55	1.54	0.995	1.28	1.04	-
Fecal Coliforms	CFU/100mL	0	1,000	-	1	5	1	0	12	-
BOD	mg/L	2	30	-	<2.0	<2.0	<2.0	<2.0	<2.0	-
COD	mg/L	10	-	25	18	22	29	22	22	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-
Acute Lethality ^{3,4}	N/A		Non-Lethal	-	-	-	-	-	-	Non-lethal

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4: Effluent Quality Discharge Limits for Sewage Treatment Facilities to Freshwater Receiving Environment

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.11
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-01	MS-0101	MS-0103
	ALS Laboratory Sample ID			L1938032-1	L1953894-1	L1969173-1	L1987421-1	L2013415-1	L2013415-4	L2013415-3
	Sample Date & Time			6/6/2017 3:00:00 PM	7/4/2017 3:30:00 PM	8/1/2017 3:30:00 PM	9/5/2017 3:30:00 PM	10/24/2017 3:00:00 PM	10/24/2017 3:00:00 PM	10/24/2017 3:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	Duplicate	Travel Blank
	Units	LOR	Water Licence Criteria ¹							
pH	pH units	0.1	6.0 - 9.5	7.43	7.21	7.51	7.41	7.46	7.43	6.29
Total Suspended Solids	mg/L	2	35	5.9	<2.0	2.3	<2.0	2.2	<2.0	<2.0
Alkalinity, Total (as CaCO ₃)	mg/L	10	-	42	46	58	50	50	51	<10
Ammonia, Total (as N)	mg/L	0.02	4	0.464	0.104	0.089	0.053	0.151	0.145	<0.020
Total Kjeldahl Nitrogen	mg/L	0.15	-	2.88	1.5	1.81	1.91	2.01	1.91	<0.15
Phosphorus, Total	mg/L	0.003	4	1.51	2.71	1.87	3.49	0.741	0.743	<0.0030
Fecal Coliforms	CFU/100mL	0	1,000	13	2	0	<2	0	0	0
BOD	mg/L	2	30	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
COD	mg/L	10	-	36	28	24	21	94	18	<10
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Acute Lethality ^{3,4}	N/A		Non-Lethal	-	-	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4: Effluent Quality Discharge Limits for Sewage Treatment Facilities to Freshwater Receiving Environment

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.11
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-01

Analyte	Sample ID			MS-01	MS-0102	MS-0103	MS-01	MS-0101
	ALS Laboratory Sample ID			L2023696-1	L2023696-4	L2023696-3	L2035949-1	L2035949-3
	Sample Date & Time			11/14/2017 3:00:00 PM	11/14/2017 3:00:00 PM	11/14/2017 3:00:00 PM	12/12/2017 3:15:00 PM	12/12/2017 3:15:00 PM
	QA/QC Sample Type			N/A	Field Blank	Travel Blank	N/A	Duplicate
	Units	LOR	Water Licence Criteria ¹					
pH	pH units	0.1	6.0 - 9.5	7	6.12	6.51	7.67	7.59
Total Suspended Solids	mg/L	2	35	4.4	<2.0	<2.0	2.7	6.7
Alkalinity, Total (as CaCO ₃)	mg/L	10	-	36	<10	<10	89	88
Ammonia, Total (as N)	mg/L	0.02	4	1.16	<0.020	<0.020	0.043	0.065
Total Kjeldahl Nitrogen	mg/L	0.15	-	3.11	<0.15	<0.15	1.56	1.61
Phosphorus, Total	mg/L	0.003	4	1.98	<0.0030	0.0038	1.11	1.16
Fecal Coliforms	CFU/100mL	0	1,000	1	0	0	0	3
BOD	mg/L	2	30	3.6	<2.0	<2.0	<2.0	<2.0
COD	mg/L	10	-	28	<10	<10	26	26
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	<2.0	<2.0	<2.0
Acute Lethality ^{3,4}	N/A		Non-Lethal	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4: Effluent Quality Discharge Limits for Sewage Treatment Facilities to Freshwater Receiving Environment

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.12
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-MRY-04B

Analyte	Sample ID			MS-MRY-04B	MS-MRY-04B	MS-MRY-04B	MS-MRY-04B-1	MS-MRY-04B-2	MS-MRY-04B-1	MS-MRY-04B-2
	ALS Laboratory Sample ID			L1937793-3	L1941005-1	L1942014-1	L1942554-1	L1942554-2	L1943891-1	L1943891-2
	Sample Date & Time			6/6/2017 10:19:00 AM	6/13/2017 12:04:00 PM	6/13/2017 4:20:00 PM	6/14/2017 8:50:00 AM	6/14/2017 2:20:00 PM	6/15/2017 12:15:00 AM	6/15/2017 4:15:00 AM
	QA/QC Sample Type			N/A	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	7.74	7.32	7.23	7.37	7.35	7.14	7.16
Total Suspended Solids	mg/L	2	35	5.4	6.8	<2.0	5.6	6.4	8.8	10
Total Dissolved Solids	mg/L	20	-	-	-	100	67	73	73	78
Turbidity	NTU	0.1	-	-	-	4.61	4.56	5.02	4.57	5.15
Alkalinity, Total (as CaCO ₃)	mg/L	10	-	28	16	-	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	4	0.121	0.108	-	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.99	1.14	-	-	-	-	-
Phosphorus, Total	mg/L	0.003	-	0.0516	0.0801	-	-	-	-	-
Fecal Coliforms	CFU/100mL	0	1000	0	0	-	-	-	-	-
BOD	mg/L	2	30	3.1	3.1	-	-	-	-	-
COD	mg/L	10	-	19	27	-	-	-	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4: Effluent Quality Discharge Limits for Sewage Treatment Facilities to Freshwater Receiving Environment

TABLE 5.2.12
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-MRY-04B

Analyte	Sample ID			MS-MRY-04B-3	MS-MRY-04B-1	MS-MRY-04B-2	MS-MRY-04B-3	MS-MRY-04B	MS-MRY-04B-1
	ALS Laboratory Sample ID			L1943891-3	L1945271-1	L1945271-2	L1945271-3	L1945288-1	L1945293-1
	Sample Date & Time			6/15/2017 8:30:00 AM	6/19/2017 1:15:00 PM	6/19/2017 5:30:00 PM	6/19/2017 9:30:00 PM	6/20/2017 12:00:00 PM	6/20/2017 1:30:00 PM
	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	7.03	7.68	7.65	7.64	7.66	7.42
Total Suspended Solids	mg/L	2	35	3.2	17.3	17.9	15.9	13.3	26.8
Total Dissolved Solids	mg/L	20	-	148	142	152	157	-	240
Turbidity	NTU	0.1	-	4.58	7.33	7.23	7.67	-	9.09
Alkalinity, Total (as CaCO ₃)	mg/L	10	-	-	-	-	-	81	-
Ammonia, Total (as N)	mg/L	0.02	4	-	-	-	-	1.62	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	-	-	-	4.79	-
Phosphorus, Total	mg/L	0.003	-	-	-	-	-	0.243	-
Fecal Coliforms	CFU/100mL	0	1000	-	-	-	-	0	-
BOD	mg/L	2	30	-	-	-	-	16	-
COD	mg/L	10	-	-	-	-	-	98	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	-	-	-	-	<2.0	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 4: Effluent Quality Discharge Limits for Sewage Treatment Facilities to Freshwater Receiving Environment

TABLE 5.2.13
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-MRY-6

Analyte	Sample ID			MS-MRY-6	MS-MRY-6	MS-MRY-6	MS-MRY-06 ²	MS-MRY-06
	ALS Laboratory Sample ID			L1940484-1	L1940484-4	L1945276-1	L1950713-1	L1957733-1
	Sample Date & Time			6/11/2017 6:45:00 PM	6/12/2017 9:00:00 AM	6/20/2017 11:30:00 AM	6/27/2017 10:20:00 AM	7/10/2017 5:20:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹					
pH	pH units	0.1	-	7.27	7.5	8.13	7.43	6.9
Total Suspended Solids	mg/L	2	-	9.5	10.6	3.3	18.8	37.3
Lead (Pb)-Total	mg/L	0.0001	0.001	0.00073	0.00043	0.00033	0.00247	<0.0001
Oil and Grease, Total	mg/L	2	15 and No Visible Sheen	<2.0	<2.0	<2.0	2.5	<2.0
Benzene	ug/L	0.5	370	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	ug/L	0.5	90	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	ug/L	0.5	2	<0.50	<0.50	<0.50	<0.50	<0.50
o-Xylene	ug/L	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50
m+p-Xylenes	ug/L	1	-	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (Total)	ug/L	1.1	-	<1.1	<1.1	<1.1	<1.1	<1.1
4-Bromofluorobenzene	%	Surrogate	-	95.7	98.3	99.8	98.3	95
1,4-Difluorobenzene	%	Surrogate	-	103.3	98.9	98.5	96.4	96.4
F1 (C6-C10)	ug/L	100	-	<100	<100	<100	<100	<100
F1-BTEX	ug/L	100	-	<100	<100	<100	<100	<100
F2 (C10-C16)	ug/L	100	-	<100	<100	<100	<100	<100
F3 (C16-C34)	ug/L	250	-	600	650	410	300	<250
F4 (C34-C50)	ug/L	250	-	<250	<250	<250	<250	<250
Total Hydrocarbons (C6-C50)	ug/L	380	-	600	650	410	<380	<380
Chrom. to baseline at nC50		n/a	-	YES	YES	YES	YES	YES
2-Bromobenzotrifluoride	%	Surrogate	-	90.8	94.2	101.8	95.8	95.2
3,4-Dichlorotoluene	%	Surrogate	-	91.9	95.3	100.1	93.6	97.5

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 8: Effluent Quality Discharge Limits for the Bulk Fuel Storage Facilities

²Internal samples. Effluent not discharging to the environment.

TABLE 5.2.13
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-MRY-6

Analyte	Sample ID			MS-MRY-06	MS-MRY-6	MS-MRY-6
	ALS Laboratory Sample ID			L1965127-1	L1969593-1	L1975306-1
	Sample Date & Time			7/21/2017 8:30:00 AM	8/2/2017 9:20:00 AM	8/15/2017 12:15:00 PM
	QA/QC Sample Type			N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹			
pH	pH units	0.1	-	7.26	7.39	7.64
Total Suspended Solids	mg/L	2	-	34.3	14.8	7.5
Lead (Pb)-Total	mg/L	0.0001	0.001	0.00163	0.00066	0.00042
Oil and Grease, Total	mg/L	2	15 and No Visible Sheen	<2.0	2.3	<2.0
Benzene	ug/L	0.5	370	<0.50	<0.50	<0.50
Ethylbenzene	ug/L	0.5	90	<0.50	<0.50	<0.50
Toluene	ug/L	0.5	2	<0.50	<0.50	<0.50
o-Xylene	ug/L	0.5	-	<0.50	<0.50	<0.50
m+p-Xylenes	ug/L	1	-	<1.0	<1.0	<1.0
Xylenes (Total)	ug/L	1.1	-	<1.1	<1.1	<1.1
4-Bromofluorobenzene	%	Surrogate	-	94.3	100.9	107.3
1,4-Difluorobenzene	%	Surrogate	-	101.9	102.9	103.7
F1 (C6-C10)	ug/L	100	-	<100	<100	<100
F1-BTEX	ug/L	100	-	<100	<100	<100
F2 (C10-C16)	ug/L	100	-	150	<100	<100
F3 (C16-C34)	ug/L	250	-	870	1330	<250
F4 (C34-C50)	ug/L	250	-	<250	<250	<250
Total Hydrocarbons (C6-C50)	ug/L	380	-	1030	1330	<380
Chrom. to baseline at nC50		n/a	-	YES	YES	YES
2-Bromobenzotrifluoride	%	Surrogate	-	90.4	98.2	90
3,4-Dichlorotoluene	%	Surrogate	-	92.9	101	117.6

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 8: Effluent Quality Discharge Limits for the Bulk Fuel Storage Facilities

²Internal samples. Effluent not discharging to the environment.

TABLE 5.2.14
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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			L1933231-1	233645	L1938012-1	233735	L1957694-1
	Sample Date & Time			5/26/2017 2:40:00 PM	5/26/2017 2:40:00 PM	6/6/2017 2:30:00 PM	6/6/2017 2:30:00 PM	7/11/2017 9:00:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MMR Criteria ¹					
Conductivity	umhos/cm	3	-	89.5	-	536	-	924
Hardness (as CaCO3)	mg/L	10	-	30	-	245	-	436
pH	pH units	0.1	6.0 - 9.5	7.1	-	7.69	-	7.72
Total Suspended Solids	mg/L	2	15	2.9	-	10.1	-	2.6
Total Dissolved Solids	mg/L	13	-	41	-	346	-	705
Turbidity	NTU	0.1	-	3.79	-	-	-	-
Acidity (as CaCO3)	mg/L	2	-	-	-	4.1	-	2.9
Alkalinity, Total (as CaCO3)	mg/L	10	-	<10	-	33	-	42
Ammonia, Total (as N)	mg/L	0.02	-	0.214	-	0.653	-	0.464
Chloride (Cl)	mg/L	0.5	-	1.29	-	10.6	-	17.2
Fluoride (F)	mg/L	0.02	-	<0.020	-	0.044	-	0.03
Nitrate (as N)	mg/L	0.02	-	0.259	-	1.57	-	4.98
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.21	-	0.99	-	1.19
Phosphorus, Total	mg/L	0.003	-	<0.030	-	<0.0030	-	0.0055
Sulfate (SO4)	mg/L	0.3	-	30.6	-	206	-	405
Cyanide, Total	mg/L	0.002	1	-	-	<0.020	-	<0.0020
Dissolved Organic Carbon	mg/L	0.5	-	<1.0	-	2.8	-	1.86
Total Organic Carbon	mg/L	0.5	-	<1.0	-	4.2	-	1.78
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	0.029	-	0.1	-	0.0413
Antimony (Sb)-Total	mg/L	0.0001	-	-	-	<0.00010	-	<0.00010
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.00010	-	0.00012	-	<0.00010
Barium (Ba)-Total	mg/L	0.0002	-	-	-	0.0144	-	0.0206
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	-	-	-	0.021	-	0.033
Cadmium (Cd)-Total	mg/L	0.00001	-	0.000013	-	0.000051	-	0.000049
Calcium (Ca)-Total	mg/L	0.5	-	3.26	-	25.5	-	44.4
Cesium (Cs)-Total	mg/L	0.00001	-	-	-	0.000013	-	0.000015
Chromium (Cr)-Total	mg/L	0.0005	-	-	-	<0.00050	-	<0.00050
Cobalt (Co)-Total	mg/L	0.0001	-	-	-	0.00692	-	0.00258
Copper (Cu)-Total	mg/L	0.001	0.3	<0.0010	-	0.0019	-	<0.0010
Iron (Fe)-Total	mg/L	0.05	-	0.14	-	0.382	-	0.131
Lead (Pb)-Total	mg/L	0.00005	0.2	0.00015	-	0.00134	-	0.000705
Lithium (Li)-Total	mg/L	0.001	-	-	-	0.0124	-	0.0171
Magnesium (Mg)-Total	mg/L	0.05	-	5.5	-	44.9	-	79.3
Manganese (Mn)-Total	mg/L	0.0005	-	0.351	-	1.7	-	1.76
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	-	<0.000010	-	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000178	-	0.00175	-	0.00194
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00279	-	0.008	-	0.0103
Phosphorus (P)-Total	mg/L	0.05	-	-	-	<0.050	-	<0.050
Potassium (K)-Total	mg/L	0.05	-	1.17	-	7.71	-	10.7
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-	0.00348	-	0.00823
Selenium (Se)-Total	mg/L	0.00005	-	0.000081	-	0.000467	-	0.00108
Silicon (Si)-Total	mg/L	0.1	-	-	-	0.57	-	0.69
Silver (Ag)-Total	mg/L	0.00005	-	-	-	<0.000050	-	<0.000050
Sodium (Na)-Total	mg/L	0.5	-	<0.50	-	3.45	-	7.2
Strontium (Sr)-Total	mg/L	0.001	-	-	-	0.0425	-	0.0776
Sulfur (S)-Total	mg/L	0.5	-	-	-	75.7	-	143
Tellurium (Te)-Total	mg/L	0.0002	-	-	-	<0.00020	-	<0.00020
Thallium (Tl)-Total	mg/L	0.00001	-	0.000011	-	0.000024	-	0.000037
Thorium (Th)-Total	mg/L	0.0001	-	-	-	<0.00010	-	<0.00010
Tin (Sn)-Total	mg/L	0.0001	-	-	-	<0.00010	-	<0.00010
Titanium (Ti)-Total	mg/L	0.0003	-	-	-	0.00237	-	<0.0010
Tungsten (W)-Total	mg/L	0.0001	-	-	-	<0.00010	-	<0.00010
Uranium (U)-Total	mg/L	0.00001	-	0.000173	-	0.00275	-	0.0024
Vanadium (V)-Total	mg/L	0.0005	-	-	-	<0.00050	-	<0.00050
Zinc (Zn)-Total	mg/L	0.003	0.5	0.0035	-	0.0042	-	<0.0030
Zirconium (Zr)-Total	mg/L	0.0003	-	-	-	<0.00030	-	<0.00030
Aluminum (Al)-Dissolved	mg/L	0.005	-	<0.0050	-	<0.0050	-	0.0074
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	-	-	-	0.0144	-	0.022
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	-	-	-	0.022	-	0.033
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	0.000015	-	0.00005	-	0.000046
Calcium (Ca)-Dissolved	mg/L	0.05	-	3.15	-	27.6	-	45.7
Cesium (Cs)-Dissolved	mg/L	0.00001	-	-	-	<0.000010	-	0.000015
Chromium (Cr)-Dissolved	mg/L	0.0005	-	-	-	<0.00050	-	<0.00050
Cobalt (Co)-Dissolved	mg/L	0.0001	-	-	-	0.00645	-	0.00226
Copper (Cu)-Dissolved	mg/L	0.0002	-	<0.00020	-	0.00074	-	0.00043
Iron (Fe)-Dissolved	mg/L	0.01	-	0.013	-	<0.010	-	<0.010
Lead (Pb)-Dissolved	mg/L	0.00005	-	<0.000050	-	0.000167	-	0.000062
Lithium (Li)-Dissolved	mg/L	0.001	-	-	-	0.0142	-	0.0195
Magnesium (Mg)-Dissolved	mg/L	0.05	-	5.32	-	42.7	-	78.2
Manganese (Mn)-Dissolved	mg/L	0.0005	-	0.338	-	1.67	-	1.68
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	-	<0.000010	-	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.000162	-	0.0019	-	0.00199
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.00263	-	0.00739	-	0.00714
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	-	<0.050	-	<0.050
Potassium (K)-Dissolved	mg/L	0.05	-	1.21	-	7.97	-	11.2
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	-	0.00334	-	0.00819
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.000091	-	0.000538	-	0.00118
Silicon (Si)-Dissolved	mg/L	0.05	-	-	-	0.385	-	0.563
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	-	<0.000050	-	<0.000050
Sodium (Na)-Dissolved	mg/L	0.5	-	0.51	-	3.51	-	7.38
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	-	0.0439	-	0.0763
Sulfur (S)-Dissolved	mg/L	0.5	-	-	-	76	-	146
Tellurium (Te)-Dissolved	mg/L	0.0002	-	-	-	<0.00020	-	<0.00020
Thallium (Tl)-Dissolved	mg/L	0.00001	-	<0.000010	-	0.000027	-	0.000038
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	-	0.000138	-	0.00254	-	0.0023
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	-	<0.00050	-	<0.00050
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0036	-	0.0036	-	0.0027
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	-	-	<0.00030	-	<0.00030
Ra-226	Bq/L	0.0038	0.37	<0.0100	-	0.46	-	0.0093
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	Non-lethal	-	Non-lethal	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Ponds and MMR Regulations

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

⁴Internal samples. Effluent not discharging to the environment.

TABLE 5.2.14
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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 ⁴	MS-06
	ALS Laboratory Sample ID			233947	L1969176-14	234061	L1975310-1	L1980961-1
	Sample Date & Time			7/11/2017 9:00:00 AM	8/01/2017 3:45:00 PM	8/01/2017 3:45:00 PM	8/15/2017 12:00:00 PM	8/24/2017 1:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MMR Criteria ¹					
Conductivity	umhos/cm	3	-	-	859	-	869	909
Hardness (as CaCO3)	mg/L	10	-	-	-	-	408	433
pH	pH units	0.1	6.0 - 9.5	-	7.58	-	7.77	7.7
Total Suspended Solids	mg/L	2	15	-	3.9	-	32.5	<2.0
Total Dissolved Solids	mg/L	13	-	-	639	-	634	664
Turbidity	NTU	0.1	-	-	16.9	-	-	-
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	-	-	41	41
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-	0.069	0.043
Chloride (Cl)	mg/L	0.5	-	-	-	-	15.3	16.1
Fluoride (F)	mg/L	0.02	-	-	-	-	0.054	0.061
Nitrate (as N)	mg/L	0.02	-	-	-	-	4.83	5.05
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	-	-	0.63	0.33
Phosphorus, Total	mg/L	0.003	-	-	-	-	0.0186	<0.0030
Sulfate (SO4)	mg/L	0.3	-	-	-	-	362	378
Cyanide, Total	mg/L	0.002	1	-	<0.0020	-	-	<0.20
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	1.6	1.6
Total Organic Carbon	mg/L	0.5	-	-	-	-	1.8	1.4
Acidity (as CaCO3)	mg/L	2	-	-	-	-	<2.0	2
Aluminum (Al)-Total	mg/L	0.005	-	-	0.0592	-	0.198	0.0328
Antimony (Sb)-Total	mg/L	0.0001	-	-	<0.00010	-	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	0.0001	0.5	-	0.00011	-	0.00014	0.00012
Barium (Ba)-Total	mg/L	0.0002	-	-	0.0186	-	0.0202	0.021
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	-	-	0.032	-	0.032	0.032
Cadmium (Cd)-Total	mg/L	0.00001	-	-	0.000033	-	0.000031	0.000032
Calcium (Ca)-Total	mg/L	0.5	-	-	41.5	-	43.1	44.6
Cesium (Cs)-Total	mg/L	0.00001	-	-	0.000011	-	0.000024	0.000013
Chromium (Cr)-Total	mg/L	0.0005	-	-	<0.00050	-	0.00053	<0.00050
Cobalt (Co)-Total	mg/L	0.0001	-	-	0.00117	-	0.00107	0.00064
Copper (Cu)-Total	mg/L	0.001	0.3	-	<0.0010	-	<0.0010	0.0031
Iron (Fe)-Total	mg/L	0.05	-	-	0.201	-	0.611	0.071
Lead (Pb)-Total	mg/L	0.00005	0.2	-	0.000582	-	0.000598	0.000694
Lithium (Li)-Total	mg/L	0.001	-	-	0.0168	-	0.0156	0.0174
Magnesium (Mg)-Total	mg/L	0.05	-	-	76	-	76.8	78.9
Manganese (Mn)-Total	mg/L	0.0005	-	-	1	-	0.689	0.538
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	0.0016	-	0.00147	0.00179
Nickel (Ni)-Total	mg/L	0.0005	0.5	-	0.00481	-	0.00751	0.00855
Phosphorus (P)-Total	mg/L	0.05	-	-	<0.050	-	<0.050	<0.050
Potassium (K)-Total	mg/L	0.05	-	-	9.91	-	11.4	11.4
Rubidium (Rb)-Total	mg/L	0.0002	-	-	0.00831	-	0.0101	0.0105
Selenium (Se)-Total	mg/L	0.00005	-	-	0.000995	-	0.000997	0.000959
Silicon (Si)-Total	mg/L	0.1	-	-	0.24	-	0.35	0.11
Silver (Ag)-Total	mg/L	0.00005	-	-	<0.000050	-	<0.000050	<0.000050
Sodium (Na)-Total	mg/L	0.5	-	-	6.59	-	6.73	6.73
Strontium (Sr)-Total	mg/L	0.001	-	-	0.0661	-	0.07	0.0727
Sulfur (S)-Total	mg/L	0.5	-	-	141	-	135	139
Tellurium (Te)-Total	mg/L	0.0002	-	-	<0.00020	-	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	0.00001	-	-	0.000033	-	0.000039	0.000033
Thorium (Th)-Total	mg/L	0.0001	-	-	<0.00010	-	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	0.0001	-	-	<0.00010	-	<0.00010	<0.00010
Titanium (Ti)-Total	mg/L	0.0003	-	-	<0.0015	-	<0.0080	<0.0020
Tungsten (W)-Total	mg/L	0.0001	-	-	<0.00010	-	<0.00010	<0.00010
Uranium (U)-Total	mg/L	0.00001	-	-	0.00178	-	0.00162	0.00155
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	0.0035
Zirconium (Zr)-Total	mg/L	0.0003	-	-	<0.00030	-	<0.00030	<0.00030
Aluminum (Al)-Dissolved	mg/L	0.005	-	-	-	-	0.0066	0.0075
Antimony (Sb)-Dissolved	mg/L	0.0001	-	-	-	-	<0.00010	<0.00010
Arsenic (As)-Dissolved	mg/L	0.0001	-	-	-	-	<0.00010	<0.00010
Barium (Ba)-Dissolved	mg/L	0.0001	-	-	-	-	0.0199	0.0211
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	-	-	-	-	0.03	0.032
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	-	-	0.000028	0.00003
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	-	-	42.1	45.2
Cesium (Cs)-Dissolved	mg/L	0.00001	-	-	-	-	0.000012	0.00001
Chromium (Cr)-Dissolved	mg/L	0.0005	-	-	-	-	<0.00050	<0.00050
Cobalt (Co)-Dissolved	mg/L	0.0001	-	-	-	-	0.00067	0.00058
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	-	-	0.00033	0.00035
Iron (Fe)-Dissolved	mg/L	0.01	-	-	-	-	<0.010	<0.010
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	-	-	0.000081	0.000098
Lithium (Li)-Dissolved	mg/L	0.001	-	-	-	-	0.0163	0.0169
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	-	-	73.6	77.8
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	-	-	0.612	0.483
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	-	-	<0.000010	<0.000010
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	-	-	0.0016	0.00173
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	-	-	0.00323	0.0035
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	-	-	<0.050	<0.050
Potassium (K)-Dissolved	mg/L	0.05	-	-	-	-	10.6	11.5
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	-	-	0.00956	0.0105
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	-	-	0.00089	0.000966
Silicon (Si)-Dissolved	mg/L	0.05	-	-	-	-	0.062	<0.050
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	-	-	<0.000050	<0.000050
Sodium (Na)-Dissolved	mg/L	0.5	-	-	-	-	6.62	6.77
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	-	-	0.0678	0.073
Sulfur (S)-Dissolved	mg/L	0.5	-	-	-	-	127	146
Tellurium (Te)-Dissolved	mg/L	0.0002	-	-	-	-	<0.00020	<0.00020
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	-	-	0.000032	0.000035
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	-	-	-	-	0.0014	0.00147
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	-	-	<0.00050	<0.00050
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	-	-	0.0011	0.0013
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	-	-	-	<0.00030	<0.00030
Ra-226	Bq/L	0.0038	0.37	-	0.011	-	0.011	<0.0089
Acute Lethality ^{2,3}	N/A		Non-Lethal	Non-lethal	-	Non-lethal	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Ponds and MMR Regulations

²Acute lethality to Rainbow trout, Oncorhynchus mykiss (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to Daphnia magna (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

⁴Internal samples. Effluent not discharging to the environment.

