



Baffinland Iron Mines Corporation
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Mary River Project
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**2018 Qikiqtani Inuit Association (QIA) and Nunavut Water Board (NWB)
Annual Report for Exploration and Geotechnical Activities**

**2018 ᓕᓐᓂᓐ ᐱᓕᓐᓂᓐ ᐱᓕᓐᓂᓐ (QIA) ᐱᓕᓐᓂᓐ ᐱᓕᓐᓂᓐ
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Water Licence 2BE-MRY1421 and Commercial Lease Q13C301

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March 31, 2019 / ᐱᓕᓐᓂᓐ 31, 2019



BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2018 QIKIQTANI INUIT ASSOCIATION (QIA) AND
NUNAVUT WATER BOARD (NWB) ANNUAL REPORT FOR EXPLORATION
AND GEOTECHNICAL ACTIVITIES

Rev 0



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

TABLE 0 – REPORT SUBMISSION SUMMARY - 2018

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

2018 QIKIQTANI INUIT ASSOCIATION (QIA) AND NUNAVUT WATER BOARD (NWB) ANNUAL
REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES

EXECUTIVE SUMMARY

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

The scope of the Type 'B' Water Licence focuses on exploration and geotechnical drilling activities and includes provisions and conditions regarding water use, waste management, construction and operation of satellite camps, exploration and geotechnical drilling programs, spill contingency and environmental monitoring.

During 2018, activities carried out under the scope of the Type 'B' Water Licence involved continued geotechnical drilling programs and assessments to support ongoing design studies for future Project infrastructure, an exploration drilling program to increase mine pit model confidence at Deposit No. 1 and further characterize Deposit Nos. 2 and 3, and the continued exploration of prospects and Baffinland's mineral leases. No satellite camps were constructed or operated in 2018, with all personnel involved with the exploration and geotechnical activities being based out of the Mine Site and Milne Port accommodation camps.

Water withdrawn under the authorization of the Type 'B' Water Licence in 2018 was used solely to support exploration and geotechnical drilling operations. The daily water withdrawal limits stipulated in the Type 'B' Water Licence were not exceeded in 2018.

In addition to tracking water use, environmental monitoring conducted in 2018 consisted of daily monitoring of drilling activities to ensure activities adhered to the practices outlined in the Project's Environmental Protection Plan (EPP). A marine under-ice water quality monitoring program at Milne Inlet was also conducted during the spring of 2018 to monitor turbidity and total suspended solids (TSS) levels near on-ice geotechnical testing activities.

Reclamation works carried out under the Type 'B' Water Licence during 2018 involved the reclamation of borehole and geotechnical testing locations associated with the 2018 exploration and geotechnical activities.

As outlined in the 2019 Work Plan, exploration activities for 2019 have not yet been finalized however it is anticipated that activities at a minimum will include mapping, sampling and geophysical and

geochemical surveys of prospects and Baffinland's mineral leases, and will include exploration drilling programs on Deposit Nos. 1, 2 and 3. Operation of the Steensby and Mid Rail camps to support exploration activities in 2019 are not anticipated however the establishment of a new exploration camp at the Ege Bay location is currently planned, pending land use agreements with QIA and the issuance of a separate Type 'B Water Licence currently under consideration by the NWB. It is anticipated that Baffinland will continue to conduct geotechnical assessments, including drilling programs, during 2019 to support on-going engineering design studies for future Project infrastructure. Preliminary locations for geotechnical assessments and drilling in 2019 include the Mine Site Aerodrome. As additional details for the 2019 exploration and geotechnical programs become available, this information will be provided to the NWB, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) and the QIA prior to the commencement of activities.

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SECTION 1.0 - INTRODUCTION

1.1 PURPOSE AND SCOPE

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

The scope of the Type 'B' Water Licence focuses on exploration and geotechnical drilling activities and includes provisions and conditions regarding water use, waste management, construction and operation of satellite camps, exploration and geotechnical drilling programs, spill contingency and environmental monitoring. Activities and data discussed in this report are summarized and referenced in the completed NWB Annual Report Forms, included as Appendix B of this report.