**TABLE 5.2.14
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-06**

Analyte	Sample ID			MS-06
	ALS Laboratory Sample ID			L1981777-1
	Sample Date & Time			8/24/2017 1:00:00 PM
	QA/QC Sample Type			N/A
	Units	LOR	Water Licence and MMR Criteria ¹	
Conductivity	umhos/cm	3	-	-
Hardness (as CaCO3)	mg/L	10	-	-
pH	pH units	0.1	6.0 - 9.5	7.64
Total Suspended Solids	mg/L	2	15	2
Total Dissolved Solids	mg/L	13	-	640
Turbidity	NTU	0.1	-	3.98
Acidity (as CaCO3)	mg/L	2	-	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-
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	-
Dissolved Organic Carbon	mg/L	0.5	-	-
Total Organic Carbon	mg/L	0.5	-	-
Acidity (as CaCO3)	mg/L	2	-	-
Aluminum (Al)-Total	mg/L	0.005	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	-
Barium (Ba)-Total	mg/L	0.0002	-	-
Beryllium (Be)-Total	mg/L	0.0001	-	-
Bismuth (Bi)-Total	mg/L	0.00005	-	-
Boron (B)-Total	mg/L	0.01	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-
Calcium (Ca)-Total	mg/L	0.5	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	-
Iron (Fe)-Total	mg/L	0.05	-	-
Lead (Pb)-Total	mg/L	0.00005	0.2	-
Lithium (Li)-Total	mg/L	0.001	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	-
Phosphorus (P)-Total	mg/L	0.05	-	-
Potassium (K)-Total	mg/L	0.05	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-
Selenium (Se)-Total	mg/L	0.00005	-	-
Silicon (Si)-Total	mg/L	0.1	-	-
Silver (Ag)-Total	mg/L	0.00005	-	-
Sodium (Na)-Total	mg/L	0.5	-	-
Strontium (Sr)-Total	mg/L	0.001	-	-
Sulfur (S)-Total	mg/L	0.5	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	-
Thorium (Th)-Total	mg/L	0.0001	-	-
Tin (Sn)-Total	mg/L	0.0001	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	-
Tungsten (W)-Total	mg/L	0.0001	-	-
Uranium (U)-Total	mg/L	0.00001	-	-
Vanadium (V)-Total	mg/L	0.0005	-	-
Zinc (Zn)-Total	mg/L	0.003	0.5	-
Zirconium (Zr)-Total	mg/L	0.0003	-	-
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	0.0038	0.37	-
Acute Lethality ^{2,3}	N/A		Non-Lethal	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Ponds and MMR Regulations

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

⁴Internal samples. Effluent not discharging to the environment.

TABLE 5.2.15
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08

Analyte	Sample ID			MS-08	MS-08	MS-08	MS-08	MS-08
	ALS Laboratory Sample ID			L1954085-1	L1954760-1	L1957780-1	L1957684-1	233948
	Sample Date & Time			7/4/2017 8:45:00 AM	7/7/2017 8:35:00 AM	7/8/2017 8:45:00 AM	7/11/2017 10:00:00 AM	7/11/2017 10:00:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MMR Criteria ¹					
Conductivity	umhos/cm	3	-	192	-	-	486	-
Hardness (as CaCO3)	mg/L	10	-	81	-	-	-	-
pH	pH units	0.1	6.0 - 9.5	7.08	6.76	6.88	6.5	-
Total Suspended Solids	mg/L	2	15	13.6	4.8	<2.0	2.3	-
Total Dissolved Solids	mg/L	13	-	127	215	271	371	-
Turbidity	NTU	0.1	-	-	5.85	1.06	7.81	-
Acidity (as CaCO3)	mg/L	2	-	2.8	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	<10	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.114	-	-	-	-
Chloride (Cl)	mg/L	0.5	-	0.89	-	-	-	-
Fluoride (F)	mg/L	0.02	-	<0.020	-	-	-	-
Nitrate (as N)	mg/L	0.02	-	0.658	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.26	-	-	-	-
Phosphorus, Total	mg/L	0.003	-	0.0158	-	-	-	-
Sulfate (SO4)	mg/L	0.3	-	70.6	-	-	-	-
Cyanide, Total	mg/L	0.002	1	<0.0020	-	-	<0.020	-
Dissolved Organic Carbon	mg/L	0.5	-	<0.50	-	-	-	-
Total Organic Carbon	mg/L	0.5	-	0.97	-	-	-	-
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	0.342	-	-	0.107	-
Antimony (Sb)-Total	mg/L	0.0001	-	<0.00010	-	-	<0.00010	-
Arsenic (As)-Total	mg/L	0.0001	0.5	0.0001	-	-	<0.00010	-
Barium (Ba)-Total	mg/L	0.0002	-	0.00692	-	-	0.00776	-
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	-	<0.010	-	-	0.012	-
Cadmium (Cd)-Total	mg/L	0.00001	-	0.000017	-	-	0.000049	-
Calcium (Ca)-Total	mg/L	0.5	-	6.93	-	-	16.8	-
Cesium (Cs)-Total	mg/L	0.00001	-	0.000048	-	-	0.000015	-
Chromium (Cr)-Total	mg/L	0.0005	-	0.00105	-	-	<0.00050	-
Cobalt (Co)-Total	mg/L	0.0001	-	0.00637	-	-	0.0196	-
Copper (Cu)-Total	mg/L	0.001	0.3	0.003	-	-	0.0024	-
Iron (Fe)-Total	mg/L	0.05	-	0.857	-	-	0.939	-
Lead (Pb)-Total	mg/L	0.00005	0.2	0.000688	-	-	0.000354	-
Lithium (Li)-Total	mg/L	0.001	-	0.0018	-	-	0.004	-
Magnesium (Mg)-Total	mg/L	0.05	-	16.8	-	-	42.9	-
Manganese (Mn)-Total	mg/L	0.0005	-	0.552	-	-	1.54	-
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000083	-	-	0.000061	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00695	-	-	0.0211	-
Phosphorus (P)-Total	mg/L	0.05	-	<0.050	-	-	<0.050	-
Potassium (K)-Total	mg/L	0.05	-	0.697	-	-	1.01	-
Rubidium (Rb)-Total	mg/L	0.0002	-	0.00192	-	-	0.00192	-
Selenium (Se)-Total	mg/L	0.00005	-	0.000323	-	-	0.000902	-
Silicon (Si)-Total	mg/L	0.1	-	0.69	-	-	0.56	-
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	-	-	<0.000050	-
Sodium (Na)-Total	mg/L	0.5	-	<0.50	-	-	0.76	-
Strontium (Sr)-Total	mg/L	0.001	-	0.0046	-	-	0.0115	-
Sulfur (S)-Total	mg/L	0.5	-	26.6	-	-	74.3	-
Tellurium (Te)-Total	mg/L	0.0002	-	<0.00020	-	-	<0.00020	-
Thallium (Tl)-Total	mg/L	0.00001	-	0.000014	-	-	0.000022	-
Thorium (Th)-Total	mg/L	0.0001	-	0.00053	-	-	0.00012	-
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	-	-	<0.00010	-
Titanium (Ti)-Total	mg/L	0.0003	-	0.019	-	-	<0.0060	-
Tungsten (W)-Total	mg/L	0.0001	-	<0.00010	-	-	<0.00010	-
Uranium (U)-Total	mg/L	0.00001	-	0.000165	-	-	0.000086	-
Vanadium (V)-Total	mg/L	0.0005	-	0.00083	-	-	<0.00050	-
Zinc (Zn)-Total	mg/L	0.003	0.5	0.0046	-	-	0.0068	-
Zirconium (Zr)-Total	mg/L	0.0003	-	0.00035	-	-	<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	-	0.00419	-	-	-	-
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	-	<0.010	-	-	-	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	0.000018	-	-	-	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	6.98	-	-	-	-
Cesium (Cs)-Dissolved	mg/L	0.00001	-	<0.000010	-	-	-	-
Chromium (Cr)-Dissolved	mg/L	0.0005	-	<0.00050	-	-	-	-
Cobalt (Co)-Dissolved	mg/L	0.0001	-	0.00586	-	-	-	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.001	-	-	-	-
Iron (Fe)-Dissolved	mg/L	0.01	-	0.16	-	-	-	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	<0.000050	-	-	-	-
Lithium (Li)-Dissolved	mg/L	0.001	-	0.0021	-	-	-	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	15.5	-	-	-	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	0.504	-	-	-	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	-	-	-	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	0.000082	-	-	-	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.006	-	-	-	-
Phosphorus (P)-Dissolved	mg/L	0.05	-	<0.050	-	-	-	-
Potassium (K)-Dissolved	mg/L	0.05	-	0.519	-	-	-	-
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	0.00075	-	-	-	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.000335	-	-	-	-
Silicon (Si)-Dissolved	mg/L	0.05	-	0.164	-	-	-	-
Silver (Ag)-Dissolved	mg/L	0.00005	-	<0.000050	-	-	-	-
Sodium (Na)-Dissolved	mg/L	0.5	-	<0.50	-	-	-	-
Strontium (Sr)-Dissolved	mg/L	0.001	-	0.0047	-	-	-	-
Sulfur (S)-Dissolved	mg/L	0.5	-	25.8	-	-	-	-
Tellurium (Te)-Dissolved	mg/L	0.0002	-	<0.00020	-	-	-	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	<0.000010	-	-	-	-
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	-	0.000031	-	-	-	-
Vanadium (V)-Dissolved	mg/L	0.0005	-	<0.00050	-	-	-	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0028	-	-	-	-
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	<0.00030	-	-	-	-
Ra-226	Bq/L	0.0045	0.37	0.012	-	-	0.012	-
Acute Lethality ^{2,3}	N/A	-	Non-Lethal	-	-	-	-	Non-lethal

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Pond

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

**TABLE 5.2.15
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 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-08	MS-0802
	ALS Laboratory Sample ID			L1957684-2	L1963051-1	L1962205-1	L1965122-1	L1965122-2
	Sample Date & Time			7/11/2017 10:00:00 AM	7/18/2017 10:15:00 AM	7/19/2017 10:00:00 AM	7/21/2017 11:15:00 AM	7/21/2017 11:15:00 AM
	QA/QC Sample Type			Duplicate	N/A	N/A	N/A	Field Blank
	Units	LOR	Water Licence and MMR Criteria ¹					
Conductivity	umhos/cm	3	-	486	608	-	656	<3.0
Hardness (as CaCO3)	mg/L	10	-	-	-	-	318	<10
pH	pH units	0.1	6.0 - 9.5	6.6	6.93	6.69	6.92	6.21
Total Suspended Solids	mg/L	2	15	4.6	5.8	4.4	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	353	446	462	-	-
Turbidity	NTU	0.1	-	7.66	10.1	6.75	-	-
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	-	-	10	<10
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-	0.431	<0.020
Chloride (Cl)	mg/L	0.5	-	-	-	-	2.59	<0.50
Fluoride (F)	mg/L	0.02	-	-	-	-	0.024	<0.020
Nitrate (as N)	mg/L	0.02	-	-	-	-	2.46	<0.020
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	-	-	0.62	<0.15
Phosphorus, Total	mg/L	0.003	-	-	-	-	<0.015	<0.0030
Sulfate (SO4)	mg/L	0.3	-	-	-	-	308	<0.30
Cyanide, Total	mg/L	0.002	1	0.0023	<0.0020	-	-	-
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	<1.0	<1.0
Total Organic Carbon	mg/L	0.5	-	-	-	-	<1.0	<1.0
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	0.0742	0.167	-	0.0363	0.0393
Antimony (Sb)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.00010	<0.00010	-	<0.00010	<0.00010
Barium (Ba)-Total	mg/L	0.0002	-	0.0076	0.0104	-	0.0101	0.00055
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	-	0.012	0.015	-	0.014	<0.010
Cadmium (Cd)-Total	mg/L	0.00001	-	0.000053	0.000058	-	0.000057	<0.000010
Calcium (Ca)-Total	mg/L	0.5	-	16.2	20.8	-	22.6	0.52
Cesium (Cs)-Total	mg/L	0.00001	-	0.000012	0.000028	-	<0.000010	<0.000010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.00050	0.00059	-	<0.00050	<0.00050
Cobalt (Co)-Total	mg/L	0.0001	-	0.0195	0.0231	-	0.0249	<0.00010
Copper (Cu)-Total	mg/L	0.001	0.3	0.0024	0.0026	-	0.007	<0.0010
Iron (Fe)-Total	mg/L	0.05	-	0.855	0.91	-	0.477	<0.050
Lead (Pb)-Total	mg/L	0.00005	0.2	0.000762	0.000329	-	0.000485	<0.000050
Lithium (Li)-Total	mg/L	0.001	-	0.0039	0.0046	-	0.0045	<0.0010
Magnesium (Mg)-Total	mg/L	0.05	-	41.7	57.7	-	63.5	<0.050
Manganese (Mn)-Total	mg/L	0.0005	-	1.53	1.94	-	2.12	<0.00050
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000058	0.000064	-	<0.000050	<0.000050
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.0206	0.0266	-	0.0283	<0.00050
Phosphorus (P)-Total	mg/L	0.05	-	<0.050	<0.050	-	<0.050	<0.050
Potassium (K)-Total	mg/L	0.05	-	1	1.22	-	1.23	<0.050
Rubidium (Rb)-Total	mg/L	0.0002	-	0.00194	0.0026	-	0.00214	<0.00020
Selenium (Se)-Total	mg/L	0.00005	-	0.000933	0.00117	-	0.00119	<0.000050
Silicon (Si)-Total	mg/L	0.1	-	0.5	0.75	-	0.55	2.4
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	<0.000050	-	<0.000050	<0.000050
Sodium (Na)-Total	mg/L	0.5	-	0.76	0.96	-	0.97	0.64
Strontium (Sr)-Total	mg/L	0.001	-	0.0116	0.0154	-	0.0155	<0.0010
Sulfur (S)-Total	mg/L	0.5	-	76.4	94.6	-	107	<0.50
Tellurium (Te)-Total	mg/L	0.0002	-	<0.00020	<0.00020	-	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	0.00001	-	0.000021	0.000025	-	0.00002	<0.000010
Thorium (Th)-Total	mg/L	0.0001	-	<0.00010	0.0002	-	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-	0.00042	<0.00010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.00030	0.00963	-	<0.002	<0.00030
Tungsten (W)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-	<0.00010	<0.00010
Uranium (U)-Total	mg/L	0.00001	-	0.000081	0.00011	-	0.000055	<0.000010
Vanadium (V)-Total	mg/L	0.0005	-	<0.00050	<0.00050	-	<0.00050	<0.00050
Zinc (Zn)-Total	mg/L	0.003	0.5	0.008	0.0067	-	0.01	<0.0030
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.00030	<0.00030	-	<0.00030	<0.00030
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	<0.0067	0.012	-	0.01	<0.0066
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Pond

²Acute lethality to Rainbow trout, Oncorhynchus mykiss (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to Daphnia magna (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

**TABLE 5.2.15
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08**

Analyte	Sample ID			MS-08	MS-08	MS-08	MS-08	MS-08
	ALS Laboratory Sample ID			L1965132-1	L1969645-1	L1969176-15	234061	L1971191-1
	Sample Date & Time			7/25/2017 9:20:00 AM	7/29/2017 7:30:00 PM	8/1/2017 4:30:00 PM	8/1/2017 4:30:00 PM	8/3/2017 10:25:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MMR Criteria ¹					
Conductivity	umhos/cm	3	-	695	-	1860	-	-
Hardness (as CaCO3)	mg/L	10	-	338	-	-	-	-
pH	pH units	0.1	6.0 - 9.5	6.98	6.4	5.25	-	4.8
Total Suspended Solids	mg/L	2	15	<2.0	10.1	10.7	-	2.8
Total Dissolved Solids	mg/L	13	-	527	753	1700	-	1840
Turbidity	NTU	0.1	-	-	21.6	20.1	-	8.05
Acidity (as CaCO3)	mg/L	2	-	3.3	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	12	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.414	-	-	-	-
Chloride (Cl)	mg/L	0.5	-	2.73	-	-	-	-
Fluoride (F)	mg/L	0.02	-	0.03	-	-	-	-
Nitrate (as N)	mg/L	0.02	-	2.61	-	-	-	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	0.57	-	-	-	-
Phosphorus, Total	mg/L	0.003	-	<0.0030	-	-	-	-
Sulfate (SO4)	mg/L	0.3	-	334	-	-	-	-
Cyanide, Total	mg/L	0.002	1	<0.0020	-	0.0056	-	-
Dissolved Organic Carbon	mg/L	0.5	-	<1.0	-	-	-	-
Total Organic Carbon	mg/L	0.5	-	<1.0	-	-	-	-
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	0.0322	-	0.816	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	<0.00010	-	<0.0010	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.00010	-	<0.0010	-	-
Barium (Ba)-Total	mg/L	0.0002	-	0.0108	-	0.0201	-	-
Beryllium (Be)-Total	mg/L	0.0001	-	<0.00010	-	<0.0010	-	-
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.000050	-	<0.00050	-	-
Boron (B)-Total	mg/L	0.01	-	0.014	-	<0.10	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	0.000056	-	0.00027	-	-
Calcium (Ca)-Total	mg/L	0.5	-	24.8	-	53.6	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	<0.000010	-	<0.00010	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	<0.00050	-	<0.0050	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	0.024	-	0.186	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	0.0013	-	0.029	-	-
Iron (Fe)-Total	mg/L	0.05	-	0.393	-	34.8	-	-
Lead (Pb)-Total	mg/L	0.00005	0.2	0.000143	-	0.00764	-	-
Lithium (Li)-Total	mg/L	0.001	-	0.0049	-	0.014	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	58.1	-	227	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	2.31	-	9.6	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	<0.000050	-	<0.00050	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.0267	-	0.215	-	-
Phosphorus (P)-Total	mg/L	0.05	-	<0.050	-	<0.50	-	-
Potassium (K)-Total	mg/L	0.05	-	1.14	-	2.31	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	0.00218	-	0.0045	-	-
Selenium (Se)-Total	mg/L	0.00005	-	0.00128	-	0.0031	-	-
Silicon (Si)-Total	mg/L	0.1	-	0.51	-	1.5	-	-
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	-	<0.00050	-	-
Sodium (Na)-Total	mg/L	0.5	-	0.86	-	<5.0	-	-
Strontium (Sr)-Total	mg/L	0.001	-	0.0169	-	0.038	-	-
Sulfur (S)-Total	mg/L	0.5	-	106	-	374	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	<0.00020	-	<0.0020	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	0.000024	-	<0.00010	-	-
Thorium (Th)-Total	mg/L	0.0001	-	<0.00010	-	<0.0010	-	-
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	-	<0.0010	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	0.00134	-	<0.007	-	-
Tungsten (W)-Total	mg/L	0.0001	-	<0.00010	-	<0.0010	-	-
Uranium (U)-Total	mg/L	0.00001	-	0.000057	-	0.00121	-	-
Vanadium (V)-Total	mg/L	0.0005	-	<0.00050	-	<0.0050	-	-
Zinc (Zn)-Total	mg/L	0.003	0.5	0.0048	-	0.042	-	-
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.00030	-	<0.0030	-	-
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	-	0.0108	-	-	-	-
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	-	0.014	-	-	-	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	0.000061	-	-	-	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	24.6	-	-	-	-
Cesium (Cs)-Dissolved	mg/L	0.00001	-	<0.000010	-	-	-	-
Chromium (Cr)-Dissolved	mg/L	0.0005	-	<0.00050	-	-	-	-
Cobalt (Co)-Dissolved	mg/L	0.0001	-	0.0256	-	-	-	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	0.00026	-	-	-	-
Iron (Fe)-Dissolved	mg/L	0.01	-	0.087	-	-	-	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	<0.000050	-	-	-	-
Lithium (Li)-Dissolved	mg/L	0.001	-	0.0047	-	-	-	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	67.1	-	-	-	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	2.46	-	-	-	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	<0.000010	-	-	-	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	<0.000050	-	-	-	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	0.0286	-	-	-	-
Phosphorus (P)-Dissolved	mg/L	0.05	-	<0.050	-	-	-	-
Potassium (K)-Dissolved	mg/L	0.05	-	1.31	-	-	-	-
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	0.00221	-	-	-	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	0.00135	-	-	-	-
Silicon (Si)-Dissolved	mg/L	0.05	-	0.49	-	-	-	-
Silver (Ag)-Dissolved	mg/L	0.00005	-	<0.000050	-	-	-	-
Sodium (Na)-Dissolved	mg/L	0.5	-	1.07	-	-	-	-
Strontium (Sr)-Dissolved	mg/L	0.001	-	0.016	-	-	-	-
Sulfur (S)-Dissolved	mg/L	0.5	-	113	-	-	-	-
Tellurium (Te)-Dissolved	mg/L	0.0002	-	<0.00020	-	-	-	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	0.000022	-	-	-	-
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	-	0.000024	-	-	-	-
Vanadium (V)-Dissolved	mg/L	0.0005	-	<0.00050	-	-	-	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	0.0051	-	-	-	-
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	<0.00030	-	-	-	-
Ra-226	Bq/L	0.0045	0.37	0.0077	-	0.015	-	-
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	-	Lethal	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Pond

²Acute lethality to Rainbow trout, Oncorhynchus mykiss (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to Daphnia magna (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.15
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08

Analyte	Sample ID			MS-08	MS-08	MS-08	MS-08	MS-08
	ALS Laboratory Sample ID			L1981313-3	L1980957-1	234211	L1981776-1	L1981313-1
	Sample Date & Time			8/24/2017 4:25:00 PM	8/24/2017 4:45:00 PM	8/24/2017 4:45:00 PM	8/24/2017 6:05:00 PM	8/24/2017 7:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MMR Criteria ¹					
Conductivity	umhos/cm	3	-	-	3330	-	-	-
Hardness (as CaCO3)	mg/L	10	-	-	1990	-	-	-
pH	pH units	0.1	6.0 - 9.5	6.96	6.99	-	6.9	7.02
Total Suspended Solids	mg/L	2	15	13.6	13.3	-	12	12.4
Total Dissolved Solids	mg/L	13	-	3070	3140	-	3130	2840
Turbidity	NTU	0.1	-	43.7	-	-	42.3	37.4
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	82	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	1.67	-	-	-
Chloride (Cl)	mg/L	0.5	-	-	9.1	-	-	-
Fluoride (F)	mg/L	0.02	-	-	<0.20	-	-	-
Nitrate (as N)	mg/L	0.02	-	-	7.98	-	-	-
Total Kjeldahl Nitrogen	mg/L	0.15	-	-	2.08	-	-	-
Phosphorus, Total	mg/L	0.003	-	-	<0.0030	-	-	-
Sulfate (SO4)	mg/L	0.3	-	-	2040	-	-	-
Cyanide, Total	mg/L	0.002	1	-	<0.20	-	-	-
Dissolved Organic Carbon	mg/L	0.5	-	-	1.4	-	-	-
Total Organic Carbon	mg/L	0.5	-	-	1.5	-	-	-
Acidity (as CaCO3)	mg/L	2	-	-	14	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	-	<0.050	-	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	-	<0.0010	-	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	-	<0.0010	-	-	-
Barium (Ba)-Total	mg/L	0.0002	-	-	0.0271	-	-	-
Beryllium (Be)-Total	mg/L	0.0001	-	-	<0.0010	-	-	-
Bismuth (Bi)-Total	mg/L	0.00005	-	-	<0.00050	-	-	-
Boron (B)-Total	mg/L	0.01	-	-	<0.10	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-	0.00038	-	-	-
Calcium (Ca)-Total	mg/L	0.5	-	-	88.6	-	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	-	<0.00010	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	-	<0.0050	-	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	-	0.283	-	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	-	<0.010	-	-	-
Iron (Fe)-Total	mg/L	0.05	-	-	7.1	-	-	-
Lead (Pb)-Total	mg/L	0.00005	0.2	-	<0.00050	-	-	-
Lithium (Li)-Total	mg/L	0.001	-	-	0.024	-	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	-	423	-	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	-	18.1	-	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	-	<0.000010	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	<0.00050	-	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	-	0.317	-	-	-
Phosphorus (P)-Total	mg/L	0.05	-	-	<0.50	-	-	-
Potassium (K)-Total	mg/L	0.05	-	-	3.45	-	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-	0.0061	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	-	0.00474	-	-	-
Silicon (Si)-Total	mg/L	0.1	-	-	1.1	-	-	-
Silver (Ag)-Total	mg/L	0.00005	-	-	<0.00050	-	-	-
Sodium (Na)-Total	mg/L	0.5	-	-	95.1	-	-	-
Strontium (Sr)-Total	mg/L	0.001	-	-	0.06	-	-	-
Sulfur (S)-Total	mg/L	0.5	-	-	762	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	<0.0020	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	-	0.00011	-	-	-
Thorium (Th)-Total	mg/L	0.0001	-	-	<0.0010	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	-	<0.0010	-	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	-	<0.0030	-	-	-
Tungsten (W)-Total	mg/L	0.0001	-	-	<0.0010	-	-	-
Uranium (U)-Total	mg/L	0.00001	-	-	<0.00010	-	-	-
Vanadium (V)-Total	mg/L	0.0005	-	-	<0.0050	-	-	-
Zinc (Zn)-Total	mg/L	0.003	0.5	-	<0.030	-	-	-
Zirconium (Zr)-Total	mg/L	0.0003	-	-	<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	-	-	0.0264	-	-	-
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	-	-	0.00032	-	-	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	89.9	-	-	-
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	-	-	0.27	-	-	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	<0.0020	-	-	-
Iron (Fe)-Dissolved	mg/L	0.01	-	-	2.79	-	-	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	<0.00050	-	-	-
Lithium (Li)-Dissolved	mg/L	0.001	-	-	0.025	-	-	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	429	-	-	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	17.9	-	-	-
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	-	-	0.301	-	-	-
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	<0.50	-	-	-
Potassium (K)-Dissolved	mg/L	0.05	-	-	3.47	-	-	-
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	0.0064	-	-	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	0.00475	-	-	-
Silicon (Si)-Dissolved	mg/L	0.05	-	-	1.01	-	-	-
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	<0.00050	-	-	-
Sodium (Na)-Dissolved	mg/L	0.5	-	-	95.3	-	-	-
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	0.061	-	-	-
Sulfur (S)-Dissolved	mg/L	0.5	-	-	729	-	-	-
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	-	-	<0.00010	-	-	-
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	<0.0050	-	-	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	0.016	-	-	-
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	-	<0.0030	-	-	-
Ra-226	Bq/L	0.0045	0.37	-	0.03	-	-	-
Acute Lethality ^{2,3}	N/A	-	Non-Lethal	-	-	Non-lethal	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Pond

²Acute lethality to Rainbow trout, Oncorhynchus mykiss (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to Daphnia magna (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

**TABLE 5.2.15
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08**

Analyte	Sample ID			MS-08	MS-08	MS-08	MS-08	MS-08
	ALS Laboratory Sample ID			L1981313-2	L1981303-2	L1981529-2	L1981703-2	L1981704-2
	Sample Date & Time			8/24/2017 8:00:00 PM	8/25/2017 8:05:00 AM	8/25/2017 2:30:00 PM	8/25/2017 6:20:00 PM	8/26/2017 9:35:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MMR Criteria ¹					
Conductivity	umhos/cm	3	-	-	-	-	-	-
Hardness (as CaCO3)	mg/L	10	-	-	-	-	-	-
pH	pH units	0.1	6.0 - 9.5	6.99	7.2	7.36	7.45	7.62
Total Suspended Solids	mg/L	2	15	10.8	7.6	6.4	4.4	10
Total Dissolved Solids	mg/L	13	-	2860	3110	3140	3140	3100
Turbidity	NTU	0.1	-	36.1	18.6	15.9	12.1	17.1
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-	-	-
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	-	-	-	-	-
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	-	-
Total Organic Carbon	mg/L	0.5	-	-	-	-	-	-
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	-	-	-	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	-	-	-	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	-	-	-	-	-
Barium (Ba)-Total	mg/L	0.0002	-	-	-	-	-	-
Beryllium (Be)-Total	mg/L	0.0001	-	-	-	-	-	-
Bismuth (Bi)-Total	mg/L	0.00005	-	-	-	-	-	-
Boron (B)-Total	mg/L	0.01	-	-	-	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-	-	-	-	-
Calcium (Ca)-Total	mg/L	0.5	-	-	-	-	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	-	-	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	-	-	-	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	-	-	-	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	-	-	-	-	-
Iron (Fe)-Total	mg/L	0.05	-	-	-	-	-	-
Lead (Pb)-Total	mg/L	0.00005	0.2	-	-	-	-	-
Lithium (Li)-Total	mg/L	0.001	-	-	-	-	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	-	-	-	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	-	-	-	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	-	-	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	-	-	-	-	-
Phosphorus (P)-Total	mg/L	0.05	-	-	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	-	-	-	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	-	-	-	-	-
Silicon (Si)-Total	mg/L	0.1	-	-	-	-	-	-
Silver (Ag)-Total	mg/L	0.00005	-	-	-	-	-	-
Sodium (Na)-Total	mg/L	0.5	-	-	-	-	-	-
Strontium (Sr)-Total	mg/L	0.001	-	-	-	-	-	-
Sulfur (S)-Total	mg/L	0.5	-	-	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	-	-	-	-	-
Thorium (Th)-Total	mg/L	0.0001	-	-	-	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	-	-	-	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	-	-	-	-	-
Tungsten (W)-Total	mg/L	0.0001	-	-	-	-	-	-
Uranium (U)-Total	mg/L	0.00001	-	-	-	-	-	-
Vanadium (V)-Total	mg/L	0.0005	-	-	-	-	-	-
Zinc (Zn)-Total	mg/L	0.003	0.5	-	-	-	-	-
Zirconium (Zr)-Total	mg/L	0.0003	-	-	-	-	-	-
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	-	-	-	-	-
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Pond

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.15
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08

Analyte	Sample ID			MS-08	MS-08	MS-08	MS-08	MS-08
	ALS Laboratory Sample ID			L1981776-2	L1981778-2	L1981779-2	L1984355-1	L1984358-1
	Sample Date & Time			8/26/2017 3:40:00 PM	8/26/2017 6:00:00 PM	8/27/2017 8:20:00 AM	8/28/2017 12:20:00 PM	8/29/2017 8:49:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MMR Criteria ¹					
Conductivity	umhos/cm	3	-	-	-	-	-	-
Hardness (as CaCO3)	mg/L	10	-	-	-	-	-	-
pH	pH units	0.1	6.0 - 9.5	7.63	7.66	7.64	7.76	7.59
Total Suspended Solids	mg/L	2	15	17.2	15.6	240	11.8	12.8
Total Dissolved Solids	mg/L	13	-	2980	3060	2800	2680	2680
Turbidity	NTU	0.1	-	26.8	22.5	210	18.8	30.8
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	-	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-	-	-
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	-	-	-	-	-
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	-	-
Total Organic Carbon	mg/L	0.5	-	-	-	-	-	-
Acidity (as CaCO3)	mg/L	2	-	-	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	-	-	-	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	-	-	-	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	-	-	-	-	-
Barium (Ba)-Total	mg/L	0.0002	-	-	-	-	-	-
Beryllium (Be)-Total	mg/L	0.0001	-	-	-	-	-	-
Bismuth (Bi)-Total	mg/L	0.00005	-	-	-	-	-	-
Boron (B)-Total	mg/L	0.01	-	-	-	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-	-	-	-	-
Calcium (Ca)-Total	mg/L	0.5	-	-	-	-	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	-	-	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	-	-	-	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	-	-	-	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	-	-	-	-	-
Iron (Fe)-Total	mg/L	0.05	-	-	-	-	-	-
Lead (Pb)-Total	mg/L	0.00005	0.2	-	-	-	-	-
Lithium (Li)-Total	mg/L	0.001	-	-	-	-	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	-	-	-	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	-	-	-	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	-	-	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	-	-	-	-	-
Phosphorus (P)-Total	mg/L	0.05	-	-	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	-	-	-	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	-	-	-	-	-
Silicon (Si)-Total	mg/L	0.1	-	-	-	-	-	-
Silver (Ag)-Total	mg/L	0.00005	-	-	-	-	-	-
Sodium (Na)-Total	mg/L	0.5	-	-	-	-	-	-
Strontium (Sr)-Total	mg/L	0.001	-	-	-	-	-	-
Sulfur (S)-Total	mg/L	0.5	-	-	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	-	-	-	-	-
Thorium (Th)-Total	mg/L	0.0001	-	-	-	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	-	-	-	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	-	-	-	-	-
Tungsten (W)-Total	mg/L	0.0001	-	-	-	-	-	-
Uranium (U)-Total	mg/L	0.00001	-	-	-	-	-	-
Vanadium (V)-Total	mg/L	0.0005	-	-	-	-	-	-
Zinc (Zn)-Total	mg/L	0.003	0.5	-	-	-	-	-
Zirconium (Zr)-Total	mg/L	0.0003	-	-	-	-	-	-
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	-	-	-	-	-
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Pond

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.15
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08

Analyte	Sample ID			MS-08	MS-08	MS-08	MS-08	MS-08
	ALS Laboratory Sample ID			L1984409-1	L1984409-2	L1984365-1	L1985509-3	L1985509-1
	Sample Date & Time			8/29/2017 10:50:00 AM	8/29/2017 11:00:00 AM	8/29/2017 2:58:00 PM	8/30/2017 11:50:00 AM	8/30/2017 6:05:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MMR Criteria ¹					
Conductivity	umhos/cm	3	-	-	-	-	2850	-
Hardness (as CaCO ₃)	mg/L	10	-	-	-	-	-	-
pH	pH units	0.1	6.0 - 9.5	7.61	7.62	7.57	6.5	6.43
Total Suspended Solids	mg/L	2	15	9.8	9.8	9.1	26.3	29.6
Total Dissolved Solids	mg/L	13	-	2600	2570	2610	2810	2940
Turbidity	NTU	0.1	-	27	27.4	29.1	78.3	95.1
Acidity (as CaCO ₃)	mg/L	2	-	-	-	-	-	-
Alkalinity, Total (as CaCO ₃)	mg/L	10	-	-	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-	-	-
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 (SO ₄)	mg/L	0.3	-	-	-	-	-	-
Cyanide, Total	mg/L	0.002	1	-	-	-	0.0078	-
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	-	-
Total Organic Carbon	mg/L	0.5	-	-	-	-	-	-
Acidity (as CaCO ₃)	mg/L	2	-	-	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	-	-	-	0.324	-
Antimony (Sb)-Total	mg/L	0.0001	-	-	-	-	<0.0010	-
Arsenic (As)-Total	mg/L	0.0001	0.5	-	-	-	<0.0010	-
Barium (Ba)-Total	mg/L	0.0002	-	-	-	-	0.0295	-
Beryllium (Be)-Total	mg/L	0.0001	-	-	-	-	<0.0010	-
Bismuth (Bi)-Total	mg/L	0.00005	-	-	-	-	<0.00050	-
Boron (B)-Total	mg/L	0.01	-	-	-	-	<0.10	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-	-	-	0.00025	-
Calcium (Ca)-Total	mg/L	0.5	-	-	-	-	86.3	-
Cesium (Cs)-Total	mg/L	0.00001	-	-	-	-	<0.00010	-
Chromium (Cr)-Total	mg/L	0.0005	-	-	-	-	<0.0050	-
Cobalt (Co)-Total	mg/L	0.0001	-	-	-	-	0.242	-
Copper (Cu)-Total	mg/L	0.001	0.3	-	-	-	<0.010	-
Iron (Fe)-Total	mg/L	0.05	-	-	-	-	12.4	-
Lead (Pb)-Total	mg/L	0.00005	0.2	-	-	-	0.0008	-
Lithium (Li)-Total	mg/L	0.001	-	-	-	-	0.022	-
Magnesium (Mg)-Total	mg/L	0.05	-	-	-	-	404	-
Manganese (Mn)-Total	mg/L	0.0005	-	-	-	-	16.6	-
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	-	-	<0.00050	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	-	-	-	0.261	-
Phosphorus (P)-Total	mg/L	0.05	-	-	-	-	<0.50	-
Potassium (K)-Total	mg/L	0.05	-	-	-	-	3.07	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-	-	0.0054	-
Selenium (Se)-Total	mg/L	0.00005	-	-	-	-	0.0041	-
Silicon (Si)-Total	mg/L	0.1	-	-	-	-	1.2	-
Silver (Ag)-Total	mg/L	0.00005	-	-	-	-	<0.00050	-
Sodium (Na)-Total	mg/L	0.5	-	-	-	-	65.6	-
Strontium (Sr)-Total	mg/L	0.001	-	-	-	-	0.059	-
Sulfur (S)-Total	mg/L	0.5	-	-	-	-	650	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	-	-	<0.0020	-
Thallium (Tl)-Total	mg/L	0.00001	-	-	-	-	0.00016	-
Thorium (Th)-Total	mg/L	0.0001	-	-	-	-	<0.0010	-
Tin (Sn)-Total	mg/L	0.0001	-	-	-	-	<0.0010	-
Titanium (Ti)-Total	mg/L	0.0003	-	-	-	-	<0.0050	-
Tungsten (W)-Total	mg/L	0.0001	-	-	-	-	<0.0010	-
Uranium (U)-Total	mg/L	0.00001	-	-	-	-	0.00151	-
Vanadium (V)-Total	mg/L	0.0005	-	-	-	-	<0.0050	-
Zinc (Zn)-Total	mg/L	0.003	0.5	-	-	-	<0.030	-
Zirconium (Zr)-Total	mg/L	0.0003	-	-	-	-	<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	-	-	-	0.023	-
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	-	-	-

Notes:

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

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³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

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2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08

Analyte	Sample ID			MS-08	MS-08	MS-08	MS-08-1	MS-08-3
	ALS Laboratory Sample ID			L1985515-1	L1985520-1	L1988035-1	L1988046-1	L1988308-1
	Sample Date & Time			8/31/2017 8:30:00 AM	8/31/2017 11:55:00 AM	9/1/2017 4:45:00 PM	9/3/2017 11:45:00 AM	9/4/2017 5:35:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MMR Criteria ¹					
Conductivity	umhos/cm	3	-	-	-	-	-	-
Hardness (as CaCO ₃)	mg/L	10	-	-	-	-	-	-
pH	pH units	0.1	6.0 - 9.5	6.84	7.08	5.8	5.45	5.55
Total Suspended Solids	mg/L	2	15	24.5	26.4	34.8	18.4	22.7
Total Dissolved Solids	mg/L	13	-	2890	2860	3320	3530	3670
Turbidity	NTU	0.1	-	84.5	85.6	129	75.4	63.7
Acidity (as CaCO ₃)	mg/L	2	-	-	-	-	-	-
Alkalinity, Total (as CaCO ₃)	mg/L	10	-	-	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-	-	-
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 (SO ₄)	mg/L	0.3	-	-	-	-	-	-
Cyanide, Total	mg/L	0.002	1	-	-	-	-	-
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	-	-
Total Organic Carbon	mg/L	0.5	-	-	-	-	-	-
Acidity (as CaCO ₃)	mg/L	2	-	-	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	-	-	-	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	-	-	-	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	-	-	-	-	-
Barium (Ba)-Total	mg/L	0.0002	-	-	-	-	-	-
Beryllium (Be)-Total	mg/L	0.0001	-	-	-	-	-	-
Bismuth (Bi)-Total	mg/L	0.00005	-	-	-	-	-	-
Boron (B)-Total	mg/L	0.01	-	-	-	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	-	-	-	-	-
Calcium (Ca)-Total	mg/L	0.5	-	-	-	-	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	-	-	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	-	-	-	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	-	-	-	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	-	-	-	-	-
Iron (Fe)-Total	mg/L	0.05	-	-	-	-	-	-
Lead (Pb)-Total	mg/L	0.00005	0.2	-	-	-	-	-
Lithium (Li)-Total	mg/L	0.001	-	-	-	-	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	-	-	-	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	-	-	-	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	-	-	-	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	-	-	-	-	-
Phosphorus (P)-Total	mg/L	0.05	-	-	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	-	-	-	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	-	-	-	-	-
Silicon (Si)-Total	mg/L	0.1	-	-	-	-	-	-
Silver (Ag)-Total	mg/L	0.00005	-	-	-	-	-	-
Sodium (Na)-Total	mg/L	0.5	-	-	-	-	-	-
Strontium (Sr)-Total	mg/L	0.001	-	-	-	-	-	-
Sulfur (S)-Total	mg/L	0.5	-	-	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	-	-	-	-	-
Thorium (Th)-Total	mg/L	0.0001	-	-	-	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	-	-	-	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	-	-	-	-	-
Tungsten (W)-Total	mg/L	0.0001	-	-	-	-	-	-
Uranium (U)-Total	mg/L	0.00001	-	-	-	-	-	-
Vanadium (V)-Total	mg/L	0.0005	-	-	-	-	-	-
Zinc (Zn)-Total	mg/L	0.003	0.5	-	-	-	-	-
Zirconium (Zr)-Total	mg/L	0.0003	-	-	-	-	-	-
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	-	-	-	-	-
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and Sedimentation Pond

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

**TABLE 5.2.15
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-08**

Analyte	Sample ID			MS-08	MS-08-1	MS-08	MS-08-1
	ALS Laboratory Sample ID			L1988827-1	L1987487-1	234308	L1988700-1
	Sample Date & Time			9/4/2017 6:00:00 PM	9/5/2017 9:56:00 AM	9/5/2017 2:50:00 PM	9/6/2017 11:15:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A
	Units	LOR	Water Licence and MMR Criteria ¹				
Conductivity	umhos/cm	3	-	3420	-	-	-
Hardness (as CaCO ₃)	mg/L	10	-	-	-	-	-
pH	pH units	0.1	6.0 - 9.5	5.75	5.77	-	5.16
Total Suspended Solids	mg/L	2	15	13.2	12.1	-	12.8
Total Dissolved Solids	mg/L	13	-	3420	3830	-	3770
Turbidity	NTU	0.1	-	57.2	46.9	-	37.8
Acidity (as CaCO ₃)	mg/L	2	-	-	-	-	-
Alkalinity, Total (as CaCO ₃)	mg/L	10	-	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-	-
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 (SO ₄)	mg/L	0.3	-	-	-	-	-
Cyanide, Total	mg/L	0.002	1	0.0067	-	-	-
Dissolved Organic Carbon	mg/L	0.5	-	-	-	-	-
Total Organic Carbon	mg/L	0.5	-	-	-	-	-
Acidity (as CaCO ₃)	mg/L	2	-	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	0.171	-	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	<0.0010	-	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.0010	-	-	-
Barium (Ba)-Total	mg/L	0.0002	-	0.0281	-	-	-
Beryllium (Be)-Total	mg/L	0.0001	-	<0.0010	-	-	-
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.00050	-	-	-
Boron (B)-Total	mg/L	0.01	-	<0.10	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	0.00034	-	-	-
Calcium (Ca)-Total	mg/L	0.5	-	98.4	-	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	<0.00010	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	<0.0050	-	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	0.373	-	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	<0.010	-	-	-
Iron (Fe)-Total	mg/L	0.05	-	28.9	-	-	-
Lead (Pb)-Total	mg/L	0.00005	0.2	<0.00050	-	-	-
Lithium (Li)-Total	mg/L	0.001	-	0.03	-	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	515	-	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	22	-	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	<0.00050	-	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.398	-	-	-
Phosphorus (P)-Total	mg/L	0.05	-	<0.50	-	-	-
Potassium (K)-Total	mg/L	0.05	-	3.56	-	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	0.006	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	0.00567	-	-	-
Silicon (Si)-Total	mg/L	0.1	-	1.5	-	-	-
Silver (Ag)-Total	mg/L	0.00005	-	<0.00050	-	-	-
Sodium (Na)-Total	mg/L	0.5	-	50.2	-	-	-
Strontium (Sr)-Total	mg/L	0.001	-	0.072	-	-	-
Sulfur (S)-Total	mg/L	0.5	-	866	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	<0.0020	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	0.00012	-	-	-
Thorium (Th)-Total	mg/L	0.0001	-	<0.0010	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	<0.0010	-	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	<0.0030	-	-	-
Tungsten (W)-Total	mg/L	0.0001	-	<0.0010	-	-	-
Uranium (U)-Total	mg/L	0.00001	-	0.00092	-	-	-
Vanadium (V)-Total	mg/L	0.0005	-	<0.0050	-	-	-
Zinc (Zn)-Total	mg/L	0.003	0.5	0.032	-	-	-
Zirconium (Zr)-Total	mg/L	0.0003	-	<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	0.022	-	-	-
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	Lethal	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 10: Effluent Quality Discharge Limits for Open Pit, Stockpiles, and