Figures 1 and 2 present the locations of the key areas associated with the Project where activities in 2018 were undertaken. Key areas involved with exploration and geotechnical activities in 2018 included Milne Port, the Milne Inlet Tote Road (Tote Road), the Mary River Mine Site (Mine Site) and Steensby Port.

1.2 REGULATORY FRAMEWORK

Although the key regulatory and legal documents that relate to this report are the Commercial Lease and the Type 'B' Water Licence, this report is presented in the context of other applicable regulatory authorizations and schedules for the Project. A list of the key regulatory permits, approvals and authorizations that allowed for the work to be completed at the Project in 2018 is presented in Table 1.0 below.

TABLE 1.0 – CURRENT PERMITS, APPROVALS AND AUTHORIZATIONS - 2018

Permit or Licence No.	Licence Name	Status Update for 2018	Expiry
Nunavut Impact Review Board			
No. 005	Amended Project Certificate	All works and activities have been screened by the Nunavut Impact Review Board (NIRB) and have been considered in the Project Certificate amendments issued by the NIRB in May 2014 (ERP) and October 2018 (Production Increase). A NIRB Annual Report is submitted by March 31 st of each year that summarizes the status of the Project relative to the conditions outlined in the Project Certificate.	N/A
Nunavut Water Board			
2AM-MRY1325	Type 'A' Water Licence – Amendment No. 1	In good standing; no amendments were issued by the NWB in 2018.	June 10, 2025
2BE-MRY1421	Type 'B' Water Licence	In good standing; no amendments were issued by the NWB in 2018.	April 16, 2021
Qikiqtani Inuit Association			
Q13C301	Inuit Owned Land Commercial Lease	Compliance with the lease is outlined in the 2018 QIA and NWB Annual Reports submitted by March 31 st of each year.	December 31, 2043
-	Inuit Impact and Benefit Agreement (IIBA)	Compliance with the agreement is outlined in the Annual IIBA Implementation Report submitted by March 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. Planned to be renewed.	June 30, 2019
N2014C0013	Steensby and Milne Land Use Permit	In good standing; no changes from previous year. Planned to be renewed.	June 30, 2019
N2014J0011	Bruce Head Land Use Permit	In good standing; no changes from previous year. Planned to be renewed.	June 30, 2019
N2014X0012	Milne Foreshore Land Use Permit	In good standing; no changes from previous year. Planned to be renewed.	June 30, 2019

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

SECTION 2.0 - EXPLORATION AND GEOTECHNICAL ACTIVITIES

2.1 EXPLORATION ACTIVITIES AND DRILLING PROGRAMS

During 2018, exploration activities were based out of the Mine Site and consisted of day trips by helicopter to prospects and Baffinland's mineral leases to conduct mapping, sampling and geophysical and geochemical surveys. No new satellite camps were constructed and/or operated to support exploration activities in 2018. Although Steensby Port was used as a refuelling location for helicopters transporting exploration field crews in 2018, the site remained closed throughout the year and was not used to house personnel.

In addition to the exploration activities described above, an exploration diamond drilling program was conducted from June to September 2018 to increase mine pit model confidence at Deposit No. 1 and further characterize ore bodies at Deposit Nos. 2 and 3. The drilling program consisted of thirteen (13) boreholes; four (4) on Deposit No. 1, two (2) on Deposit No. 2, and seven (7) on Deposit No. 3. Equipment used in the diamond drilling program was transported between borehole sites using helicopters, and consisted of non-skid mounted drill rigs, drill rods and other supplies. Borehole locations associated with the 2018 exploration drilling program are presented in Table 2.0 and Figure 5.