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Mett

³Acute lethality to Daphnia magna (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.16
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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
	ALS Laboratory Sample ID			L1933807-3	L1938558-1	L1942055-7	L1946654-11	L1949986-11	L1972601-10
	Sample Date & Time			5/29/2017 11:35:00 AM	6/5/2017 12:50:00 PM	6/12/2017 1:27:00 PM	6/20/2017 3:20:00 PM	6/26/2017 11:50:00 AM	8/8/2017 3:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹						
Conductivity	umhos/cm	3	-	34.9	62.9	-	-	-	-
pH	pH units	0.1	6.0 - 9.5	7.3	7.75	7.87	8	8.03	8.18
Total Suspended Solids	mg/L	2	15	4.9	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	14	30	29	195	230	285
Turbidity	NTU	0.1	-	-	-	1.42	0.59	0.34	1.06
Alkalinity, Total (as CaCO3)	mg/L	10	-	14	28	-	-	-	-
Dissolved Organic Carbon	mg/L	1	-	3.4	4	-	-	-	-
Total Organic Carbon	mg/L	1	-	3.1	3.8	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	0.206	0.036	-	-	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-	-	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.00010	<0.00010	-	-	-	-
Barium (Ba)-Total	mg/L	0.0002	-	0.00296	0.00462	-	-	-	-
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	-	<0.010	<0.010	-	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010	<0.000010	-	-	-	-
Calcium (Ca)-Total	mg/L	0.5	-	2.49	4.98	-	-	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	0.000016	<0.000010	-	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	<0.00050	<0.00050	-	-	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	0.00033	<0.00010	-	-	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	0.001	<0.0010	-	-	-	-
Iron (Fe)-Total	mg/L	0.05	-	0.513	0.086	-	-	-	-
Lead (Pb)-Total	mg/L	0.00005	0.2	0.000306	0.000052	-	-	-	-
Lithium (Li)-Total	mg/L	0.001	-	<0.0010	<0.0010	-	-	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	2.32	3.81	-	-	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	0.0149	0.00161	-	-	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	<0.000010	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.00017	0.000237	-	-	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00193	0.0039	-	-	-	-
Phosphorus (P)-Total	mg/L	0.05	-	<0.050	<0.050	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	0.622	0.817	-	-	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	0.00175	0.00205	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	<0.000050	<0.000050	-	-	-	-
Silicon (Si)-Total	mg/L	0.1	-	0.64	0.7	-	-	-	-
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	<0.000050	-	-	-	-
Sodium (Na)-Total	mg/L	0.5	-	<0.50	<0.50	-	-	-	-
Strontium (Sr)-Total	mg/L	0.001	-	0.0022	0.0035	-	-	-	-
Sulfur (S)-Total	mg/L	0.5	-	1.53	0.83	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	<0.00020	<0.00020	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	<0.000010	<0.000010	-	-	-	-
Thorium (Th)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-	-	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	0.00569	0.00086	-	-	-	-
Tungsten (W)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-	-	-	-
Uranium (U)-Total	mg/L	0.00001	-	0.000087	0.000048	-	-	-	-
Vanadium (V)-Total	mg/L	0.0005	-	<0.00050	<0.00050	-	-	-	-
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.0030	<0.0030	-	-	-	-
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.00030	<0.00030	-	-	-	-
Aluminum (Al)-Dissolved	mg/L	0.005	-	-	0.0076	-	-	-	-
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	-	-	0.0048	-	-	-	-
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	-	-	<0.010	-	-	-	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	<0.000010	-	-	-	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	5.46	-	-	-	-
Cesium (Cs)-Dissolved	mg/L	0.00001	-	-	<0.000010	-	-	-	-
Chromium (Cr)-Dissolved	mg/L	0.0005	-	-	<0.00050	-	-	-	-
Cobalt (Co)-Dissolved	mg/L	0.0001	-	-	<0.00010	-	-	-	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	0.00071	-	-	-	-
Iron (Fe)-Dissolved	mg/L	0.01	-	-	0.028	-	-	-	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	<0.000050	-	-	-	-
Lithium (Li)-Dissolved	mg/L	0.001	-	-	<0.0010	-	-	-	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	3.76	-	-	-	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	0.0007	-	-	-	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	<0.000010	-	-	-	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	0.000217	-	-	-	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	0.0037	-	-	-	-
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	<0.050	-	-	-	-
Potassium (K)-Dissolved	mg/L	0.05	-	-	0.846	-	-	-	-
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	0.00193	-	-	-	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	<0.000050	-	-	-	-
Silicon (Si)-Dissolved	mg/L	0.05	-	-	0.682	-	-	-	-
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	<0.000050	-	-	-	-
Sodium (Na)-Dissolved	mg/L	0.5	-	-	0.51	-	-	-	-
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	0.0037	-	-	-	-
Sulfur (S)-Dissolved	mg/L	0.5	-	-	0.8	-	-	-	-
Tellurium (Te)-Dissolved	mg/L	0.0002	-	-	<0.00020	-	-	-	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	<0.000010	-	-	-	-
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	-	-	0.000037	-	-	-	-
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	<0.00050	-	-	-	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	0.0029	-	-	-	-
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	-	<0.00030	-	-	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	-	-	-
Phenols (4AAP)	mg/L	0.001	-	0.0021	<0.0010	-	-	-	-
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	-	93.8	87.1	-	-	-	-
3,4-Dichlorotoluene	%	Surrogate	-	94.1	98.7	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 7: Effluent Quality Discharge Limits for the Landfill Facilities

TABLE 5.2.16
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-MRY-13A

Analyte	Sample ID			MS-MRY-13A
	ALS Laboratory Sample ID			L1984043-14
	Sample Date & Time			8/28/2017 2:30:00 PM
	QA/QC Sample Type			N/A
	Units	LOR	Water Licence Criteria ¹	
Conductivity	umhos/cm	3	-	420
pH	pH units	0.1	6.0 - 9.5	8.08
Total Suspended Solids	mg/L	2	15	<2.0
Total Dissolved Solids	mg/L	10	-	254
Turbidity	NTU	0.1	-	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	182
Dissolved Organic Carbon	mg/L	1	-	5.4
Total Organic Carbon	mg/L	1	-	4.9
Aluminum (Al)-Total	mg/L	0.005	-	0.0151
Antimony (Sb)-Total	mg/L	0.0001	-	<0.00010
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00019
Barium (Ba)-Total	mg/L	0.0002	-	0.0245
Beryllium (Be)-Total	mg/L	0.0001	-	<0.00010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.000050
Boron (B)-Total	mg/L	0.01	-	0.015
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010
Calcium (Ca)-Total	mg/L	0.5	-	32.2
Cesium (Cs)-Total	mg/L	0.00001	-	0.00001
Chromium (Cr)-Total	mg/L	0.0005	-	0.00055
Cobalt (Co)-Total	mg/L	0.0001	-	<0.00010
Copper (Cu)-Total	mg/L	0.001	0.3	0.0012
Iron (Fe)-Total	mg/L	0.05	-	<0.050
Lead (Pb)-Total	mg/L	0.00005	0.2	<0.000050
Lithium (Li)-Total	mg/L	0.001	-	0.0015
Magnesium (Mg)-Total	mg/L	0.05	-	26.6
Manganese (Mn)-Total	mg/L	0.0005	-	0.00105
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000222
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00769
Phosphorus (P)-Total	mg/L	0.05	-	<0.050
Potassium (K)-Total	mg/L	0.05	-	1.93
Rubidium (Rb)-Total	mg/L	0.0002	-	0.00626
Selenium (Se)-Total	mg/L	0.00005	-	<0.000050
Silicon (Si)-Total	mg/L	0.1	-	4.81
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050
Sodium (Na)-Total	mg/L	0.5	-	8.46
Strontium (Sr)-Total	mg/L	0.001	-	0.0202
Sulfur (S)-Total	mg/L	0.5	-	6.51
Tellurium (Te)-Total	mg/L	0.0002	-	<0.00020
Thallium (Tl)-Total	mg/L	0.00001	-	<0.000010
Thorium (Th)-Total	mg/L	0.0001	-	<0.00010
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010
Titanium (Ti)-Total	mg/L	0.0003	-	0.00104
Tungsten (W)-Total	mg/L	0.0001	-	<0.00010
Uranium (U)-Total	mg/L	0.00001	-	0.00108
Vanadium (V)-Total	mg/L	0.0005	-	<0.00050
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.0030
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.00030
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	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0
Phenols (4AAP)	mg/L	0.001	-	0.001
F1 (C6-C10)	ug/L	100	-	<100
F2 (C10-C16)	ug/L	100	-	<100
F3 (C16-C34)	ug/L	250	-	<250
F4 (C34-C50)	ug/L	250	-	<250
Total Hydrocarbons (C6-C50)	ug/L	380	-	<380
Chrom. to baseline at nC50		n/a	-	YES
2-Bromobenzotrifluoride	%	Surrogate	-	98.6
3,4-Dichlorotoluene	%	Surrogate	-	94.2

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 7: Effluent Quality Discharge Limits for the Lan

TABLE 5.2.17
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-MRY13-B	MS-MRY-13B
	ALS Laboratory Sample ID			L1933807-4	L1938558-2	L1942055-6	L1946654-12	L1949986-12	L1972601-11
	Sample Date & Time			5/29/2017 10:45:00 AM	6/5/2017 12:20:00 PM	6/12/2017 1:15:00 PM	6/20/2017 3:40:00 PM	6/26/2017 11:40:00 AM	8/8/2017 2:55:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	47.1	89.6	-	-	-	-
pH	pH units	0.1	6.0 - 9.5	7.37	7.76	7.99	8.15	8.18	8.28
Total Suspended Solids	mg/L	2	15	<2.0	2.1	2.1	6.4	4.8	<2.0
Total Dissolved Solids	mg/L	10	-	22	53	71	310	285	345
Turbidity	NTU	0.1	-	-	-	0.8	1.76	1.4	1.04
Alkalinity, Total (as CaCO3)	mg/L	10	-	17	33	-	-	-	-
Dissolved Organic Carbon	mg/L	1	-	3	4.3	-	-	-	-
Total Organic Carbon	mg/L	1	-	3	4.4	-	-	-	-
Aluminum (Al)-Total	mg/L	0.005	-	0.088	0.026	-	-	-	-
Antimony (Sb)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-	-	-	-
Arsenic (As)-Total	mg/L	0.0001	0.5	<0.00010	<0.00010	-	-	-	-
Barium (Ba)-Total	mg/L	0.0002	-	0.00387	0.00678	-	-	-	-
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	-	<0.010	0.012	-	-	-	-
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010	0.00001	-	-	-	-
Calcium (Ca)-Total	mg/L	0.5	-	3.79	8.18	-	-	-	-
Cesium (Cs)-Total	mg/L	0.00001	-	<0.000010	<0.000010	-	-	-	-
Chromium (Cr)-Total	mg/L	0.0005	-	<0.00050	<0.00050	-	-	-	-
Cobalt (Co)-Total	mg/L	0.0001	-	0.00016	<0.00010	-	-	-	-
Copper (Cu)-Total	mg/L	0.001	0.3	<0.0010	0.0012	-	-	-	-
Iron (Fe)-Total	mg/L	0.05	-	0.216	0.064	-	-	-	-
Lead (Pb)-Total	mg/L	0.00005	0.2	0.00019	0.00059	-	-	-	-
Lithium (Li)-Total	mg/L	0.001	-	<0.0010	0.0019	-	-	-	-
Magnesium (Mg)-Total	mg/L	0.05	-	2.68	5.75	-	-	-	-
Manganese (Mn)-Total	mg/L	0.0005	-	0.00615	0.00137	-	-	-	-
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	<0.000010	-	-	-	-
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000208	0.000277	-	-	-	-
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00234	0.00531	-	-	-	-
Phosphorus (P)-Total	mg/L	0.05	-	<0.050	<0.050	-	-	-	-
Potassium (K)-Total	mg/L	0.05	-	0.684	0.97	-	-	-	-
Rubidium (Rb)-Total	mg/L	0.0002	-	0.00165	0.00202	-	-	-	-
Selenium (Se)-Total	mg/L	0.00005	-	<0.000050	<0.000050	-	-	-	-
Silicon (Si)-Total	mg/L	0.1	-	0.52	0.87	-	-	-	-
Silver (Ag)-Total	mg/L	0.00005	-	<0.000050	<0.000050	-	-	-	-
Sodium (Na)-Total	mg/L	0.5	-	<0.50	0.91	-	-	-	-
Strontium (Sr)-Total	mg/L	0.001	-	0.0027	0.0051	-	-	-	-
Sulfur (S)-Total	mg/L	0.5	-	1.53	0.91	-	-	-	-
Tellurium (Te)-Total	mg/L	0.0002	-	<0.00020	<0.00020	-	-	-	-
Thallium (Tl)-Total	mg/L	0.00001	-	<0.000010	<0.000010	-	-	-	-
Thorium (Th)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-	-	-	-
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-	-	-	-
Titanium (Ti)-Total	mg/L	0.0003	-	0.00297	0.00095	-	-	-	-
Tungsten (W)-Total	mg/L	0.0001	-	<0.00010	<0.00010	-	-	-	-
Uranium (U)-Total	mg/L	0.00001	-	0.000058	0.000054	-	-	-	-
Vanadium (V)-Total	mg/L	0.0005	-	<0.00050	<0.00050	-	-	-	-
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.0030	<0.0030	-	-	-	-
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.00030	<0.00030	-	-	-	-
Aluminum (Al)-Dissolved	mg/L	0.005	-	0.0061	-	-	-	-	-
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	-	0.00649	-	-	-	-	-
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	-	-	0.012	-	-	-	-
Cadmium (Cd)-Dissolved	mg/L	0.00001	-	-	<0.000010	-	-	-	-
Calcium (Ca)-Dissolved	mg/L	0.05	-	-	8.02	-	-	-	-
Cesium (Cs)-Dissolved	mg/L	0.00001	-	-	<0.000010	-	-	-	-
Chromium (Cr)-Dissolved	mg/L	0.0005	-	-	<0.00050	-	-	-	-
Cobalt (Co)-Dissolved	mg/L	0.0001	-	-	<0.00010	-	-	-	-
Copper (Cu)-Dissolved	mg/L	0.0002	-	-	0.00086	-	-	-	-
Iron (Fe)-Dissolved	mg/L	0.01	-	-	0.019	-	-	-	-
Lead (Pb)-Dissolved	mg/L	0.00005	-	-	<0.000050	-	-	-	-
Lithium (Li)-Dissolved	mg/L	0.001	-	-	0.0018	-	-	-	-
Magnesium (Mg)-Dissolved	mg/L	0.05	-	-	5.53	-	-	-	-
Manganese (Mn)-Dissolved	mg/L	0.0005	-	-	0.00061	-	-	-	-
Mercury (Hg)-Dissolved	mg/L	0.00001	-	-	<0.000010	-	-	-	-
Molybdenum (Mo)-Dissolved	mg/L	0.00005	-	-	0.000245	-	-	-	-
Nickel (Ni)-Dissolved	mg/L	0.0005	-	-	0.00491	-	-	-	-
Phosphorus (P)-Dissolved	mg/L	0.05	-	-	<0.050	-	-	-	-
Potassium (K)-Dissolved	mg/L	0.05	-	-	0.974	-	-	-	-
Rubidium (Rb)-Dissolved	mg/L	0.0002	-	-	0.00205	-	-	-	-
Selenium (Se)-Dissolved	mg/L	0.00005	-	-	<0.000050	-	-	-	-
Silicon (Si)-Dissolved	mg/L	0.05	-	-	0.831	-	-	-	-
Silver (Ag)-Dissolved	mg/L	0.00005	-	-	<0.000050	-	-	-	-
Sodium (Na)-Dissolved	mg/L	0.5	-	-	0.89	-	-	-	-
Strontium (Sr)-Dissolved	mg/L	0.001	-	-	0.0049	-	-	-	-
Sulfur (S)-Dissolved	mg/L	0.5	-	-	0.88	-	-	-	-
Tellurium (Te)-Dissolved	mg/L	0.0002	-	-	<0.00020	-	-	-	-
Thallium (Tl)-Dissolved	mg/L	0.00001	-	-	<0.000010	-	-	-	-
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	-	-	0.000045	-	-	-	-
Vanadium (V)-Dissolved	mg/L	0.0005	-	-	<0.00050	-	-	-	-
Zinc (Zn)-Dissolved	mg/L	0.001	-	-	0.0012	-	-	-	-
Zirconium (Zr)-Dissolved	mg/L	0.0003	-	-	<0.00030	-	-	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	-	-	-
Phenols (4AAP)	mg/L	0.001	-	0.0013	<0.0010	-	-	-	-
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	n/a	-	YES	YES	-	-	-	-
2-Bromobenzotrifluoride	%	Surrogate	-	91.6	84.9	-	-	-	-
3,4-Dichlorotoluene	%	Surrogate	-	106.1	95.8	-	-	-	-

Notes:

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

¹ Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 7: Effluent Quality Discharge Limits for the Landfill Facilities

TABLE 5.2.17
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT
2017 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
	ALS Laboratory Sample ID		L1975323-6	L1978447-12	L1984043-17	L1987589-11	
	Sample Date & Time		8/14/2017 1:30:00 PM	8/21/2017 12:50:00 PM	8/28/2017 2:05:00 PM	9/4/2017 2:15:00 PM	
	QA/QC Sample Type		N/A	N/A	N/A	N/A	
	Units	LOR	Water Licence Criteria ¹				
Conductivity	umhos/cm	3	-	597	-	750	2060
pH	pH units	0.1	6.0 - 9.5	8.33	8.27	8.2	8.16
Total Suspended Solids	mg/L	2	15	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	402	350	509	1380
Turbidity	NTU	0.1	-	-	0.22	-	-
Alkalinity, Total (as CaCO3)	mg/L	10	-	165	-	153	157
Dissolved Organic Carbon	mg/L	1	-	6	-	4.5	5.2
Total Organic Carbon	mg/L	1	-	5.4	-	4.8	5.1
Aluminum (Al)-Total	mg/L	0.005	-	0.0032	-	0.0176	<0.0030
Antimony (Sb)-Total	mg/L	0.0001	-	<0.00010	-	<0.00010	<0.00010
Arsenic (As)-Total	mg/L	0.0001	0.5	0.00012	-	0.00016	0.00015
Barium (Ba)-Total	mg/L	0.0002	-	0.0345	-	0.0405	0.108
Beryllium (Be)-Total	mg/L	0.0001	-	<0.00050	-	<0.00010	<0.00050
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.00050	-	<0.000050	<0.00050
Boron (B)-Total	mg/L	0.01	-	0.03	-	0.032	0.084
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.000010	-	<0.000010	0.000012
Calcium (Ca)-Total	mg/L	0.5	-	49.5	-	56.8	157
Cesium (Cs)-Total	mg/L	0.00001	-	-	-	<0.000010	-
Chromium (Cr)-Total	mg/L	0.0005	-	<0.00050	-	<0.00050	<0.00050
Cobalt (Co)-Total	mg/L	0.0001	-	<0.00010	-	<0.00010	<0.00010
Copper (Cu)-Total	mg/L	0.001	0.3	0.00134	-	0.0012	0.00128
Iron (Fe)-Total	mg/L	0.05	-	<0.030	-	<0.050	<0.030
Lead (Pb)-Total	mg/L	0.00005	0.2	<0.000050	-	<0.000050	<0.000050
Lithium (Li)-Total	mg/L	0.001	-	0.0097	-	0.0222	0.105
Magnesium (Mg)-Total	mg/L	0.05	-	33.6	-	39	98
Manganese (Mn)-Total	mg/L	0.0005	-	0.000802	-	0.00144	0.00061
Mercury (Hg)-Total	mg/L	0.00001	-	<0.000010	-	<0.000010	<0.000010
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.000179	-	0.000175	0.00014
Nickel (Ni)-Total	mg/L	0.0005	0.5	0.00742	-	0.00691	0.00841
Phosphorus (P)-Total	mg/L	0.05	-	-	-	<0.050	-
Potassium (K)-Total	mg/L	0.05	-	1.72	-	1.8	2.69
Rubidium (Rb)-Total	mg/L	0.0002	-	-	-	0.00512	-
Selenium (Se)-Total	mg/L	0.00005	-	<0.0010	-	<0.000050	<0.0010
Silicon (Si)-Total	mg/L	0.1	-	3.92	-	3.94	4.49
Silver (Ag)-Total	mg/L	0.00005	-	<0.000010	-	<0.000050	<0.000010
Sodium (Na)-Total	mg/L	0.5	-	9.87	-	10.5	22.4
Strontium (Sr)-Total	mg/L	0.001	-	0.0323	-	0.0406	0.13
Sulfur (S)-Total	mg/L	0.5	-	-	-	5.48	-
Tellurium (Te)-Total	mg/L	0.0002	-	-	-	<0.00020	-
Thallium (Tl)-Total	mg/L	0.00001	-	<0.00010	-	<0.000010	<0.00010
Thorium (Th)-Total	mg/L	0.0001	-	-	-	<0.00010	-
Tin (Sn)-Total	mg/L	0.0001	-	<0.00010	-	<0.00010	<0.00010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.010	-	0.00101	<0.010
Tungsten (W)-Total	mg/L	0.0001	-	-	-	<0.00010	-
Uranium (U)-Total	mg/L	0.00001	-	-	-	0.000907	-
Vanadium (V)-Total	mg/L	0.0005	-	<0.0010	-	<0.00050	<0.0010
Zinc (Zn)-Total	mg/L	0.003	0.5	<0.0030	-	<0.0030	<0.0030
Zirconium (Zr)-Total	mg/L	0.0003	-	-	-	<0.00030	-
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	-	-	-	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	<2.0	<2.0
Phenols (4AAP)	mg/L	0.001	-	<0.0010	-	<0.0010	<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	n/a	-	YES	-	YES	YES
2-Bromobenzotrifluoride	%	Surrogate	-	88.4	-	102.8	89.1
3,4-Dichlorotoluene	%	Surrogate	-	108.8	-	95.2	91.3

Notes:

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

¹ Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 7: Effluent Quality Discharge Limits for the Lar

TABLE 5.2.18
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-A
	ALS Laboratory Sample ID			L1933807-8	L1937998-6	L1942055-3	L1946654-8	L1949986-8	L1954220-7
	Sample Date & Time			5/30/2017 11:30:00 AM	6/4/2017 4:00:00 AM	6/12/2017 11:39:00 AM	6/20/2017 12:00:00 PM	6/26/2017 4:15:00 PM	7/3/2017 3:50:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹						
Conductivity	umhos/cm	3	-	58.7	58.8	-	-	-	143
pH	pH units	0.1	6.0 - 9.5	7.62	7.62	7.85	7.7	7.75	7.95
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	2.8	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	31	113	50	-
Turbidity	NTU	0.1	-	-	-	1.83	3.97	1.87	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020	-	-	-	<0.020
Nitrate (as N)	mg/L	0.02	-	0.055	0.031	-	-	-	0.178
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	-	-	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.18
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-A01	MS-C-A	MS-C-A	MS-C-A
	ALS Laboratory Sample ID			L1957744-7	L1963045-6	L1963045-7	L1965106-1	L1969176-1	L1972601-1
	Sample Date & Time			7/10/2017 2:30:00 PM	7/16/2017 2:35:00 PM	7/16/2017 2:35:00 PM	7/24/2017 9:50:00 AM	7/31/2017 2:50:00 PM	8/7/2017 5:40:00 PM
	QA/QC Sample Type			N/A	N/A	Duplicate	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹						
Conductivity	umhos/cm	3	-	-	192	192	-	158	-
pH	pH units	0.1	6.0 - 9.5	7.94	7.96	7.92	7.9	7.91	7.82
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	90	-	-	128	-	76
Turbidity	NTU	0.1	-	0.69	-	-	0.3	-	0.53
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	<0.020	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	-	0.215	0.205	-	0.217	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	-	<2.0	<2.0	-	<4.0	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.18
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-A01	MS-C-A	MS-C-A	MS-C-A	MS-C-A
	ALS Laboratory Sample ID			L1975323-2	L1978447-1	L1978447-13	L1984043-6	L1987589-1	L1989579-1	L1994866-1
	Sample Date & Time			8/14/2017 10:05:00 AM	8/21/2017 5:10:00 PM	8/21/2017 4:10:00 PM	8/28/2017 6:10:00 PM	9/4/2017 1:40:00 PM	9/11/2017 3:00:00 PM	9/19/2017 4:30:00 PM
	QA/QC Sample Type			N/A	N/A	Duplicate	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	197	-	-	213	199	-	212
pH	pH units	0.1	6.0 - 9.5	7.8	7.96	8.19	8	8.09	7.89	7.73
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	65	145	-	-	115	-
Turbidity	NTU	0.1	-	-	0.29	0.13	-	-	0.24	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	-	<0.020	0.028	-	<0.020
Nitrate (as N)	mg/L	0.02	-	0.342	-	-	0.377	0.259	-	0.215
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	-	<2.0	<2.0	-	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.18
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-A

Analyte	Sample ID			MS-C-A02	MS-C-A03
	ALS Laboratory Sample ID			L1994866-2	L1994866-3
	Sample Date & Time			9/19/2017 4:30:00 PM	9/19/2017 4:30:00 PM
	QA/QC Sample Type			Field Blank	Travel Blank
	Units	LOR	Water Licence Criteria ¹		
Conductivity	umhos/cm	3	-	<3.0	<3.0
pH	pH units	0.1	6.0 - 9.5	7.29	6.1
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-
Turbidity	NTU	0.1	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020
Nitrate (as N)	mg/L	0.02	-	<0.020	<0.020
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.19
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-B	MS-C-B
	ALS Laboratory Sample ID			L1933807-9	L1937998-7	L1942055-4	L1946654-9	L1949986-9	L1954220-8	L1957744-11
	Sample Date & Time			5/30/2017 12:15:00 PM	6/4/2017 4:15:00 AM	6/12/2017 11:48:00 AM	6/20/2017 2:17:00 PM	6/26/2017 6:40:00 PM	7/3/2017 5:05:00 PM	7/10/2017 9:35:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	59	59.5	-	-	-	148	-
pH	pH units	0.1	6.0 - 9.5	7.59	7.62	7.85	7.63	7.67	8	7.86
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	3.6	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	34	75	55	-	97
Turbidity	NTU	0.1	-	-	-	2.26	4.47	2.09	-	0.54
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020	-	-	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	0.062	0.03	-	-	-	0.336	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	-	-	<2.0	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.19
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-B	MS-C-B02
	ALS Laboratory Sample ID			L1963045-11	L1965106-2	L1969176-2	L1972601-2	L1975323-3	L1978447-2	L1978447-14
	Sample Date & Time			7/16/2017 3:00:00 PM	7/24/2017 10:10:00 AM	7/31/2017 6:25:00 PM	8/7/2017 6:00:00 PM	8/14/2017 10:40:00 AM	8/21/2017 6:40:00 PM	8/21/2017 3:30:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	Field Blank
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	200	-	157	-	204	-	-
pH	pH units	0.1	6.0 - 9.5	7.88	7.95	7.9	7.91	7.72	7.8	6.25
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	129	-	82	-	65	<20
Turbidity	NTU	0.1	-	-	0.31	-	0.78	-	0.3	<0.10
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	<0.020	-	<0.020	-	-
Nitrate (as N)	mg/L	0.02	-	0.238	-	0.242	-	0.397	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	<4.0	-	<2.0	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.19
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-B02	MS-C-B03
	ALS Laboratory Sample ID			L1984043-7	L1987589-2	L1989579-2	L1994866-4	L1994866-5	L1994866-6
	Sample Date & Time			8/28/2017 6:25:00 PM	9/4/2017 1:15:00 PM	9/11/2017 3:00:00 PM	9/19/2017 4:50:00 PM	9/19/2017 4:50:00 PM	9/19/2017 4:50:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Field Blank	Travel Blank
	Units	LOR	Water Licence Criteria ¹						
Conductivity	umhos/cm	3	-	218	204	-	233	<3.0	<3.0
pH	pH units	0.1	6.0 - 9.5	7.96	8.07	7.8	7.24	6.55	5.76
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	110	-	-	-
Turbidity	NTU	0.1	-	-	-	0.35	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020	-	<0.020	<0.020	<0.020
Nitrate (as N)	mg/L	0.02	-	0.447	0.315	-	0.39	<0.020	<0.020
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	<2.0	<2.0	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.20
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-C	MS-C-C
	ALS Laboratory Sample ID			L1933807-7	L1937998-5	L1942055-10	L1946654-7	L1949986-7	L1954220-6	L1957744-6
	Sample Date & Time			5/29/2017 4:25:00 PM	6/4/2017 2:31:00 AM	6/12/2017 2:24:00 PM	6/20/2017 11:40:00 AM	6/27/2017 3:30:00 AM	7/3/2017 3:05:00 PM	7/10/2017 10:15:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	364	307	-	-	-	754	-
pH	pH units	0.1	6.0 - 9.5	7.86	7.72	8.1	7.88	7.63	8.01	7.88
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	9.9	<2.0	<2.0	<2.0	2.6	2.5
Total Dissolved Solids	mg/L	10	-	-	-	128	276	300	-	579
Turbidity	NTU	0.1	-	-	-	0.82	1.21	0.38	-	1.31
Ammonia, Total (as N)	mg/L	0.02	-	0.416	0.034	-	-	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	1.63	1.44	-	-	-	5.1	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	-	-	<2.0	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.20
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-C01	MS-C-C	MS-C-C	MS-C-C
	ALS Laboratory Sample ID			L1963045-5	L1965106-3	L1969176-3	L1969176-16	L1972601-3	L1975323-9	L1978447-3
	Sample Date & Time			7/16/2017 9:50:00 AM	7/24/2017 10:30:00 AM	7/31/2017 4:50:00 PM	7/31/2017 4:50:00 PM	8/8/2017 3:25:00 PM	8/14/2017 3:35:00 PM	8/21/2017 4:35:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	Duplicate	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	747	-	696	691	-	863	-
pH	pH units	0.1	6.0 - 9.5	8.05	8.03	8.05	7.96	8.04	8.03	7.99
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	3	7.5	<2.0	<2.0	12	4	<2.0
Total Dissolved Solids	mg/L	10	-	-	533	-	-	524	-	520
Turbidity	NTU	0.1	-	-	2.3	-	-	5.44	-	0.61
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	<0.020	<0.020	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	4.33	-	4.86	4.96	-	5.4	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	<2.0	<2.0	-	<2.0	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.20
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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
	ALS Laboratory Sample ID			L1984043-8	L1987589-3
	Sample Date & Time			8/28/2017 4:55:00 PM	9/4/2017 11:55:00 AM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence Criteria ¹		
Conductivity	umhos/cm	3	-	884	869
pH	pH units	0.1	6.0 - 9.5	8.1	8.2
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-
Turbidity	NTU	0.1	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020
Nitrate (as N)	mg/L	0.02	-	6.24	5.66
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.21
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-D	MS-C-D
	ALS Laboratory Sample ID			L1927998-2	L1933807-6	L1937998-4	L1942055-9	L1946654-6	L1949986-6	L1954220-5
	Sample Date & Time			5/15/2017 1:56:00 PM	5/29/2017 4:05:00 PM	6/4/2017 2:15:00 AM	6/12/2017 2:15:00 PM	6/20/2017 11:20:00 AM	6/27/2017 3:05:00 AM	7/3/2017 2:35:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	314	307	253	-	-	-	714
pH	pH units	0.1	6.0 - 9.5	7.89	7.93	7.86	8.15	8.02	8.19	8.38
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	2.4	5.1	<2.0	3.6	<2.0	3.2
Total Dissolved Solids	mg/L	10	-	-	-	-	123	252	350	-
Turbidity	NTU	0.1	-	-	-	-	3.78	2.67	1.67	-
Ammonia, Total (as N)	mg/L	0.02	-	0.381	0.333	0.041	-	-	-	<0.020
Nitrate (as N)	mg/L	0.02	-	1.07	1.23	0.821	-	-	-	3.53
Oil and Grease, Total	mg/L	2	No Visible Sheen	44.9	<2.0	<2.0	-	-	-	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.21
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-D	MS-C-D
	ALS Laboratory Sample ID			L1957744-5	L1963045-4	L1965106-4	L1969176-4	L1972601-4	L1975323-8	L1978447-4
	Sample Date & Time			7/10/2017 10:25:00 AM	7/16/2017 10:15:00 AM	7/24/2017 11:00:00 AM	7/31/2017 5:20:00 PM	8/8/2017 3:20:00 PM	8/14/2017 3:20:00 PM	8/21/2017 2:35:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	-	773	-	689	-	798	-
pH	pH units	0.1	6.0 - 9.5	8.33	8.33	8.36	8.21	8.32	8.45	8.43
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	4.5	<2.0	3	3.8	3	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	530	-	527	-	474	-	455
Turbidity	NTU	0.1	-	2.93	-	3.26	-	3.55	-	1.25
Ammonia, Total (as N)	mg/L	0.02	-	-	0.023	-	<0.020	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	-	3.92	-	4.34	-	4.88	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	-	<2.0	-	<2.0	-	<2.0	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.21
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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
	ALS Laboratory Sample ID			L1984043-9	L1987589-4
	Sample Date & Time			8/28/2017 3:25:00 PM	9/4/2017 12:10:00 PM
	QA/QC Sample Type			N/A	N/A
	Units	LOR	Water Licence Criteria ¹		
Conductivity	umhos/cm	3	-	815	815
pH	pH units	0.1	6.0 - 9.5	8.29	8.32
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-
Turbidity	NTU	0.1	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020
Nitrate (as N)	mg/L	0.02	-	5.81	6.15
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.22
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-E	MS-C-E
	ALS Laboratory Sample ID			L1927998-1	L1930306-2	L1933807-2	L1935148-7	L1935911-8	L1936153-7	L1937998-2
	Sample Date & Time			5/15/2017 2:25:00 PM	5/22/2017 5:10:00 PM	5/29/2017 3:25:00 PM	6/1/2017 12:00:00 AM	6/2/2017 1:15:00 PM	6/3/2017 11:07:00 AM	6/4/2017 2:00:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	121	-	154	-	-	-	197
pH	pH units	0.1	6.0 - 9.5	7.76	7.67	7.84	7.78	7.82	7.75	7.86
Total Suspended Solids ²	mg/L	2	Grab 30 and Average 15	25.7	20.8	21.5	17.6	66	18.4	8.1
Total Dissolved Solids	mg/L	10	-	-	100	-	125	95	100	-
Turbidity	NTU	0.1	-	-	61.9	-	23.8	103	31.5	-
Ammonia, Total (as N)	mg/L	0.02	-	0.057	-	0.051	-	-	-	<0.020
Nitrate (as N)	mg/L	0.02	-	0.316	-	0.394	-	-	-	0.494
Oil and Grease, Total	mg/L	2	No Visible Sheen	21	-	<2.0	-	-	-	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

²Average TSS for May and June exceeded maximum average TSS concentration discharge limits

TABLE 5.2.22
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-E	MS-C-E
	ALS Laboratory Sample ID			L1942055-8	L1946654-5	L1949986-5	L1954220-4	L1957744-4	L1963045-3	L1965106-5
	Sample Date & Time			6/12/2017 2:08:00 PM	6/20/2017 11:00:00 AM	6/27/2017 2:15:00 AM	7/3/2017 2:05:00 PM	7/10/2017 10:35:00 AM	7/16/2017 1:40:00 PM	7/24/2017 11:10:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	-	-	-	681	-	713	-
pH	pH units	0.1	6.0 - 9.5	8.11	7.98	7.9	8.17	8.09	8.07	8.17
Total Suspended Solids ²	mg/L	2	Grab 30 and Average 15	2.2	28.4	<2.0	6.2	4.2	2.6	<2.0
Total Dissolved Solids	mg/L	10	-	116	233	325	-	538	-	518
Turbidity	NTU	0.1	-	1.86	4.21	1.13	-	3.29	-	2.04
Ammonia, Total (as N)	mg/L	0.02	-	-	-	-	<0.020	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	-	-	-	2.78	-	2.95	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	-	-	-	<2.0	-	<2.0	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

²Average TSS for May and June exceeded maximum average TSS concentration discharge limits

TABLE 5.2.22
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-E
	ALS Laboratory Sample ID			L1969176-5	L1972601-5	L1975323-7	L1978447-5	L1984043-10	L1987589-5
	Sample Date & Time			7/31/2017 5:30:00 PM	8/8/2017 3:15:00 PM	8/14/2017 2:50:00 PM	8/21/2017 2:20:00 PM	8/28/2017 3:10:00 PM	9/4/2017 12:20:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹						
Conductivity	umhos/cm	3	-	598	-	774	-	801	835
pH	pH units	0.1	6.0 - 9.5	8.13	8.19	8.17	8.04	8.12	8.2
Total Suspended Solids ²	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	2.8	<2.0	<2.0	7.8
Total Dissolved Solids	mg/L	10	-	-	518	-	470	-	-
Turbidity	NTU	0.1	-	-	1.24	-	0.81	-	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	<0.020	-	<0.020	0.037
Nitrate (as N)	mg/L	0.02	-	2.87	-	4.07	-	5.43	5.87
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	<2.0	-	<2.0	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

²Average TSS for May and June exceeded maximum average TSS concentration discharge limits

TABLE 5.2.23
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-01	MS-C-F	MS-C-F	MS-C-F	MS-C-F	MS-C-F
	ALS Laboratory Sample ID			L1937998-10	L1937998-11	L1942055-5	L1946654-10	L1949986-10	L1954220-9	L1957744-9
	Sample Date & Time			6/4/2017 5:10:00 AM	6/4/2017 5:10:00 AM	6/12/2017 12:53:00 PM	6/20/2017 2:40:00 PM	6/27/2017 4:10:00 AM	7/3/2017 5:45:00 PM	7/10/2017 2:45:00 PM
	QA/QC Sample Type			N/A	Duplicate	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	55	56.7	-	-	-	148	-
pH	pH units	0.1	6.0 - 9.5	7.57	7.43	7.81	7.53	7.75	7.99	8.05
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	3.8	<2.0	2	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	-	-	41	70	45	-	97
Turbidity	NTU	0.1	-	-	-	3.84	7.09	2.89	-	1.08
Ammonia, Total (as N)	mg/L	0.02	-	0.026	<0.020	-	-	-	0.024	-
Nitrate (as N)	mg/L	0.02	-	0.046	0.047	-	-	-	0.199	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	-	-	<2.0	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.23
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-F	MS-C-F01
	ALS Laboratory Sample ID			L1963045-8	L1969176-11	L1972601-6	L1975323-1	L1978447-11	L1984043-16	L1984043-1
	Sample Date & Time			7/16/2017 3:20:00 PM	7/31/2017 6:00:00 PM	8/7/2017 4:45:00 PM	8/14/2017 9:45:00 AM	8/21/2017 4:55:00 PM	8/28/2017 5:20:00 PM	8/28/2017 5:20:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	Duplicate
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	219	166	-	214	-	237	236
pH	pH units	0.1	6.0 - 9.5	8.07	7.88	8.08	7.95	8.15	8.09	8.04
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	2	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	-	-	84	-	100	-	-
Turbidity	NTU	0.1	-	-	-	2.6	-	0.75	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.045	<0.020	-	<0.020	-	<0.020	<0.020
Nitrate (as N)	mg/L	0.02	-	0.361	0.548	-	0.514	-	0.497	0.47
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	<2.0	-	<2.0	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.23
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MS-C-F

Analyte	Sample ID			MS-C-F
	ALS Laboratory Sample ID			L1987589-10
	Sample Date & Time			9/4/2017 4:30:00 PM
	QA/QC Sample Type			N/A
	Units	LOR	Water Licence Criteria ¹	
Conductivity	umhos/cm	3	-	208
pH	pH units	0.1	6.0 - 9.5	8.08
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0
Total Dissolved Solids	mg/L	13	-	-
Turbidity	NTU	0.1	-	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020
Nitrate (as N)	mg/L	0.02	-	0.349
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.24
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-G	MS-C-G	MS-C-G
	ALS Laboratory Sample ID			L1942055-1	L1946654-3	L1949986-3	L1954220-3	L1957744-3	L1963045-2	L1965106-6
	Sample Date & Time			6/12/2017 10:48:00 AM	6/20/2017 4:30:00 PM	6/26/2017 11:00:00 AM	7/3/2017 1:25:00 PM	7/10/2017 9:20:00 AM	7/16/2017 8:25:00 AM	7/24/2017 11:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	128	-	-	158	-	179	-
pH	pH units	0.1	6.0 - 9.5	7.91	7.6	7.66	8.01	7.95	7.99	8.03
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	9.2	<2.0	5.1	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	-	86	45	-	99	-	131
Turbidity	NTU	0.1	-	-	3.49	1.92	-	0.16	-	0.19
Ammonia, Total (as N)	mg/L	0.02	-	0.025	-	-	0.033	-	<0.020	-
Nitrate (as N)	mg/L	0.02	-	0.084	-	-	0.063	-	0.095	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	-	<2.0	-	<2.0	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.24
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-G	MS-C-G
	ALS Laboratory Sample ID			L1969176-6	L1975323-5	L1978447-6	L1984043-11	L1984043-3	L1987589-6	L1989579-6
	Sample Date & Time			7/31/2017 11:30:00 AM	8/14/2017 12:00:00 PM	8/21/2017 1:55:00 PM	8/28/2017 12:45:00 PM	8/28/2017 12:45:00 PM	9/5/2017 4:55:00 AM	9/11/2017 1:00:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	Travel Blank	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	169	204	-	212	<3.0	216	-
pH	pH units	0.1	6.0 - 9.5	8.09	7.83	7.72	8.04	6.11	8.15	7.89
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<4.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	-	-	90	-	-	-	130
Turbidity	NTU	0.1	-	-	-	0.26	-	-	-	0.2
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	<0.020	-	<0.020	<0.020	<0.020	-
Nitrate (as N)	mg/L	0.02	-	0.239	2.42	-	1.9	<0.020	2.25	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	<2.0	<2.0	<2.0	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.24
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-G01	MS-C-G02	MS-C-G03
	ALS Laboratory Sample ID			L1994866-19	L1994866-20	L1994866-21	L1994866-22
	Sample Date & Time			9/20/2017 2:00:00 PM	9/20/2017 2:00:00 PM	9/20/2017 2:00:00 PM	9/20/2017 2:00:00 PM
	QA/QC Sample Type			N/A	Duplicate	Field Blank	Travel Blank
	Units	LOR	Water Licence Criteria ¹				
Conductivity	umhos/cm	3	-	224	225	<3.0	<3.0
pH	pH units	0.1	6.0 - 9.5	7.59	7.75	6.45	5.63
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	-	-	-	-
Turbidity	NTU	0.1	-	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.031	0.025	<0.020	<0.020
Nitrate (as N)	mg/L	0.02	-	2.22	2.23	<0.020	<0.020
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	<2.0	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.25
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-H	MS-C-H
	ALS Laboratory Sample ID			L1933807-5	L1938558-3	L1942055-2	L1946654-13	L1949986-13	L1957744-10	L1963045-9
	Sample Date & Time			5/29/2017 1:05:00 PM	6/5/2017 11:40:00 AM	6/12/2017 11:13:00 AM	6/20/2017 3:55:00 PM	6/26/2017 10:30:00 AM	7/10/2017 9:35:00 AM	7/16/2017 9:00:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	49.1	59.5	-	-	-	177	193
pH	pH units	0.1	6.0 - 9.5	7.49	7.75	7.88	7.62	7.47	8.06	8.04
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	2.1	<2.0	<2.0	3.2	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	14	130	95	-	-
Turbidity	NTU	0.1	-	-	-	3.38	0.66	2.82	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.067	<0.020	-	-	-	<0.020	<0.020
Nitrate (as N)	mg/L	0.02	-	0.178	0.048	-	-	-	<0.020	<0.020
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	-	-	<2.0	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.25
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MS-C-H
	ALS Laboratory Sample ID			L1965106-7	L1969176-7	L1975323-4	L1978447-7	L1984043-12	L1987589-7
	Sample Date & Time			7/24/2017 12:00:00 PM	7/31/2017 11:40:00 AM	8/14/2017 11:30:00 AM	8/21/2017 1:25:00 PM	8/28/2017 1:25:00 PM	9/5/2017 4:40:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹						
Conductivity	umhos/cm	3	-	-	215	243	-	253	253
pH	pH units	0.1	6.0 - 9.5	8.08	8.16	8.04	8.16	8.22	8.16
Total Suspended Solids	mg/L	2	Grab 30 and Average 15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	141	-	-	100	-	-
Turbidity	NTU	0.1	-	0.46	-	-	0.23	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	<0.020	-	<0.020	0.031
Nitrate (as N)	mg/L	0.02	-	-	<0.020	<0.020	-	<0.020	0.03
Oil and Grease, Total	mg/L	2	No Visible Sheen	-	<2.0	<2.0	-	<2.0	<2.0

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

TABLE 5.2.26
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MQ-C-A	MQ-C-A
	ALS Laboratory Sample ID			L1937998-3	L1942055-13	L1946654-2	L1949986-2	L1954220-1	L1957744-1	L1965106-9
	Sample Date & Time			6/4/2017 11:16:00 PM	6/12/2017 4:35:00 PM	6/20/2017 9:40:00 AM	6/26/2017 1:10:00 PM	7/3/2017 10:10:00 AM	7/10/2017 1:50:00 PM	7/24/2017 2:25:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	80.4	-	-	-	80	-	203
pH	pH units	0.1	6.0 - 9.5	7.72	7.86	7.64	7.59	7.84	8	8.09
Total Suspended Solids	mg/L	2	15	<2.0	5.7	<2.0	<2.0	<2.0	3.4	<2.0
Total Dissolved Solids	mg/L	13	-	-	40	43	24	-	64	-
Turbidity	NTU	0.1	-	-	4.73	1.67	7.94	-	1.27	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	-	-	<0.020	-	<0.020
Nitrate (as N)	mg/L	0.02	-	<0.020	-	-	-	0.049	-	0.057
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	-	-	<2.0	-	<2.0
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.26
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MQ-C-A01	MQ-C-A
	ALS Laboratory Sample ID			L1969176-9	L1972601-8	L1975323-11	L1978447-9	L1984043-4	L1984043-5	234254
	Sample Date & Time			7/31/2017 7:20:00 PM	8/8/2017 2:10:00 PM	8/14/2017 4:30:00 PM	8/21/2017 3:30:00 PM	8/29/2017 11:40:00 AM	8/29/2017 11:40:00 AM	8/29/2017 11:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	Duplicate	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	234	-	295	-	295	294	-
pH	pH units	0.1	6.0 - 9.5	8.17	8.28	8.2	8.24	8.17	8.22	-
Total Suspended Solids	mg/L	2	15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	-
Total Dissolved Solids	mg/L	13	-	-	115	-	120	-	-	-
Turbidity	NTU	0.1	-	-	1.08	-	0.25	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	<0.020	-	<0.020	<0.020	-
Nitrate (as N)	mg/L	0.02	-	<0.020	-	<0.020	-	<0.020	<0.020	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	<2.0	-	<2.0	<2.0	-
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	-	-	-	-	Non-lethal

Notes:

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TABLE 5.2.26
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-A01	MQ-C-A02	MQ-C-A03
	ALS Laboratory Sample ID			L1987589-8	L1989579-4	L1994866-11	L1994866-12	L1994866-13	L1994866-14
	Sample Date & Time			9/4/2017 3:25:00 PM	9/11/2017 12:00:00 PM	9/19/2017 7:45:00 PM	9/19/2017 7:45:00 PM	9/19/2017 7:45:00 PM	9/19/2017 7:45:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	Duplicate	Field Blank	Travel Blank
	Units	LOR	Water Licence Criteria ¹						
Conductivity	umhos/cm	3	-	305	-	348	350	<3.0	<3.0
pH	pH units	0.1	6.0 - 9.5	8.3	8.08	7.98	7.98	7.85	5.86
Total Suspended Solids	mg/L	2	15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	13	-	-	170	-	-	-	-
Turbidity	NTU	0.1	-	-	0.24	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	<0.020	<0.020	<0.020	<0.020
Nitrate (as N)	mg/L	0.02	-	<0.020	-	<0.020	<0.020	<0.020	<0.020
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	<2.0	<2.0	<2.0	<2.0
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	-	-	-	-

Notes:

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¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

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³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.27
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-B	MQ-C-B	MQ-C-B
	ALS Laboratory Sample ID			L1933807-10	L1937998-8	L1942055-11	L1941010-1	233783	L1946654-4	L1949986-4
	Sample Date & Time			5/30/2017 1:25:00 PM	6/4/2017 1:20:00 AM	6/12/2017 3:00:00 PM	6/13/2017 10:00:00 AM	6/13/2017 10:00:00 AM	6/20/2017 10:43:00 AM	6/27/2017 1:40:00 AM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	107	126	-	98.9	-	-	-
pH	pH units	0.1	6.0 - 9.5	7.7	7.63	7.85	7.63	-	7.83	7.76
Total Suspended Solids	mg/L	2	15	7.3	2.2	3.8	<2.0	-	4	8.8
Total Dissolved Solids	mg/L	10	-	-	-	25	-	-	83	85
Turbidity	NTU	0.1	-	-	-	16.2	-	-	9.13	21.8
Ammonia, Total (as N)	mg/L	0.02	-	0.036	<0.020	-	0.032	-	-	-
Nitrate (as N)	mg/L	0.02	-	0.227	0.192	-	0.219	-	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	-	<2.0	-	-	-
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	-	-	Non-lethal	-	-

Notes:

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³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.27
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-B	MQ-C-B	MQ-C-B
	ALS Laboratory Sample ID			L1953923-1	233901	L1957744-8	L1963045-10	L1965106-8	234029	L1969176-8
	Sample Date & Time			7/4/2017 10:20:00 AM	7/4/2017 10:20:00 AM	7/10/2017 11:35:00 AM	7/16/2017 8:45:00 AM	7/24/2017 1:15:00 PM	7/24/2017 1:15:00 PM	7/31/2017 3:15:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	346	-	-	358	626	-	319
pH	pH units	0.1	6.0 - 9.5	7.89	-	8.04	8.05	8.1	-	8.16
Total Suspended Solids	mg/L	2	15	<2.0	-	5.3	18	5.7	-	<2.0
Total Dissolved Solids	mg/L	10	-	-	-	229	-	-	-	-
Turbidity	NTU	0.1	-	-	-	12.7	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	0.022	-	-	<0.020	<0.020	-	<0.020
Nitrate (as N)	mg/L	0.02	-	5.39	-	-	2.47	5.45	-	2.27
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	-	<2.0	<2.0	-	<2.0
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	Non-lethal	-	-	-	Non-lethal	-

Notes:

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³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.27
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-B01	MQ-C-B	MQ-C-B	MQ-C-B	MQ-C-B
	ALS Laboratory Sample ID			L1972601-7	L1975323-12	L1975323-13	234168	L1978447-8	L1984043-13	L1987251-1
	Sample Date & Time			8/8/2017 2:30:00 PM	8/15/2017 10:05:00 AM	8/15/2017 10:05:00 AM	8/15/2017 10:05:00 AM	8/21/2017 4:10:00 PM	8/28/2017 4:35:00 PM	9/5/2017 5:10:00 PM
	QA/QC Sample Type			N/A	N/A	Duplicate	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	-	333	333	-	-	397	389
pH	pH units	0.1	6.0 - 9.5	8.31	8.25	8.17	-	8.22	8.2	8.1
Total Suspended Solids	mg/L	2	15	2.8	<2.0	<2.0	-	<2.0	5	3.4
Total Dissolved Solids	mg/L	10	-	183	-	-	-	215	-	-
Turbidity	NTU	0.1	-	1.47	-	-	-	1.2	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	0.065	0.055	-	-	<0.020	<0.020
Nitrate (as N)	mg/L	0.02	-	-	1.15	1.15	-	-	1.85	2.23
Oil and Grease, Total	mg/L	2	No Visible Sheen	-	<2.0	<2.0	-	-	<2.0	<2.0
Acute Lethality ^{2,3}	N/A		Non-Lethal	-	-	-	Non-lethal	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

²Acute lethality to Rainbow trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/13)