Prior to commencing exploration drilling activities, a notification was submitted to the NWB, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) and the QIA to ensure compliance with the conditions set out in the Type 'B' Water Licence and Commercial Lease. A copy of the notification is provided in Appendix C.

Exploration activities and drilling program were consistent with the activities proposed in Section 4.1 of the 2018 Work Plan (Rev. 1). No new exploration activities and drilling programs were proposed in the 2018 Work Plan Addendum.

2.2 GEOTECHNICAL ASSESSMENTS AND DRILLING PROGRAMS

To support on-going engineering design studies for planned future infrastructure at the Project, Baffinland continued to conduct geotechnical assessments in 2018, including two (2) geotechnical programs.

During April 2018, a marine on-ice geotechnical program, consisting of twenty-two (22) cone penetration tests (CPT), was conducted at Milne Inlet to evaluate the geotechnical conditions for the proposed second ore dock at Milne Port. The second ore dock at Milne Port is included in the scope of Baffinland's Phase 2 Expansion Proposal and is currently being reviewed by the relevant regulatory bodies and stakeholders. Table 2.0 and Figure 3 present the CPT locations associated with the 2018 marine on-ice geotechnical program at Milne Inlet.

Between March and June 2018, a land-based geotechnical drilling program was completed at the Project. The land-based geotechnical drilling program consisted of nineteen (19) boreholes situated at specific areas

of Milne Port, the Tote Road and the Mine Site. Borehole locations for the land-based geotechnical drilling program are presented in Figures 3, 4 & 5 and detailed in Table 2.0.

The equipment utilized for the land-based geotechnical drilling program consisted of a tracked drill rig capable of using both sonic and rotary coring drilling techniques. Other supporting equipment included a tracked flatbed vehicle (Nodwell type) for hauling water and other supplies as well as a skid steer for moving drill rods and other equipment/supplies.

Although the 2018 geotechnical programs were not included in the 2018 Work Plan (Rev. 1) and 2018 Work Plan Addendum, to ensure compliance with the relevant conditions outlined in the Type 'B' Water Licence and Commercial Lease, Baffinland submitted notifications to the NWB, CIRNAC and the QIA prior to commencement of activities. Copies of these notifications are provided in Appendix C of this report.

SECTION 3.0 - MODIFICATIONS, INFRASTRUCTURE CHANGES AND CONSTRUCTION

No modifications, infrastructure changes or construction were conducted in 2018 under the Type 'B' Water Licence or Commercial Lease to support exploration and/or geotechnical activities.

SECTION 4.0 - WATER USE

4.1 QUANTITIES OF FRESHWATER USED FOR DOMESTIC PURPOSES

During 2018, water was not withdrawn under the authorization of the Type 'B' Water Licence for domestic (camp) purposes. No satellite camps were operated to support exploration and drilling activities in 2018.

4.2 QUANTITIES OF FRESHWATER USED FOR DRILLING ACTIVITIES

During 2018, water was withdrawn under the authorization of the Type 'B' Water Licence for drilling purposes.

To support the 2018 land-based geotechnical drilling program, approximately 31 cubic metres (m³) of water was withdrawn from water sources: Km 32 Lake, Camp Lake and PWS-4. The low water volume requirements for the drilling program are attributed to the fact that the majority of geotechnical boreholes were performed using a sonic drilling technique which requires minimal volumes of water to perform. Water requirements during the 2018 geotechnical drilling program are attributed to the few boreholes that required the use of the rotary core diamond drilling technique.

During the 2018 exploration drilling program at Deposit Nos. 1, 2 and 3, approximately 7,600 m³ of water was used to support exploration drilling activities. For boreholes at Deposit No. 1, water was sourced from Camp Lake via water truck and nearby water sources WS-18-01 and WS-18-02 via water pumps. Water requirements for the drilling program at Deposit Nos. 2 and 3 were supplied by pumping water from two (2) locations along the Mary River; Mary River – 1 and Mary River – 2.