³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.27
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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-B01	MQ-C-B02	MQ-C-B03
	ALS Laboratory Sample ID			234305	L1989579-3	L1994866-7	L1994866-8	L1994866-9	L1994866-10
	Sample Date & Time			9/5/2017 5:10:00 PM	9/11/2017 1:00:00 PM	9/19/2017 7:10:00 PM	9/19/2017 7:10:00 PM	9/19/2017 7:10:00 PM	9/19/2017 7:10:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	Duplicate	Field Blank	Travel Blank
	Units	LOR	Water Licence Criteria ¹						
Conductivity	umhos/cm	3	-	-	377	376	<3.0	<3.0	
pH	pH units	0.1	6.0 - 9.5	-	7.96	7.75	7.85	6.6	5.8
Total Suspended Solids	mg/L	2	15	-	<2.0	<2.0	<2.0	<2.0	<2.0
Total Dissolved Solids	mg/L	10	-	-	225	-	-	-	-
Turbidity	NTU	0.1	-	-	0.53	-	-	-	-
Ammonia, Total (as N)	mg/L	0.02	-	-	<0.020	0.071	<0.020	<0.020	<0.020
Nitrate (as N)	mg/L	0.02	-	-	0.994	1.03	<0.020	<0.020	<0.020
Oil and Grease, Total	mg/L	2	No Visible Sheen	-	-	<2.0	<2.0	<2.0	<2.0
Acute Lethality ^{2,3}	N/A		Non-Lethal	Non-lethal	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

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³Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.28
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MQ-C-D	MQ-C-D
	ALS Laboratory Sample ID			L1930306-1	233627	L1933807-1	L1937998-1	L1942055-12	L1946654-1	L1949986-1
	Sample Date & Time			5/23/2017 3:30:00 PM	5/23/2017 3:30:00 PM	5/29/2017 5:55:00 PM	6/4/2017 11:50:00 PM	6/12/2017 4:26:00 PM	6/20/2017 9:20:00 AM	6/26/2017 1:30:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	315		-	107	-	-	-
pH	pH units	0.1	6.0 - 9.5	7.75		7.73	7.76	8.03	7.83	8.03
Total Suspended Solids ²	mg/L	2	15	26.8		19.5	4.6	<2.0	6.4	6
Total Dissolved Solids	mg/L	10	-	-		80	-	77	110	110
Turbidity	NTU	0.1	-	-		44.2	-	11	8.71	7.58
Ammonia, Total (as N)	mg/L	0.02	-	0.08		-	0.038	-	-	-
Nitrate (as N)	mg/L	0.02	-	0.818		-	0.179	-	-	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0		-	<2.0	-	-	-
Acute Lethality ^{3,4}	N/A		Non-Lethal	-	Non-lethal	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

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TABLE 5.2.28
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 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	MQ-C-D	MQ-C-D
	ALS Laboratory Sample ID			L1954220-2	L1957744-2	L1963045-1	L1965106-10	L1969176-10	L1972601-9	L1975323-10
	Sample Date & Time			7/3/2017 10:30:00 AM	7/10/2017 2:00:00 PM	7/16/2017 11:55:00 AM	7/24/2017 2:35:00 PM	7/31/2017 7:05:00 PM	8/8/2017 2:15:00 PM	8/14/2017 4:10:00 PM
	QA/QC Sample Type			N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	260	-	286	-	296	-	342
pH	pH units	0.1	6.0 - 9.5	8.19	8.13	8.1	7.83	8.16	8.21	8.28
Total Suspended Solids ²	mg/L	2	15	2.8	3.6	5.9	<2.0	<2.0	<2.0	2
Total Dissolved Solids	mg/L	10	-	-	160	-	208	-	144	-
Turbidity	NTU	0.1	-	-	3.82	-	1.09	-	4.17	-
Ammonia, Total (as N)	mg/L	0.02	-	0.043	-	0.034	-	0.021	-	0.038
Nitrate (as N)	mg/L	0.02	-	0.616	-	0.668	-	0.95	-	1.14
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	<2.0	-	<2.0	-	<2.0
Acute Lethality ^{3,4}	N/A		Non-Lethal	-	-	-	-	-	-	-

Notes:

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

¹Type A Water Licence (2AM-MRY1325 - Amend. 1) - Table 11: Effluent Quality Discharge Limits for Contact Water during the Operations Phase and the Early Revenue Phase of the Project

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TABLE 5.2.28
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-D

Analyte	Sample ID			MQ-C-D03	MQ-C-D	MQ-C-D	MQ-C-D02	MQ-C-D	MQ-C-D	MQ-C-D
	ALS Laboratory Sample ID			L1975323-15	L1978447-10	L1984043-15	L1984043-2	L1987589-9	L1989579-5	L1994866-15
	Sample Date & Time			8/14/2017 4:10:00 PM	8/21/2017 3:45:00 PM	8/28/2017 4:05:00 PM	8/28/2017 4:05:00 PM	9/4/2017 3:00:00 PM	9/11/2017 12:00:00 PM	9/19/2017 7:45:00 PM
	QA/QC Sample Type			Travel Blank	N/A	N/A	Field Blank	N/A	N/A	N/A
	Units	LOR	Water Licence Criteria ¹							
Conductivity	umhos/cm	3	-	<3.0	-	373	<3.0	375	-	398
pH	pH units	0.1	6.0 - 9.5	5.7	8.15	8.09	5.88	8.23	7.91	7.52
Total Suspended Solids ²	mg/L	2	15	<2.0	<2.0	2.6	<2.0	4.2	4	2
Total Dissolved Solids	mg/L	10	-	-	140	-	-	-	205	-
Turbidity	NTU	0.1	-	-	2.2	-	-	-	6.91	-
Ammonia, Total (as N)	mg/L	0.02	-	<0.020	-	0.059	<0.020	0.031	-	0.053
Nitrate (as N)	mg/L	0.02	-	<0.020	-	1.4	<0.020	1.54	-	1.33
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	-	<2.0	<2.0	<2.0	-	<2.0
Acute Lethality ^{3,4}	N/A		Non-Lethal	-	-	-	-	-	-	-

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⁴Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.2.28
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WATER QUALITY RESULTS FOR WATER LICENCE MONITORING LOCATION - MQ-C-D

Analyte	Sample ID			MQ-C-D01	MQ-C-D02	MQ-C-D03	MQ-C-D
	ALS Laboratory Sample ID			L1994866-16	L1994866-17	L1994866-18	L1997815-1
	Sample Date & Time			9/19/2017 7:45:00 PM	9/19/2017 7:45:00 PM	9/19/2017 7:45:00 PM	9/25/2017 3:15:00 PM
	QA/QC Sample Type			Duplicate	Field Blank	Travel Blank	N/A
	Units	LOR	Water Licence Criteria ¹				
Conductivity	umhos/cm	3	-	398	<3.0	<3.0	-
pH	pH units	0.1	6.0 - 9.5	7.55	6.25	5.63	7.7
Total Suspended Solids ²	mg/L	2	15	2.4	<2.0	<2.0	3.2
Total Dissolved Solids	mg/L	10	-	-	-	-	245
Turbidity	NTU	0.1	-	-	-	-	3.64
Ammonia, Total (as N)	mg/L	0.02	-	0.033	<0.020	<0.020	-
Nitrate (as N)	mg/L	0.02	-	1.35	<0.020	<0.020	-
Oil and Grease, Total	mg/L	2	No Visible Sheen	<2.0	<2.0	<2.0	-
Acute Lethality ^{3,4}	N/A		Non-Lethal	-	-	-	-

Notes:

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

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⁴Acute lethality to *Daphnia magna* (as per Environment Canada's Environmental Protection Series Method EPS/1/RM/14)

TABLE 5.3

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS

ACUTE TOXICITY MONITORING RESULTS FOR WATER LICENCE MONITORING LOCATIONS

Sample Number	Sample ID	Date Sampled	Toxicity Test	Result	Lab
51034	MP-01	2-May-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51034	MP-01	2-May-17	Rainbow trout	Non-Lethal	Aquatox
51035	MS-01	2-May-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51035	MS-01	2-May-17	Rainbow trout	Non-Lethal	Aquatox
51251	MQ-C-D	23-May-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51251	MQ-C-D	23-May-17	Rainbow trout	Non-Lethal	Aquatox
51275	MP-06 (Pre-discharge)	27-May-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51275	MP-06 (Pre-discharge)	27-May-17	Rainbow trout	Non-Lethal	Aquatox
51276	MP-05	27-May-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51276	MP-05	27-May-17	Rainbow trout	Non-Lethal	Aquatox
51277	MS-06 (Pre-discharge)	27-May-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51277	MS-06 (Pre-discharge)	27-May-17	Rainbow trout	Non-Lethal	Aquatox
51303	MP-05	29-May-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51303	MP-05	29-May-17	Rainbow trout	Non-Lethal	Aquatox
51401	MP-06	6-Jun-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51401	MP-06	6-Jun-17	Rainbow trout	Non-Lethal	Aquatox
51397	MS-06	6-Jun-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51397	MS-06	6-Jun-17	Rainbow trout	Non-Lethal	Aquatox
51398	MS-MRY-04c	6-Jun-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51398	MS-MRY-04c	6-Jun-17	Rainbow trout	Non-Lethal	Aquatox
51467	MQ-C-B	13-Jun-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51467	MQ-C-B	13-Jun-17	Rainbow trout	Non-Lethal	Aquatox
51468	MP-Q1-01	13-Jun-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51468	MP-Q1-01	13-Jun-17	Rainbow trout	Non-Lethal	Aquatox
51558	MS-08	27-Jun-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51558	MS-08	27-Jun-17	Rainbow trout	Non-Lethal	Aquatox
51623	MP-C-H	4-Jul-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51623	MP-C-H	4-Jul-17	Rainbow trout	Non-Lethal	Aquatox
51619	MQ-C-B	4-Jul-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51619	MQ-C-B	4-Jul-17	Rainbow trout	Non-Lethal	Aquatox
51687	MP-Q1-02	11-Jul-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51687	MP-Q1-02	11-Jul-17	Rainbow trout	Non-Lethal	Aquatox
51685	MS-06	11-Jul-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51685	MS-06	11-Jul-17	Rainbow trout	Non-Lethal	Aquatox
51686	MS-08	11-Jul-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51686	MS-08	11-Jul-17	Rainbow trout	Non-Lethal	Aquatox
51684	MP-06	12-Jul-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51684	MP-06	12-Jul-17	Rainbow trout	Non-Lethal	Aquatox
51786	MQ-C-B	24-Jul-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51786	MQ-C-B	24-Jul-17	Rainbow trout	Non-Lethal	Aquatox
51841	MS-08	1-Aug-17	<i>Daphnia magna</i>	Lethal	Aquatox
51841	MS-08	1-Aug-17	Rainbow trout	Lethal	Aquatox
51842	MP-Q1-02	1-Aug-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51842	MP-Q1-02	1-Aug-17	Rainbow trout	Non-Lethal	Aquatox
51840	MS-06	1-Aug-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51840	MS-06	1-Aug-17	Rainbow trout	Non-Lethal	Aquatox
51983	MP-05	15-Aug-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51983	MP-05	15-Aug-17	Rainbow trout	Non-Lethal	Aquatox
51984	MP-Q1-01	15-Aug-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51984	MP-Q1-01	15-Aug-17	Rainbow trout	Non-Lethal	Aquatox



TABLE 5.3

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
ACUTE TOXICITY MONITORING RESULTS FOR WATER LICENCE MONITORING LOCATIONS

Sample Number	Sample ID	Date Sampled	Toxicity Test	Result	Lab
51985	MQ-C-B	15-Aug-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
51985	MQ-C-B	15-Aug-17	Rainbow trout	Non-Lethal	Aquatox
52038	MS-08	24-Aug-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
52038	MS-08	24-Aug-17	Rainbow trout	Non-Lethal	Aquatox
52119	MQ-C-A	29-Aug-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
52119	MQ-C-A	29-Aug-17	Rainbow trout	Non-Lethal	Aquatox
52120	MP-Q1-02	29-Aug-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
52120	MP-Q1-02	29-Aug-17	Rainbow trout	Non-Lethal	Aquatox
52191	MQ-C-B	5-Sep-17	<i>Daphnia magna</i>	Non-Lethal	Aquatox
52191	MQ-C-B	5-Sep-17	Rainbow trout	Non-Lethal	Aquatox
52192	MS-08	5-Sep-17	<i>Daphnia magna</i>	Lethal	Aquatox
52192	MS-08	5-Sep-17	Rainbow trout	Non-Lethal	Aquatox

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

FIELD DUPLICATES						
% Difference Comparison						
Parameter	MDL	Units	Laboratory	L1888655-1	L1888655-2	% Difference
				MP-01	MP-0101	
				7-Feb-17	7-Feb-17	
pH	0.1	pH units	ALS	7.67	7.69	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	0.072	0.075	4.2
Total Phosphorus	0.0030	mg/L	ALS	9.77	9.57	2.0
Fecal Coliforms	0	CFU/100mL	ALS	0	0	--
Biochemical Oxygen Demand	2.0	mg/L	ALS	<2.0	<2.0	--
Oil & Grease - Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1888660-1	L1888660-3	% Difference
				MS-01	MS-0101	
				7-Feb-17	7-Feb-17	
pH	0.1	pH units	ALS	7.74	7.75	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	0.065	0.064	1.5
Total Phosphorus	0.0030	mg/L	ALS	1.55	1.54	0.6
Fecal Coliforms	0	CFU/100mL	ALS	1	5	400.0
Biochemical Oxygen Demand	2.0	mg/L	ALS	<2.0	<2.0	--
Oil & Grease - Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1931308-1	L1931308-2	% Difference
				MP-C-B	MP-C-B01	
				22-May-17	22-May-17	
pH	0.10	pH Units	ALS	7.95	7.98	N/A
Total Suspended Solids	2.00	mg/L	ALS	10.8	13.2	0.4
Total Dissolved Solids	20	mg/L	ALS	138	175	22.2
Turbidity	0.10	NTU	ALS	9.54	11.6	26.8
Parameter	MDL	Units	Laboratory	L1937998-10	L1937998-11	% Difference
				MS-C-F	MS-C-F01	
				4-Jun-17	4-Jun-17	
Conductivity	3.0	umhos/cm	ALS	55	56.7	3.1
pH	0.1	pH units	ALS	7.57	7.43	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	3.8	--
Ammonia, Total (as N)	0.020	mg/L	ALS	0.026	<0.020	--
Nitrate (as N)	0.020	mg/L	ALS	0.046	0.047	2.2
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1957697-3	L1957697-4	% Difference
				MP-C-B01	MP-C-B0101	
				10-Jul-17	10-Jul-17	
pH	0.10	pH Units	ALS	7.95	7.98	N/A
Total Suspended Solids	2.00	mg/L	ALS	10.8	13.2	22.2
Total Dissolved Solids	20	mg/L	ALS	138	175	26.8
Turbidity	0.10	NTU	ALS	9.54	11.6	21.6
Parameter	MDL	Units	Laboratory	L1961578-1	L1961578-4	% Difference
				MP-C-H	MP-C-H01	
				17-Jul-17	17-Jul-17	
Conductivity	3.0	umhos/cm	ALS	55	56.7	3.1
pH	0.1	pH units	ALS	7.57	7.43	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	3.8	--
Ammonia, Total (as N)	0.020	mg/L	ALS	0.026	<0.020	--
Nitrate (as N)	0.020	mg/L	ALS	0.046	0.047	2.2
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

FIELD DUPLICATES						
% Difference Comparison						
Parameter	MDL	Units	Laboratory	L1957684-1	L1957684-2	% Difference
				MS-08	MS-0801	
				11-Jul-17	11-Jul-17	
Conductivity	3	umhos/cm	ALS	486	486	0.0
pH	0.1	pH units	ALS	6.5	6.6	N/A
Total Suspended Solids	2	mg/L	ALS	2.3	4.6	--
Total Dissolved Solids	20	mg/L	ALS	371	353	4.9
Turbidity	0.1	NTU	ALS	7.81	7.66	1.9
Cyanide, Total	0.02	mg/L	ALS	<0.020	0.0023	--
Aluminum (Al)-Total	0.005	mg/L	ALS	0.107	0.0742	30.7
Antimony (Sb)-Total	0.0001	mg/L	ALS	<0.00010	<0.00010	--
Arsenic (As)-Total	0.0001	mg/L	ALS	<0.00010	<0.00010	--
Barium (Ba)-Total	0.0002	mg/L	ALS	0.00776	0.0076	2.1
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	0.012	0.012	0.0
Cadmium (Cd)-Total	0.0001	mg/L	ALS	0.000049	0.000053	8.2
Calcium (Ca)-Total	0.5	mg/L	ALS	16.8	16.2	3.6
Cesium (Cs)-Total	0.0001	mg/L	ALS	0.000015	0.000012	--
Chromium (Cr)-Total	0.0005	mg/L	ALS	<0.00050	<0.00050	--
Cobalt (Co)-Total	0.0001	mg/L	ALS	0.0196	0.0195	0.5
Copper (Cu)-Total	0.001	mg/L	ALS	0.0024	0.0024	0.0
Iron (Fe)-Total	0.05	mg/L	ALS	0.939	0.855	8.9
Lead (Pb)-Total	0.00005	mg/L	ALS	0.000354	0.000762	--
Lithium (Li)-Total	0.001	mg/L	ALS	0.004	0.0039	2.5
Magnesium (Mg)-Total	0.05	mg/L	ALS	42.9	41.7	2.8
Manganese (Mn)-Total	0.0005	mg/L	ALS	1.54	1.53	0.6
Molybdenum (Mo)-Total	0.00005	mg/L	ALS	0.000061	0.000058	4.9
Nickel (Ni)-Total	0.0005	mg/L	ALS	0.0211	0.0206	2.4
Phosphorus (P)-Total	0.05	mg/L	ALS	<0.050	<0.050	--
Potassium (K)-Total	0.05	mg/L	ALS	1.01	1	1.0
Rubidium (Rb)-Total	0.0002	mg/L	ALS	0.00192	0.00194	1.0
Selenium (Se)-Total	0.00005	mg/L	ALS	0.000902	0.000933	3.4
Silicon (Si)-Total	0.1	mg/L	ALS	0.56	0.5	10.7
Silver (Ag)-Total	0.00005	mg/L	ALS	<0.000050	<0.000050	--
Sodium (Na)-Total	0.5	mg/L	ALS	0.76	0.76	0.0
Strontium (Sr)-Total	0.001	mg/L	ALS	0.0115	0.0116	0.9
Sulfur (S)-Total	0.5	mg/L	ALS	74.3	76.4	2.8
Tellurium (Te)-Total	0.0002	mg/L	ALS	<0.00020	<0.00020	--
Thallium (Tl)-Total	0.00001	mg/L	ALS	0.000022	0.000021	4.5
Thorium (Th)-Total	0.0001	mg/L	ALS	0.00012	<0.00010	--
Tin (Sn)-Total	0.0001	mg/L	ALS	<0.00010	<0.00010	--
Titanium (Ti)-Total	0.003	mg/L	ALS	<0.0060	<0.0030	--
Tungsten (W)-Total	0.0001	mg/L	ALS	<0.00010	<0.00010	--
Uranium (U)-Total	0.00001	mg/L	ALS	0.000086	0.000081	5.8
Vanadium (V)-Total	0.0005	mg/L	ALS	<0.00050	<0.00050	--
Zinc (Zn)-Total	0.003	mg/L	ALS	0.0068	0.008	17.6
Zirconium (Zr)-Total	0.0003	mg/L	ALS	<0.00030	<0.00030	--
Ra-226	0.0045	Bq/L	ALS	0.012	<0.0067	--

Parameter	MDL	Units	Laboratory	L1963045-6	L1963045-7	% Difference
				MS-C-A	MS-C-A01	
				16-Jul-17	16-Jul-17	
Conductivity	3.0	umhos/cm	ALS	192	192	0.0
pH	0.1	pH units	ALS	7.96	7.92	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	<0.020	<0.020	--
Nitrate (as N)	0.020	mg/L	ALS	0.215	0.205	4.7
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

FIELD DUPLICATES						
% Difference Comparison						
Parameter	MDL	Units	Laboratory	L1969176-3	L1969176-16	% Difference
				MC-C-C	MS-C-C01	
				31-Jul-17	31-Jul-17	
Conductivity	3.0	umhos/cm	ALS	696	691	0.7
pH	0.1	pH units	ALS	8.05	7.96	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	<0.020	<0.020	--
Nitrate (as N)	0.020	mg/L	ALS	4.86	4.96	2.1
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1984172-6	L1984172-5	% Difference
				MP-C-B	MP-C-B-01	
				22-Aug-17	22-Aug-17	
pH	0.10	pH units	ALS	8.3	8.2	N/A
Total Suspended Solids	2.00	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	20	mg/L	ALS	465.0	466.0	0.2
Turbidity	0.10	NTU	ALS	1.8	1.6	10.6
Parameter	MDL	Units	Laboratory	L1984045-1	L1984045-2	% Difference
				MP-C-H	MP-C-H01	
				28-Aug-17	28-Aug-17	
Conductivity	3.0	umhos/cm	ALS	335	334	0.3
pH	0.1	pH units	ALS	8.27	8.27	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	<0.020	0.028	--
Nitrate (as N)	0.020	mg/L	ALS	0.08	0.078	2.5
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1978447-1	L1978447-13	% Difference
				MS-C-A	MS-C-A01	
				21-Aug-17	21-Aug-17	
pH	0.10	pH units	ALS	8.0	8.2	N/A
Total Suspended Solids	2.00	mg/L	ALS	<2.0	<2.0	--
Total Dissolved Solids	20	mg/L	ALS	65.0	145.0	--
Turbidity	0.10	NTU	ALS	0.3	0.1	--
Parameter	MDL	Units	Laboratory	L1984043-16	L1984043-1	% Difference
				MS-C-F	MS-C-F01	
				28-Aug-17	28-Aug-17	
Conductivity	3.0	umhos/cm	ALS	237	236	0.4
pH	0.1	pH units	ALS	8.09	8.04	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	<0.020	<0.020	--
Nitrate (as N)	0.020	mg/L	ALS	0.497	0.47	5.4
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1984043-4	L1984043-5	% Difference
				MQ-C-A	MQ-C-A01	
				29-Aug-17	29-Aug-17	
Conductivity	3.0	umhos/cm	ALS	295	294	0.3
pH	0.1	pH units	ALS	8.17	8.22	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	<0.020	<0.020	--
Nitrate (as N)	0.020	mg/L	ALS	<0.020	<0.020	--
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1975323-12	L1975323-13	% Difference
				MQ-C-B	MQ-C-B01	
				15-Aug-17	15-Aug-17	
Conductivity	3.0	umhos/cm	ALS	333	333	0.0
pH	0.1	pH units	ALS	8.25	8.17	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	0.065	0.055	15.4
Nitrate (as N)	0.020	mg/L	ALS	1.15	1.15	0.0
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

FIELD DUPLICATES						
% Difference Comparison						
Parameter	MDL	Units	Laboratory	L1995168-3	L1995168-4	% Difference
				MQ-C-B01	MQ-C-B0101	
				20-Sep-17	20-Sep-17	
Conductivity	3.0	umhos/cm	ALS	875	872	0.3
pH	0.1	pH units	ALS	8.1	8.11	N/A
Total Suspended Solids	2.0	mg/L	ALS	2.8	2.4	14.3
Ammonia, Total (as N)	0.020	mg/L	ALS	0.169	0.17	0.6
Nitrate (as N)	0.020	mg/L	ALS	3.89	3.87	0.5
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1995168-6	L1995168-7	% Difference
				MP-C-H	MP-C-H01	
				20-Sep-17	20-Sep-17	
Conductivity	3.0	umhos/cm	ALS	320	321	0.3
pH	0.1	pH units	ALS	8.02	8.11	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	<0.020	<0.020	--
Nitrate (as N)	0.020	mg/L	ALS	0.063	0.058	7.9
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1990177-1	L-1990177-6	% Difference
				MP-Q1-01	MP-Q1-0101	
				12-Sep-17	12-Sep-17	
pH	0.10	pH units	ALS	7.96	8.09	N/A
Total Suspended Solids	2.00	mg/L	ALS	3.9	3.5	10.3
Total Dissolved Solids	20	mg/L	ALS	194.0	202.0	4.1
Turbidity	0.10	NTU	ALS	2.0	2.82	41.0
Parameter	MDL	Units	Laboratory	L1994866-19	L1994866-20	% Difference
				MS-C-G	MS-C-G01	
				19-Sep-17	19-Sep-17	
Conductivity	3.0	umhos/cm	ALS	224	225	0.4
pH	0.1	pH units	ALS	7.59	7.75	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	0.031	0.025	19.4
Nitrate (as N)	0.020	mg/L	ALS	2.22	2.23	0.5
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1994866-11	L1994866-12	% Difference
				MQ-C-A	MQ-C-A01	
				19-Sep-17	19-Sep-17	
Conductivity	3.0	umhos/cm	ALS	348	350	0.6
pH	0.1	pH units	ALS	7.98	7.98	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	<0.020	<0.020	--
Nitrate (as N)	0.020	mg/L	ALS	<0.020	<0.020	--
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1994866-8	L1994866-9	% Difference
				MQ-C-B	MQ-C-B01	
				19-Sep-17	19-Sep-17	
Conductivity	3.0	umhos/cm	ALS	377	376	0.3
pH	0.1	pH units	ALS	7.75	7.85	N/A
Total Suspended Solids	2.0	mg/L	ALS	<2.0	<2.0	--
Ammonia, Total (as N)	0.020	mg/L	ALS	<0.020	0.071	--
Nitrate (as N)	0.020	mg/L	ALS	0.994	1.03	3.6
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L1994866-15	L1994866-16	% Difference
				MQ-C-D	MQ-C-D01	
				19-Sep-17	19-Sep-17	
Conductivity	3.0	umhos/cm	ALS	398	398	0.0
pH	0.1	pH units	ALS	7.52	7.55	N/A
Total Suspended Solids	2.0	mg/L	ALS	2	2.4	--
Ammonia, Total (as N)	0.020	mg/L	ALS	0.053	0.033	--
Nitrate (as N)	0.020	mg/L	ALS	1.33	1.35	1.5
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

FIELD DUPLICATES						
% Difference Comparison						
Parameter	MDL	Units	Laboratory	L2009586-1	L2009586-3	% Difference
				MP-01	MP-0101	
				17-Oct-17	17-Oct-17	
pH	0.1	pH units	ALS	7.51	7.46	N/A
Total Suspended Solids	2.0	mg/L	ALS	13.2	37	180.3
Alkalinity, Total (asCaCO3)	10	mg/L	ALS	79	80	1.3
Ammonia, Total (as N)	0.020	mg/L	ALS	0.144	0.199	38.2
Phosphorus, Total	0.0030	mg/L	ALS	8.16	8.29	1.6
Fecal Coliforms	0	CFU/100mL	ALS	0	1	--
BOD	2.0	mg/L	ALS	<2.0	<2.0	--
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L2013415-1	L2013415-4	% Difference
				MS-01	MS-0101	
				24-Oct-17	24-Oct-17	
pH	0.1	pH units	ALS	7.46	7.43	N/A
Total Suspended Solids	2.0	mg/L	ALS	2.2	<2.0	--
Alkalinity, Total (asCaCO3)	10	mg/L	ALS	50	51	2.0
Ammonia, Total (as N)	0.020	mg/L	ALS	0.151	0.145	4.0
Phosphorus, Total	0.0030	mg/L	ALS	0.741	0.743	0.3
Fecal Coliforms	0	CFU/100mL	ALS	0.741	0	--
BOD	2.0	mg/L	ALS	<2.0	<2.0	--
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--
Parameter	MDL	Units	Laboratory	L2035927-1	L2035927-3	% Difference
				MP-01	MP-0101	
				12-Dec-17	12-Dec-17	
pH	0.1	pH units	ALS	7.88	7.79	N/A
Total Suspended Solids	2.0	mg/L	ALS	2.3	3.6	--
Alkalinity, Total (asCaCO3)	10	mg/L	ALS	196	196	0.0
Ammonia, Total (as N)	0.020	mg/L	ALS	0.097	0.075	22.7
Phosphorus, Total	0.0030	mg/L	ALS	10.4	103	890.4
Fecal Coliforms	0	CFU/100mL	ALS	0	0	--
BOD	2.0	mg/L	ALS	<2.0	<2.0	--
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	2.5	--
Parameter	MDL	Units	Laboratory	L2035949-1	L2035949-3	% Difference
				MS-01	MS-0101	
				12-Dec-17	12-Dec-17	
pH	0.1	pH units	ALS	7.67	7.59	N/A
Total Suspended Solids	2.0	mg/L	ALS	2.7	6.7	--
Alkalinity, Total (asCaCO3)	10	mg/L	ALS	89	88	1.1
Ammonia, Total (as N)	0.020	mg/L	ALS	0.043	0.065	--
Phosphorus, Total	0.0030	mg/L	ALS	1.11	1.16	4.5
Fecal Coliforms	0	CFU/100mL	ALS	0	3	--
BOD	2.0	mg/L	ALS	<2.0	<2.0	--
Oil and Grease, Total	2.0	mg/L	ALS	<2.0	<2.0	--

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

FIELD AND TRAVEL BLANKS

Sample Number	Sample ID	Date Sampled	Parameter	Result	Unit	Lab
L1965122-1	MS-08	21-Jul-17	Conductivity	656	umhos/cm	ALS
L1965122-1	MS-08	21-Jul-17	Hardness (as CaCO3)	318	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	pH	6.92	pH units	ALS
L1965122-1	MS-08	21-Jul-17	Total Suspended Solids	<2.0	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Alkalinity, Total (as CaCO3)	10	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Ammonia, Total (as N)	0.431	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Chloride (Cl)	2.59	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Fluoride (F)	0.024	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Nitrate (as N)	2.46	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Total Kjeldahl Nitrogen	0.62	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Phosphorus, Total	<0.015	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Sulfate (SO4)	308	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Dissolved Organic Carbon	<1.0	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Total Organic Carbon	<1.0	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Aluminum (Al)-Total	0.0363	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Antimony (Sb)-Total	<0.00010	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Arsenic (As)-Total	<0.00010	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Barium (Ba)-Total	0.0101	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Beryllium (Be)-Total	<0.00010	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Bismuth (Bi)-Total	<0.000050	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Boron (B)-Total	0.014	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Cadmium (Cd)-Total	0.000057	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Calcium (Ca)-Total	22.6	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Cesium (Cs)-Total	<0.000010	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Chromium (Cr)-Total	<0.00050	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Cobalt (Co)-Total	0.0249	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Copper (Cu)-Total	0.007	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Iron (Fe)-Total	0.477	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Lead (Pb)-Total	0.000485	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Lithium (Li)-Total	0.0045	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Magnesium (Mg)-Total	63.5	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Manganese (Mn)-Total	2.12	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Molybdenum (Mo)-Total	<0.000050	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Nickel (Ni)-Total	0.0283	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Phosphorus (P)-Total	<0.050	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Potassium (K)-Total	1.23	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Rubidium (Rb)-Total	0.00214	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Selenium (Se)-Total	0.00119	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Silicon (Si)-Total	0.55	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Silver (Ag)-Total	<0.000050	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Sodium (Na)-Total	0.97	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Strontium (Sr)-Total	0.0155	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Sulfur (S)-Total	107	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Tellurium (Te)-Total	<0.00020	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Thallium (Tl)-Total	0.00002	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Thorium (Th)-Total	<0.00010	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Tin (Sn)-Total	0.00042	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Titanium (Ti)-Total	<0.002	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Tungsten (W)-Total	<0.00010	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Uranium (U)-Total	0.000055	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Vanadium (V)-Total	<0.00050	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Zinc (Zn)-Total	0.01	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Zirconium (Zr)-Total	<0.00030	mg/L	ALS
L1965122-1	MS-08	21-Jul-17	Ra-226	0.01	Bq/L	ALS
L1965122-2	MS-0802	21-Jul-17	Conductivity	<3.0	umhos/cm	ALS
L1965122-2	MS-0802	21-Jul-17	Hardness (as CaCO3)	<10	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	pH	6.21	pH units	ALS
L1965122-2	MS-0802	21-Jul-17	Total Suspended Solids	<2.0	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Alkalinity, Total (as CaCO3)	<10	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Chloride (Cl)	<0.50	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Fluoride (F)	<0.020	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Nitrate (as N)	<0.020	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Total Kjeldahl Nitrogen	<0.15	mg/L	ALS

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

Sample Number	Sample ID	Date Sampled	Parameter	Result	Unit	Lab
L1965122-2	MS-0802	21-Jul-17	Phosphorus, Total	<0.0030	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Sulfate (SO4)	<0.30	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Dissolved Organic Carbon	<1.0	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Total Organic Carbon	<1.0	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Aluminum (Al)-Total	0.0393	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Antimony (Sb)-Total	<0.00010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Arsenic (As)-Total	<0.00010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Barium (Ba)-Total	0.00055	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Beryllium (Be)-Total	<0.00010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Bismuth (Bi)-Total	<0.000050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Boron (B)-Total	<0.010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Cadmium (Cd)-Total	<0.000010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Calcium (Ca)-Total	0.52	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Cesium (Cs)-Total	<0.000010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Chromium (Cr)-Total	<0.00050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Cobalt (Co)-Total	<0.00010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Copper (Cu)-Total	<0.0010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Iron (Fe)-Total	<0.050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Lead (Pb)-Total	<0.000050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Lithium (Li)-Total	<0.0010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Magnesium (Mg)-Total	<0.050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Manganese (Mn)-Total	<0.00050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Molybdenum (Mo)-Total	<0.000050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Nickel (Ni)-Total	<0.00050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Phosphorus (P)-Total	<0.050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Potassium (K)-Total	<0.050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Rubidium (Rb)-Total	<0.00020	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Selenium (Se)-Total	<0.000050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Silicon (Si)-Total	2.4	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Silver (Ag)-Total	<0.000050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Sodium (Na)-Total	0.64	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Strontium (Sr)-Total	<0.0010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Sulfur (S)-Total	<0.50	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Tellurium (Te)-Total	<0.00020	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Thallium (Tl)-Total	<0.000010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Thorium (Th)-Total	<0.00010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Tin (Sn)-Total	<0.00010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Titanium (Ti)-Total	<0.00030	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Tungsten (W)-Total	<0.00010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Uranium (U)-Total	<0.000010	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Vanadium (V)-Total	<0.00050	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Zinc (Zn)-Total	<0.0030	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Zirconium (Zr)-Total	<0.00030	mg/L	ALS
L1965122-2	MS-0802	21-Jul-17	Ra-226	<0.0066	Bq/L	ALS
L1976363-3	MP-C-B01	14-Aug-17	Conductivity	747	umhos/cm	ALS
L1976363-3	MP-C-B01	14-Aug-17	pH	8.46	pH units	ALS
L1976363-3	MP-C-B01	14-Aug-17	Total Suspended Solids	2.4	mg/L	ALS
L1976363-3	MP-C-B01	14-Aug-17	Ammonia, Total (as N)	0.056	mg/L	ALS
L1976363-3	MP-C-B01	14-Aug-17	Nitrate (as N)	3.8	mg/L	ALS
L1976363-3	MP-C-B01	14-Aug-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1976363-1	MP-C-B0102	14-Aug-17	Conductivity	<3.0	umhos/cm	ALS
L1976363-1	MP-C-B0102	14-Aug-17	pH	5.66	pH units	ALS
L1976363-1	MP-C-B0102	14-Aug-17	Total Suspended Solids	<2.0	mg/L	ALS
L1976363-1	MP-C-B0102	14-Aug-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1976363-1	MP-C-B0102	14-Aug-17	Nitrate (as N)	<0.020	mg/L	ALS
L1976363-1	MP-C-B0102	14-Aug-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1984172-3	MP-C-B01	22-Aug-17	pH	8.31	pH units	ALS
L1984172-3	MP-C-B01	22-Aug-17	Total Suspended Solids	<2.0	mg/L	ALS
L1984172-3	MP-C-B01	22-Aug-17	Total Dissolved Solids	442	mg/L	ALS
L1984172-3	MP-C-B01	22-Aug-17	Turbidity	1.8	NTU	ALS
L1984172-4	MP-C-B0102	22-Aug-17	pH	5.73	pH units	ALS
L1984172-4	MP-C-B0102	22-Aug-17	Total Suspended Solids	<2.0	mg/L	ALS
L1984172-4	MP-C-B0102	22-Aug-17	Total Dissolved Solids	<10	mg/L	ALS
L1984172-4	MP-C-B0102	22-Aug-17	Turbidity	0.63	NTU	ALS
L1965122-2	MS-0802	21-Jul-17	Total Kjeldahl Nitrogen	<0.15	mg/L	ALS

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

Sample Number	Sample ID	Date Sampled	Parameter	Result	Unit	Lab
L1978447-2	MS-C-B	21-Aug-17	Total Suspended Solids	<2.0	mg/L	ALS
L1978447-2	MS-C-B	21-Aug-17	Total Dissolved Solids	65	mg/L	ALS
L1978447-2	MS-C-B	21-Aug-17	Turbidity	0.3	NTU	ALS
L1978447-14	MS-C-B02	21-Aug-17	pH	6.25	pH units	ALS
L1978447-14	MS-C-B02	21-Aug-17	Total Suspended Solids	<2.0	mg/L	ALS
L1978447-14	MS-C-B02	21-Aug-17	Total Dissolved Solids	<20	mg/L	ALS
L1978447-14	MS-C-B02	21-Aug-17	Turbidity	<0.10	NTU	ALS
L1978447-2	MS-C-B	21-Aug-17	pH	7.8	pH units	ALS
L1978447-2	MS-C-B	21-Aug-17	Total Suspended Solids	<2.0	mg/L	ALS
L1978447-2	MS-C-B	21-Aug-17	Total Dissolved Solids	65	mg/L	ALS
L1978447-2	MS-C-B	21-Aug-17	Turbidity	0.3	NTU	ALS
L1978447-14	MS-C-B02	21-Aug-17	pH	6.25	pH units	ALS
L1978447-14	MS-C-B02	21-Aug-17	Total Suspended Solids	<2.0	mg/L	ALS
L1978447-14	MS-C-B02	21-Aug-17	Total Dissolved Solids	<20	mg/L	ALS
L1978447-14	MS-C-B02	21-Aug-17	Turbidity	<0.10	NTU	ALS
L1984043-11	MS-C-G	28-Aug-17	Conductivity	212	umhos/cm	ALS
L1984043-11	MS-C-G	28-Aug-17	pH	8.04	pH units	ALS
L1984043-11	MS-C-G	28-Aug-17	Total Suspended Solids	<2.0	mg/L	ALS
L1984043-11	MS-C-G	28-Aug-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1984043-11	MS-C-G	28-Aug-17	Nitrate (as N)	1.9	mg/L	ALS
L1984043-11	MS-C-G	28-Aug-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1984043-3	MS-C-G03	28-Aug-17	Conductivity	<3.0	umhos/cm	ALS
L1984043-3	MS-C-G03	28-Aug-17	pH	6.11	pH units	ALS
L1984043-3	MS-C-G03	28-Aug-17	Total Suspended Solids	<4.0	mg/L	ALS
L1984043-3	MS-C-G03	28-Aug-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1984043-3	MS-C-G03	28-Aug-17	Nitrate (as N)	<0.020	mg/L	ALS
L1984043-3	MS-C-G03	28-Aug-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1975323-10	MQ-C-D	14-Aug-17	Conductivity	342	umhos/cm	ALS
L1975323-10	MQ-C-D	14-Aug-17	pH	8.28	pH units	ALS
L1975323-10	MQ-C-D	14-Aug-17	Total Suspended Solids	2	mg/L	ALS
L1975323-10	MQ-C-D	14-Aug-17	Ammonia, Total (as N)	0.038	mg/L	ALS
L1975323-10	MQ-C-D	14-Aug-17	Nitrate (as N)	1.14	mg/L	ALS
L1975323-10	MQ-C-D	14-Aug-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1975323-15	MQ-C-D03	14-Aug-17	Conductivity	<3.0	umhos/cm	ALS
L1975323-15	MQ-C-D03	14-Aug-17	pH	5.7	pH units	ALS
L1975323-15	MQ-C-D03	14-Aug-17	Total Suspended Solids	<2.0	mg/L	ALS
L1975323-15	MQ-C-D03	14-Aug-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1975323-15	MQ-C-D03	14-Aug-17	Nitrate (as N)	<0.020	mg/L	ALS
L1975323-15	MQ-C-D03	14-Aug-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1984043-15	MQ-C-D	28-Aug-17	Conductivity	373	umhos/cm	ALS
L1984043-15	MQ-C-D	28-Aug-17	pH	8.09	pH units	ALS
L1984043-15	MQ-C-D	28-Aug-17	Total Suspended Solids	2.6	mg/L	ALS
L1984043-15	MQ-C-D	28-Aug-17	Ammonia, Total (as N)	0.059	mg/L	ALS
L1984043-15	MQ-C-D	28-Aug-17	Nitrate (as N)	1.4	mg/L	ALS
L1984043-15	MQ-C-D	28-Aug-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1984043-2	MQ-C-D02	28-Aug-17	Conductivity	<3.0	umhos/cm	ALS
L1984043-2	MQ-C-D02	28-Aug-17	pH	5.88	pH units	ALS
L1984043-2	MQ-C-D02	28-Aug-17	Total Suspended Solids	<2.0	mg/L	ALS
L1984043-2	MQ-C-D02	28-Aug-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1984043-2	MQ-C-D02	28-Aug-17	Nitrate (as N)	<0.020	mg/L	ALS
L1984043-2	MQ-C-D02	28-Aug-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1990177-5	MP-C-B	12-Sep-17	pH	8.1	pH units	ALS
L1990177-5	MP-C-B	12-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1990177-5	MP-C-B	12-Sep-17	Total Dissolved Solids	449.0	mg/L	ALS
L1990177-5	MP-C-B	12-Sep-17	Turbidity	1.7	NTU	ALS
L1990177-4	MP-C-B02	12-Sep-17	pH	6.4	pH units	ALS
L1990177-4	MP-C-B02	12-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1990177-4	MP-C-B02	12-Sep-17	Total Dissolved Solids	<10	mg/L	ALS
L1990177-4	MP-C-B02	12-Sep-17	Turbidity	1.1	NTU	ALS
L1965122-2	MS-0802	21-Jul-17	Total Kjeldahl Nitrogen	<0.15	mg/L	ALS

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

Sample Number	Sample ID	Date Sampled	Parameter	Result	Unit	Lab
L1995168-1	MP-C-B	20-Sep-17	pH	8.0	pH units	ALS
L1995168-1	MP-C-B	20-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1995168-1	MP-C-B	20-Sep-17	Ammonia, Total (as N)	0.1	mg/L	ALS
L1995168-1	MP-C-B	20-Sep-17	Nitrate (as N)	3.9	mg/L	ALS
L1995168-1	MP-C-B	20-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1995168-2	MP-C-B03	20-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1995168-2	MP-C-B03	20-Sep-17	pH	6.7	pH units	ALS
L1995168-2	MP-C-B03	20-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1995168-2	MP-C-B03	20-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1995168-2	MP-C-B03	20-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1995168-2	MP-C-B03	20-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1995168-3	MP-C-B01	20-Sep-17	Conductivity	875	umhos/cm	ALS
L1995168-3	MP-C-B01	20-Sep-17	pH	8.1	pH units	ALS
L1995168-3	MP-C-B01	20-Sep-17	Total Suspended Solids	2.8	mg/L	ALS
L1995168-3	MP-C-B01	20-Sep-17	Ammonia, Total (as N)	0.169	mg/L	ALS
L1995168-3	MP-C-B01	20-Sep-17	Nitrate (as N)	3.89	mg/L	ALS
L1995168-3	MP-C-B01	20-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1995168-5	MP-C-B0102	20-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1995168-5	MP-C-B0102	20-Sep-17	pH	6.68	pH units	ALS
L1995168-5	MP-C-B0102	20-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1995168-5	MP-C-B0102	20-Sep-17	Ammonia, Total (as N)	0.059	mg/L	ALS
L1995168-5	MP-C-B0102	20-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1995168-5	MP-C-B0102	20-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-1	MS-C-A	19-Sep-17	Conductivity	212	umhos/cm	ALS
L1994866-1	MS-C-A	19-Sep-17	pH	7.73	pH units	ALS
L1994866-1	MS-C-A	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-1	MS-C-A	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-1	MS-C-A	19-Sep-17	Nitrate (as N)	0.215	mg/L	ALS
L1994866-1	MS-C-A	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-2	MS-C-A02	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-2	MS-C-A02	19-Sep-17	pH	7.29	pH units	ALS
L1994866-2	MS-C-A02	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-2	MS-C-A02	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-2	MS-C-A02	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-2	MS-C-A02	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-3	MS-C-A03	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-3	MS-C-A03	19-Sep-17	pH	6.1	pH units	ALS
L1994866-3	MS-C-A03	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-3	MS-C-A03	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-3	MS-C-A03	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-3	MS-C-A03	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-4	MS-C-B	19-Sep-17	Conductivity	233	umhos/cm	ALS
L1994866-4	MS-C-B	19-Sep-17	pH	7.24	pH units	ALS
L1994866-4	MS-C-B	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-4	MS-C-B	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-4	MS-C-B	19-Sep-17	Nitrate (as N)	0.39	mg/L	ALS
L1994866-4	MS-C-B	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-5	MS-C-B02	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-5	MS-C-B02	19-Sep-17	pH	6.55	pH units	ALS
L1994866-5	MS-C-B02	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-5	MS-C-B02	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-5	MS-C-B02	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-5	MS-C-B02	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-6	MS-C-B03	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-6	MS-C-B03	19-Sep-17	pH	5.76	pH units	ALS
L1994866-6	MS-C-B03	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-6	MS-C-B03	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-6	MS-C-B03	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-6	MS-C-B03	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-19	MS-C-G	19-Sep-17	Conductivity	224	umhos/cm	ALS
L1994866-19	MS-C-G	19-Sep-17	pH	7.59	pH units	ALS
L1994866-19	MS-C-G	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-19	MS-C-G	19-Sep-17	Ammonia, Total (as N)	0.031	mg/L	ALS
L1994866-19	MS-C-G	19-Sep-17	Nitrate (as N)	2.22	mg/L	ALS
L1994866-19	MS-C-G	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

Sample Number	Sample ID	Date Sampled	Parameter	Result	Unit	Lab
L1994866-21	MS-C-G02	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-21	MS-C-G02	19-Sep-17	pH	6.45	pH units	ALS
L1994866-21	MS-C-G02	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-21	MS-C-G02	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-21	MS-C-G02	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-21	MS-C-G02	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-22	MS-C-G03	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-22	MS-C-G03	19-Sep-17	pH	5.63	pH units	ALS
L1994866-22	MS-C-G03	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-22	MS-C-G03	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-22	MS-C-G03	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-22	MS-C-G03	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-11	MQ-C-A	19-Sep-17	Conductivity	348	umhos/cm	ALS
L1994866-11	MQ-C-A	19-Sep-17	pH	7.98	pH units	ALS
L1994866-11	MQ-C-A	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-11	MQ-C-A	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-11	MQ-C-A	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-11	MQ-C-A	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-13	MQ-C-A02	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-13	MQ-C-A02	19-Sep-17	pH	7.85	pH units	ALS
L1994866-13	MQ-C-A02	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-13	MQ-C-A02	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-13	MQ-C-A02	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-13	MQ-C-A02	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-14	MQ-C-A03	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-14	MQ-C-A03	19-Sep-17	pH	5.86	pH units	ALS
L1994866-14	MQ-C-A03	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-14	MQ-C-A03	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-14	MQ-C-A03	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-14	MQ-C-A03	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-7	MQ-C-B	19-Sep-17	Conductivity	377	umhos/cm	ALS
L1994866-7	MQ-C-B	19-Sep-17	pH	7.75	pH units	ALS
L1994866-7	MQ-C-B	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-7	MQ-C-B	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-7	MQ-C-B	19-Sep-17	Nitrate (as N)	0.994	mg/L	ALS
L1994866-7	MQ-C-B	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-9	MQ-C-B02	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-9	MQ-C-B02	19-Sep-17	pH	6.6	pH units	ALS
L1994866-9	MQ-C-B02	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-9	MQ-C-B02	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-9	MQ-C-B02	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-9	MQ-C-B02	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-10	MQ-C-B03	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-10	MQ-C-B03	19-Sep-17	pH	5.8	pH units	ALS
L1994866-10	MQ-C-B03	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-10	MQ-C-B03	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-10	MQ-C-B03	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-10	MQ-C-B03	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-15	MQ-C-D	19-Sep-17	Conductivity	398	umhos/cm	ALS
L1994866-15	MQ-C-D	19-Sep-17	pH	7.52	pH units	ALS
L1994866-15	MQ-C-D	19-Sep-17	Total Suspended Solids	2	mg/L	ALS
L1994866-15	MQ-C-D	19-Sep-17	Ammonia, Total (as N)	0.053	mg/L	ALS
L1994866-15	MQ-C-D	19-Sep-17	Nitrate (as N)	1.33	mg/L	ALS
L1994866-15	MQ-C-D	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L1994866-17	MQ-C-D02	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-17	MQ-C-D02	19-Sep-17	pH	6.25	pH units	ALS
L1994866-17	MQ-C-D02	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-17	MQ-C-D02	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-17	MQ-C-D02	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-17	MQ-C-D02	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