All water sources used to support 2018 drilling activities were identified by Baffinland as potential water sources in the drilling notifications submitted to the NWB, CIRNAC and QIA (refer to Appendix C).

Locations of the water sources used for the 2018 drilling programs are provided in Table 4.0 and are presented in Figures 3 through 5. Daily and monthly water use volumes for drilling activities by water source are detailed in Table 4.1. There were no exceedances of the daily water use limit for drilling activities (250 m³), stipulated in the Type 'B' Water Licence, in 2018.

SECTION 5.0 - ENVIRONMENTAL MONITORING

5.1 ENVIRONMENTAL MONITORING FOR DRILLING/TESTING ACTIVITIES

Daily environmental monitoring, including the completion of pre, daily and post inspections, were performed at borehole and CPT locations by on-site Environment Department personnel. Protocols and mitigation measures consistent with the Project's *Environmental Protection Plan (EPP; BAF-PH1-830-P16-0008)* for the management of fuel, hazardous materials, and waste were employed during the 2018 drilling programs and associated activities. Copies of the available environmental monitoring logs completed for the 2018 borehole and CPT locations are provided in Appendix E (refer to Table 5.0).

Areas that were drilled in 2018 were previously assessed for the presence of archaeological sites. To minimize the potential for disturbance of cultural heritage resources and prior to the commencement of drilling operations, identified archaeological sites near areas to be drilled in 2018 were staked off and their locations communicated to the appropriate drilling crews, as per the Project's *Cultural Heritage Resource Protection Plan (BAF-PH1-830-P16-0006)*.

5.2 2018 MARINE WATER QUALITY MONITORING PROGRAM – MILNE INLET

During April 2018, a marine under-ice water quality monitoring program was conducted in Milne Inlet during the execution of the marine on-ice geotechnical program involving cone penetration tests (CPTs). The objective of the water quality monitoring program was to monitor total suspended solids (TSS) and turbidity levels within the immediate vicinity of the geotechnical testing activities.

The water quality monitoring program consisted of collecting under-ice, discrete water samples within 12 hours before the commencement of geotechnical activities, and within 12 hours following the completion of activities at select cone penetration test locations. Pre and post water samples were generally collected at a depth of approximately one (1) metre above the bottom of the water column using a Kemmerer water sampler. Water samples were collected as described in the Project's *Surface Water Sampling Program – Quality Assurance and Quality Control Plan (BAF-PH1-830-P16-0001)* and analyzed for trace metals (total) and general parameters, including turbidity and TSS. Monitoring results for the water quality monitoring program are presented in Table 5.1.

Due to the transient and intermittent nature of the on-ice geotechnical activities, the CCME TSS and turbidity guidelines for short-term exposure in marine environments (clear flow)¹ were the applicable criteria utilized for TSS and turbidity results collected during the marine under-ice water quality monitoring program.

¹ CCME. 1999. Canadian Water Quality Guidelines for the Protection of Aquatic Life – Total Particulate Matter.

In comparing the CCME TSS guidelines with the changes in TSS concentrations documented between pre and post water samples at CPT locations, changes in TSS levels did not exceed the CCME TSS guideline of a maximum increase of 25 mg/L TSS from background (pre-testing) levels.

Similarly, in comparing the CCME turbidity guidelines with the changes in turbidity levels documented between pre and post water samples at CPT locations, changes in turbidity levels did not exceed the CCME turbidity guideline of a maximum increase of 8 NTUs from background (pre-testing) levels.

The TSS and turbidity results from the marine under-ice water quality monitoring program indicate that any re-suspension of sediments caused by the CPT activities was negligible.

Baffinland will continue to monitor changes in TSS and turbidity within the proximity of on-ice drilling and/or geotechnical testing operations and implement the appropriate mitigation measures, as outlined in the Project's EPP.