Sample Number	Sample ID	Date Sampled	Parameter	Result	Unit	Lab
L1994866-18	MQ-C-D03	19-Sep-17	Conductivity	<3.0	umhos/cm	ALS
L1994866-18	MQ-C-D03	19-Sep-17	pH	5.63	pH units	ALS
L1994866-18	MQ-C-D03	19-Sep-17	Total Suspended Solids	<2.0	mg/L	ALS
L1994866-18	MQ-C-D03	19-Sep-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L1994866-18	MQ-C-D03	19-Sep-17	Nitrate (as N)	<0.020	mg/L	ALS
L1994866-18	MQ-C-D03	19-Sep-17	Oil and Grease, Total	<2.0	mg/L	ALS
L2009586-1	MP-01	17-Oct-17	pH	7.51	pH units	ALS
L2009586-1	MP-01	17-Oct-17	Total Suspended Solids	13.2	mg/L	ALS
L2009586-1	MP-01	17-Oct-17	Alkalinity, Total (asCaCO3)	79	mg/L	ALS
L2009586-1	MP-01	17-Oct-17	Ammonia, Total (as N)	0.114	mg/L	ALS
L2009586-1	MP-01	17-Oct-17	Phosphorus, Total	8.16	mg/L	ALS
L2009586-1	MP-01	17-Oct-17	Fecal Coliforms	0	CFU/100mL	ALS
L2009586-1	MP-01	17-Oct-17	BOD	<2.0	mg/L	ALS
L2009586-1	MP-01	17-Oct-17	Oil and Grease, Total	<2.0	mg/L	ALS
L2009586-4	MP-0103	17-Oct-17	pH	6.07	pH units	ALS
L2009586-4	MP-0103	17-Oct-17	Total Suspended Solids	4.2	mg/L	ALS
L2009586-4	MP-0103	17-Oct-17	Alkalinity, Total (asCaCO3)	<10	mg/L	ALS
L2009586-4	MP-0103	17-Oct-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2009586-4	MP-0103	17-Oct-17	Phosphorus, Total	<0.0030	mg/L	ALS
L2009586-4	MP-0103	17-Oct-17	Fecal Coliforms	0	CFU/100mL	ALS
L2009586-4	MP-0103	17-Oct-17	BOD	<2.0	mg/L	ALS
L2009586-4	MP-0103	17-Oct-17	Oil and Grease, Total	<2.0	mg/L	ALS
L2013415-1	MS-01	24-Oct-17	pH	7.46	pH units	ALS
L2013415-1	MS-01	24-Oct-17	Total Suspended Solids	2.2	mg/L	ALS
L2013415-1	MS-01	24-Oct-17	Alkalinity, Total (asCaCO3)	50	mg/L	ALS
L2013415-1	MS-01	24-Oct-17	Ammonia, Total (as N)	0.151	mg/L	ALS
L2013415-1	MS-01	24-Oct-17	Phosphorus, Total	0.741	mg/L	ALS
L2013415-1	MS-01	24-Oct-17	Fecal Coliforms	0.741	CFU/100mL	ALS
L2013415-1	MS-01	24-Oct-17	BOD	<2.0	mg/L	ALS
L2013415-1	MS-01	24-Oct-17	Oil and Grease, Total	<2.0	mg/L	ALS
L2013415-3	MS-0103	24-Oct-17	pH	6.29	pH units	ALS
L2013415-3	MS-0103	24-Oct-17	Total Suspended Solids	<2.0	mg/L	ALS
L2013415-3	MS-0103	24-Oct-17	Alkalinity, Total (asCaCO3)	<10	mg/L	ALS
L2013415-3	MS-0103	24-Oct-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2013415-3	MS-0103	24-Oct-17	Phosphorus, Total	<0.0030	mg/L	ALS
L2013415-3	MS-0103	24-Oct-17	Fecal Coliforms	0	CFU/100mL	ALS
L2013415-3	MS-0103	24-Oct-17	BOD	<2.0	mg/L	ALS
L2013415-3	MS-0103	24-Oct-17	Oil and Grease, Total	<2.0	mg/L	ALS
L2023696-1	MS-01	14-Nov-17	pH	7	pH units	ALS
L2023696-1	MS-01	14-Nov-17	Total Suspended Solids	4.4	mg/L	ALS
L2023696-1	MS-01	14-Nov-17	Alkalinity, Total (asCaCO3)	36	mg/L	ALS
L2023696-1	MS-01	14-Nov-17	Ammonia, Total (as N)	1.16	mg/L	ALS
L2023696-1	MS-01	14-Nov-17	Phosphorus, Total	1.98	mg/L	ALS
L2023696-1	MS-01	14-Nov-17	Fecal Coliforms	1	CFU/100mL	ALS
L2023696-1	MS-01	14-Nov-17	BOD	3.6	mg/L	ALS
L2023696-1	MS-01	14-Nov-17	Oil and Grease, Total	<2.0	mg/L	ALS
L2023696-4	MS-0102	14-Nov-17	pH	6.12	pH units	ALS
L2023696-4	MS-0102	14-Nov-17	Total Suspended Solids	<2.0	mg/L	ALS
L2023696-4	MS-0102	14-Nov-17	Alkalinity, Total (asCaCO3)	<10	mg/L	ALS
L2023696-4	MS-0102	14-Nov-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2023696-4	MS-0102	14-Nov-17	Phosphorus, Total	<0.0030	mg/L	ALS
L2023696-4	MS-0102	14-Nov-17	Fecal Coliforms	0	CFU/100mL	ALS
L2023696-4	MS-0102	14-Nov-17	BOD	<2.0	mg/L	ALS
L2023696-4	MS-0102	14-Nov-17	Oil and Grease, Total	<2.0	mg/L	ALS
L2023696-3	MS-0103	14-Nov-17	pH	6.51	pH units	ALS
L2023696-3	MS-0103	14-Nov-17	Total Suspended Solids	<2.0	mg/L	ALS
L2023696-3	MS-0103	14-Nov-17	Alkalinity, Total (asCaCO3)	<10	mg/L	ALS
L2023696-3	MS-0103	14-Nov-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2023696-3	MS-0103	14-Nov-17	Phosphorus, Total	0.0038	mg/L	ALS
L2023696-3	MS-0103	14-Nov-17	Fecal Coliforms	0	CFU/100mL	ALS
L2023696-3	MS-0103	14-Nov-17	BOD	<2.0	mg/L	ALS
L2023696-3	MS-0103	14-Nov-17	Oil and Grease, Total	<2.0	mg/L	ALS

TABLE 5.4
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT

FIELD QA/QC WATER QUALITY DATA ANALYSES - FIELD DUPLICATES, FIELD BLANKS, and TRAVEL BLANKS

Sample Number	Sample ID	Date Sampled	Parameter	Result	Unit	Lab
L2035927-1	MP-01	12-Dec-17	pH	7.88	pH units	ALS
L2035927-1	MP-01	12-Dec-17	Total Suspended Solids	2.3	mg/L	ALS
L2035927-1	MP-01	12-Dec-17	Alkalinity, Total (asCaCO3)	196	mg/L	ALS
L2035927-1	MP-01	12-Dec-17	Ammonia, Total (as N)	0.097	mg/L	ALS
L2035927-1	MP-01	12-Dec-17	Phosphorus, Total	10.4	mg/L	ALS
L2035927-1	MP-01	12-Dec-17	Fecal Coliforms	0	CFU/100mL	ALS
L2035927-1	MP-01	12-Dec-17	BOD	<2.0	mg/L	ALS
L2035927-1	MP-01	12-Dec-17	Oil and Grease, Total	<2.0	mg/L	ALS
L2035927-4	MP-0103	12-Dec-17	pH	6.45	pH units	ALS
L2035927-4	MP-0103	12-Dec-17	Total Suspended Solids	<2.0	mg/L	ALS
L2035927-4	MP-0103	12-Dec-17	Alkalinity, Total (asCaCO3)	<10	mg/L	ALS
L2035927-4	MP-0103	12-Dec-17	Ammonia, Total (as N)	<0.020	mg/L	ALS
L2035927-4	MP-0103	12-Dec-17	Phosphorus, Total	0.0033	mg/L	ALS
L2035927-4	MP-0103	12-Dec-17	Fecal Coliforms	0	CFU/100mL	ALS
L2035927-4	MP-0103	12-Dec-17	BOD	<2.0	mg/L	ALS
L2035927-4	MP-0103	12-Dec-17	Oil and Grease, Total	<2.0	mg/L	ALS

Notes:

Bold results indicate values greater than their respective parameter MDLs.

The field and travel result values greater than their respective parameter MDLs were within 3 times the value of each parameter MDLs, with the exception of MP-C-B02 on September 12th, MP-C-B0102 on August 22nd, and MS-0802 on July 21st.

Possible explanations for the elevated values of the three QA-QC samples include contamination during sampling or analytical error.

TABLE 6.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
2017 MARY RIVER PROJECT TOTAL CLOSURE AND RECLAMATION SECURITY SUMMARY¹

Authorization	Liability	Securities Held on 31 Dec 2017 (Actual) (\$)	Adjustment for 2017 ASR (\$)	Adjustment for 2017 Addendum ASR (\$)	Securities Held on 31 Dec 2017 (Actual) (\$)
					F-D
Type A 2AM-MRY1325	IOL ²	51,384,000	2,538,000	10,258,000	64,180,000
	Crown	1,299,000	89,000	-	1,388,000
Subtotal Type A		52,683,000	2,627,000	10,258,000	65,568,000
Type B Exploration 2BE-MRY1421	IOL ²	-	-	-	-
	Crown	1,250,000	-	-	1,250,000
Subtotal Type B Exploration		1,250,000	-	-	1,250,000
GRAND TOTAL		53,933,000	2,627,000	10,258,000	66,818,000

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

TABLE 7.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
2017 QUANTITIES OF SPECIFIED SUBSTANCES REMOVED FROM BORROWS AND QUARRIES (BCMs)
BY QUARTER AND CALENDAR YEAR

Quarter	Quarry - QMR2			Survey Dates		Notes
	Rock	Unconsolidated Material	Organics	Start	End	
Jan-March 2017						No activity in the quarry.
April-June 2017						No activity in the quarry.
July-Sept 2017	23,062			September 5, 2016	September 29, 2017	Survey performed with Real Time Kinematic (RTK).
Oct-Dec 2017	75,559			September 29, 2017	December 30, 2017	Survey performed with RTK
Total for 2017	98,621	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	44,539			December 31, 2016	June 14, 2017	
July-Sept 2017	22,176			June 14, 2017	September 20, 2017	Survey performed with drone.
Oct-Dec 2017	24,855			September 20, 2017	December 21, 2017	Survey performed with RTK
Total for 2017	91,570	0	0			

Quarter	Quarry - D1Q2			Survey Dates		Notes
	Rock	Unconsolidated Material	Organics	Start	End	
Jan-March 2017						No activity in the quarry.
April-June 2017						No activity in the quarry.
July-Sept 2017				December 1, 2014	September 26, 2017	No activity in the quarry. Survey performed to reconcile volumes removed during 2015 and 2016. ¹
Oct-Dec 2017						No activity in the quarry.
Total for 2017	0	0	0			

Quarter	Quarry - Q19			Survey Dates		Notes
	Rock	Unconsolidated Material	Organics	Start	End	
Jan-March 2017						No activity in the quarry.
April-June 2017						No activity in the quarry.
July-Sept 2017						No activity in the quarry.
Oct-Dec 2017						No activity in the quarry.
Total for 2017	0	0	0			

Quarter	Borrow Pit - Km 2			Survey Dates		Notes
	Rock	Unconsolidated Material	Organics	Start	End	
Jan-March 2017						No activity in the borrow pit.
April-June 2017						No activity in the borrow pit.
July-Sept 2017						No activity in the borrow pit.
Oct-Dec 2017						No activity in the borrow pit.
Total for 2017	0	0	0			

Quarter	Borrow Pit - Km 97			Survey Dates		Notes
	Rock	Unconsolidated Material	Organics	Start	End	
Jan-March 2017		1,966		January 4, 2017	March 26, 2017	
April-June 2017 ²		0				Error with drone survey.
July-Sept 2017		4,518		March 26, 2017	August 25, 2017	Survey performed with drone.
Oct-Dec 2017		13,419		August 25, 2017	December 27, 2017	Survey performed with RTK
Total for 2017	0	19,903	0			

Notes:

¹Survey conducted at Quarry D1Q2 on September 27, 2017, indicates that a net 35,486 BCms have been removed since December 1, 2014. Based on the 2016 Quarry Concessions Report (Arktis, 2017), 1,361 BCms have been reported by Baffinland to date (reported during 2014 Q4).

²Incorrect volumes reported in 2017 Q2 for Km 97 Borrow Pit due to drone survey error.

TABLE 7.2

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
QUANTITIES OF SPECIFIED SUBSTANCES REMOVED FROM BORROWS AND QUARRIES (BCMs)
SEPTEMBER 1, 2016 TO AUGUST 31, 2017 REPORTING PERIOD**

Specified Substances	Quarry - QMR2	Quarry - Q01	Quarry - D1Q2	Quarry - Q19	Km 2 Borrow	Km 97 Borrow	Total - All Quarry and Borrow Sources
Rock	23,062	70,875	0		0		93,937
Unconsolidated Material						7,863	7,863
Organics							0
Annual Total (BCM)¹	23,062	70,875	0	0	0	7,863	101,800

Notes:

Annual volumes calculated using the following equation: Annual Volume Removed (Sept. 1, 2016 to Aug. 31, 2017) = 2016 Q4 + 2017 Q1 + 2017 Q2 + 2017 Q3

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
WASTE ROCK FACILITY - KEY EVENTS, ACTIONS TAKEN AND CORRESPONDENCE

Date	Event / Action Taken / Correspondence
August 3, 2017	Discharges from WRF halted due to low pH conditions at the Facility's surface water management pond.
August 16, 2017	Baffinland notifies regulators and stakeholders of the Company's plans to treat runoff contained at the WRF pond and conduct a controlled discharge to receiving environment to address the pond's low pH and limited remaining storage capacity.
August 22 - 24, 2017	In consultation with engineers from Wood Group PLC (formerly Amec Foster Wheeler), Baffinland batch treats WRF pond with sodium carbonate to raise the pH to levels within the permissible range for discharge.
August 23, 2017	INAC and ECCC conduct an on-site inspection of the WRF and discover uncontrolled seepage originating from the toe of WRF pond containment berm not previously identified in annual geotechnical or regulator inspections.
August 25, 2017	Baffinland constructs emergency containment ditch to contain uncontrolled seepage originating from pond's containment berm.
August 31, 2017	Baffinland submits action plan to regulators and stakeholders detailing plans to address identified concerns at WRF.
September 1 & 2 2017	Field engineer from Hatch Ltd. (Hatch) conducts inspection of observed seepage and provides recommendations to Baffinland for corrective actions.
September 2, 2017	Baffinland provides update to regulators and stakeholders with proposed corrective actions to be taken to address seepage.
September 5, 2017	Baffinland received Inspector's Direction from INAC detailing actions to be taken to address concerns identified at the WRF during August 2017.
September 7, 2017	Baffinland receives letter from QIA requesting an onsite inspection and requesting additional information regarding the Waste Rock Facility and the associated 2017 events.
September 7 - 17, 2017	Additional work completed at the WRF pond to address seepage discovered on August 23, 2017, including re-grading the area up-gradient of surface water management pond (including east collection ditch and WRF pond's liner key-in), expanding the emergency ditch network (initiated on August 25, 2017) and installing two large sumps lined with HDPE liner to contain water collected by emergency ditches.
September 13, 2017	Baffinland receives notification that ECCC had initiated an investigation into the 2017 events at the WRF.
October 4 - 24, 2017	Baffinland retains additional third party industry specialists and experts (Golder Associates, Le Group Desfor) to assess the seepage and the pond's design to offer additional recommendations on the appropriate corrective actions and mitigations measures needed to address concerns.
October 19 - November 1, 2017	Rhodamine dye injected into WRF pond on October 19, 2017. Rhodamine dye testing equipment arrives at the Mine Site on October 26, 2017. Testing of water downstream of WRF pond for rhodamine dye initiated on October 27, 2017. Rhodamine dye first detected in water downstream of pond on October 28, 2017. Additional testing conducted from October 29 - November 1, 2017 confirm presence of rhodamine dye downstream of WRF pond.
October 21 - November 6, 2017	Capacity of emergency ditch is increased by constructing a berm around the outside perimeter of the emergency ditch.
October 31, 2017	Baffinland provides a hydrological assessment of the pond's design to regulators and stakeholders in response Measures to be Taken - Item 4 of the INAC Inspector's Direction.
November 8 & 9, 2017	Update on actions taken and planned for the WRF presented to regulators and stakeholders at Freshwater Workshop chaired by Baffinland in Iqaluit, NU.
November 15, 2017	Baffinland provides a revised Phase 1 Waste Rock Management Plan (Rev. 1) to regulators and stakeholders in response to Measures to be Taken - Item 3 of the INAC Inspector's Direction. The revision consisted of updating water treatment methods included in the management plan for runoff contained at the WRF.
November 21, 2017	Baffinland provides summary of events and actions taken to date in response to ECCC notice of investigation.
November 30, 2017	Baffinland provides response to QIA letter regarding onsite inspection and additional information regarding the WRF.
January 15, 2018	Baffinland provides regulators and stakeholders a MMER Emergency Response Plan and Interim Waste Rock Deposition Plan and responds to INAC's questions regarding the Waste Rock Facility.
March 8, 2018	Baffinland submits modification application to NWB and other relevant parties. Infrastructure improvements outlined in the modification included a water treatment plant to manage effluent discharges from the WRF pond in 2018. Dedicated water treatment plant planned to be mobilized and installed at the WRF prior to freshet 2018.

TABLE 8.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 QIA AND NWB ANUAL REPORT
MEETINGS WITH PUBLIC, GOVERNMENT AND INUIT ORGANIZATIONS**

Date	Group	Location	Description
January 16, 2017	Iqaluit Business Community	Iqaluit	Procurement and Contracting Workshop
February 2, 2017	Mary River Socio-Economic Working Group	Teleconference	Working Group Meeting
February 6 - 8, 2017	QIA	Oakville	IIBA Joint Management Committee Meeting
March 13, 2017	QIA	Teleconference	IIBA Joint Management Committee Meeting
March 15, 2017	Marine Environment Working Group	Teleconference	Working Group Meeting
March 16, 2017	Terrestrial Environment Working Group	Teleconference	Working Group Meeting
March 23-24, 2017	QIA	Iqaluit	IIBA Joint Management Committee Meeting
April 5, 2017	QIA	Iqaluit	IIBA Joint Executive Committee Meeting
April 3-7, 2017	Community Residents	Pond Inlet	Career and Training Information Tour
April 3-7, 2017	Community Residents	Arctic Bay	Career and Training Information Tour
April 3-7, 2017	Community Residents	Hall Beach	Career and Training Information Tour
April 3-7, 2017	Community Residents	Clyde River	Career and Training Information Tour
April 3-7, 2017	Community Residents	Igloolik	Career and Training Information Tour
April 21, 2017	QIA	Teleconference	IIBA Joint Management Committee Meeting
May 2, 2017	QIA	Teleconference	IIBA Joint Management Committee Meeting
May 3, 2017	Marine Environment Working Group	Ottawa	Working Group Meeting
May 4, 2017	Terrestrial Environment Working Group	Ottawa	Working Group Meeting
May 25, 2017	QIA	Teleconference	IIBA Joint Management Committee Meeting
May 29, 2017	Public Open House	Clyde River	Discussion of all aspects of the Mary River Operation
May 29, 2017	Hamlet of Clyde River	Clyde River	Phase 2 Proposal
May 29, 2017	Clyde River Hunters and Trappers Organization	Clyde River	Phase 2 Proposal
May 30, 2017	Public Open House	Pond Inlet	Discussion of all aspects of the Mary River Operation
May 30, 2017	Hamlet of Pond Inlet	Pond Inlet	Phase 2 Proposal
May 30, 2017	Mittimatalik Hunters and Trappers Organization (MHTO)	Pond Inlet	Phase 2 Proposal
May 31, 2017	Public Open House	Arctic Bay	Discussion of all aspects of the Mary River Operation
May 31, 2017	Hamlet of Arctic Bay	Arctic Bay	Phase 2 Proposal
May 31, 2017	Arctic Bay Hunters and Trappers Organization	Arctic Bay	Phase 2 Proposal
June 1, 2017	Public Open House	Igloolik	Discussion of all aspects of the Mary River Operation
June 1, 2017	Hamlet of Igloolik	Igloolik	Phase 2 Proposal
June 1, 2017	Igloolik Hunters and Trappers Organization	Igloolik	Phase 2 Proposal
June 2, 2017	Public Open House	Hall Beach	Discussion of all aspects of the Mary River Operation
June 2, 2017	Hamlet of Hall Beach	Hall Beach	Phase 2 Proposal
June 2, 2017	Hall Beach Hunters and Trappers Organization	Hall Beach	Phase 2 Proposal
June 5, 2017	INAC- Natural Resources and Environment Branch	Ottawa	Phase 2 Proposal
June 12, 2017	Mittimatalik Hunters and Trappers Organization (MHTO)	Pond Inlet	Marine Environmental Monitoring meeting
June 16, 2017	QIA	Teleconference	IIBA Joint Management Committee Meeting
June 27, 2017	QIA	Iqaluit	IIBA Joint Management Committee Meeting
July 5-6, 2017	Qikiqtaaluk Socio-Economic Monitoring Committee	Arctic Bay	Working Group Meeting
July 18, 2017	Nunavut Planning Commission	Cambridge Bay	Phase 2 Proposal
August 2, 2017	INAC- Natural Resources and Environment Branch	Ottawa	Phase 2 Proposal
August 28-29, 2017	QIA	Ottawa	IIBA Joint Management Committee Meeting

TABLE 8.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2017 QIA AND NWB ANUAL REPORT
MEETINGS WITH PUBLIC, GOVERNMENT AND INUIT ORGANIZATIONS**

Date	Group	Location	Description
September 13, 2017	Marine Environment Working Group	Teleconference	Working Group Meeting
September 14, 2017	Northern Projects Management Office	Iqaluit	Phase 2 Proposal
Sept 14-15, 2017	Government of Nunavut (Various Departments)	Iqaluit	Territorial Socio-Economic Monitoring Workshop
September 14-15, 2017	Mary River Socio-Economic Working Group	Iqaluit	Working Group Meeting
September 14-15, 2017	Qikiqtaaluk Socio-Economic Monitoring Committee	Iqaluit	Working Group Meeting
September 19 - 20, 2017	QIA	Ottawa	IIBA Joint Management Committee Meeting
September 19, 2017	Nunavut Planning Commission	Iqaluit	Phase 2 Proposal
October 3, 2017	Terrestrial Environment Working Group	Teleconference	Working Group Meeting
October 18, 2017	Polar Knowledge Canada	Cambridge Bay	Environmental Monitoring
October 19, 2017	NIRB	Cambridge Bay	Phase 2 Proposal
November 15-17, 2017	QIA	Oakville	IIBA Joint Management Committee Meeting
November 21, 2017	Nunavut Impact Review Board	Cambridge Bay	Phase 2 Proposal
November 29, 2017	Terrestrial Environment Working Group	Iqaluit	Working Group Meeting
November 30, 2017	Marine Environment Working Group	Iqaluit	Working Group Meeting
December 4-5, 2017	Nunavut Planning Commission	Pond Inlet	Phase 2 Proposal - Public Hearings
December 7-9, 2017	QIA	Iqaluit	IIBA Joint Management Committee Meeting
	Pond Inlet Business Community	Pond Inlet	Procurement and Contracting Workshop

TABLE 8.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND ANNUAL REPORT FOR OPERATIONS
STAKEHOLDER SITE VISITS TO MARY RIVER PROJECT

Date	Regulatory Agency
March 7 - 14	WSCC - Mines Inspector
March 22 - 24	NIRB - Environmental Inspectors
May 9 - 16	WSCC - Mines Inspector
May 29 - June 1	ECCC and INAC - Environmental Inspectors and Water Resources Officers
June 20 - 22	QIA - Auditor
July 18 - 19	ECCC - Environmental Inspector
August 1 - 3	QIA - Auditor
August 18 - 23	WSCC - Geotechnical Inspectors
August 22 - 24	INAC - Geotechnical Inspector, Water Resources Officer
August 22 - 24	ECCC - Environmental Inspector
August 23- 30	WSCC - Mines Inspector
August 24 - 26	NIRB - Environmental Inspectors
September 14 - 20	QIA - Environmental Auditors
October 12 - 19	WSCC - Mines Inspector
November 7 - 9	INAC - Water Resources Officer

TABLE 9.1
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES OF ORE GENERATED BY THE
PROJECT

Month	Quantity Ore Produced (wet tonnes)	
	Lump	Fines
January	250,153	66,898
February	295,078	91,634
March	266,638	83,271
April	344,868	103,711
May	236,640	98,547
June	237,581	133,879
July	267,274	72,495
August	199,153	85,085
September	233,512	152,310
October	150,392	179,738
November	271,569	239,563
December	305,936	213,058
Total	3,058,794	1,520,188
Annual Total:	4,578,982	

TABLE 9.2
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2017 QIA AND NWB ANNUAL REPORT FOR OPERATIONS
MONTHLY AND ANNUAL QUANTITIES OF ORE SHIPPED BY THE PROJECT

Month	Quantity Ore Shipped (tonnes)	
	Lump	Fines
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	1,153,985	493,534
September	1,099,161	503,643
October	602,725	211,349
November	0	0
December	0	0
Total	2,855,871	1,208,526
Annual Total:	4,064,397	