SECTION 6.0 - WASTE MANAGEMENT

Satellite camps were not operated to support exploration and geotechnical drilling activities in 2018. Personnel associated with exploration and geotechnical drilling activities were based out of the Mine Site and Milne Port camps, operated under the Type 'A' Water Licence. As a result the sewage, greywater and solid waste generated by the 2018 exploration and geotechnical drilling activities was captured under the Project's Type 'A' Water Licence. The reader is referred to the *2018 QIA and NWB Annual Report for Operations* for additional details on sewage, greywater and waste generated and managed under the Type 'A' Water Licence during 2018.

Small amounts of drilling wastes (i.e. cuttings) generated from 2018 drilling programs were deposited in boreholes and/or sumps near borehole locations. Table 6.0 details the approximate quantities and locations of drilling wastes deposited during the 2018 drilling programs. Locations of the two sumps used to support the exploration drilling program at Deposit No. 1 are presented in Figure 5.

SECTION 7.0 - REPORTED INCIDENTS

7.1 SPILLS

Under the Type 'B' Water Licence, there were no spills in 2018 that met or exceeded the reporting thresholds outlined in the Nunavut Spill Contingency Planning and Reporting Regulations. As a result, no spills were reported by Baffinland in 2018 under the Type 'B' Water Licence.

7.2 HEALTH & SAFETY INCIDENTS

Under the Commercial Lease, no health & safety incidents were reported to the QIA and/or the Workers' Safety and Compensation Commission (WSCC) that pertained to the 2018 exploration and geotechnical activities.

SECTION 8.0 - RECLAMATION, CLOSURE AND FINANCIAL SECURITY

8.1 PROGRESSIVE AND FINAL RECLAMATION

New impacts from 2018 exploration and geotechnical activities were minimal and are summarized in Table 8.0.

Progressive and final reclamation works undertaken in 2018 are summarized in Table 8.1. As shown in Table 8.1, progressive and final reclamation works undertaken in 2018 solely consisted of reclaiming borehole and CPT locations associated with the 2018 exploration and geotechnical programs.

Following the completion of a borehole and/or CPT, as per Part I, Item 9 of the Type 'B' Water Licence, drilling equipment was removed and sites were restored to their natural condition. For exploration borehole locations, casing was cut off near ground surface. For geotechnical borehole locations, all holes were backfilled using native material and reinstated to natural conditions, with exception of one (1) partially backfilled borehole identified during the 2018 QIA Annual Audit. In this incident, it is suspected that drill crews had backfilled the borehole during winter months with soil mixed with snow, which had subsequently melted and subsided during summer months. To prevent similar incidents from occurring in the future, Baffinland will conduct a routine inspection during summer months of boreholes locations completed during the previous winter months.

To support exploration drilling activities at Deposit Nos. 1 and 3 in 2019, select drilling equipment and supplies were secured, winterized and left at borehole locations MR1-18-P05, MR1-18-247 and MR3-18-244.

Available photographs of conditions before, during and after drilling activities at each 2018 borehole and CPT performed are provided in Appendix D.

8.2 CURRENT RESTORATION LIABILITY

The current status of restoration liability for the Project, including exploration and drilling activities conducted under the Type 'B' Water Licence, is summarized in Table 8.2.

SECTION 9.0 - PLANS, REPORTS AND STUDIES

9.1 SUMMARY OF STUDIES REQUESTED BY THE BOARD

In 2018, studies under the Type 'B' Water Licence were not requested by the NWB.

9.2 REVISIONS TO PLANS, REPORTS AND MANUALS

An annual review of the management plans developed under the Type 'B' Water Licence was completed in 2018. The current versions of the Exploration Spill Contingency Plan (BAF-PH1-830-P16-0037; Rev. 0; June 2014) and the Exploration Closure and Reclamation Plan (BAF-PH1-830-P16-0038; Rev. 1; July 2014) reflect current operations, protocols and procedures. The reader is referred to the *2018 QIA and NWB Annual Report for Operations* for a complete list of the Project's current management and monitoring plans and the recent revisions undertaken during 2018 and early 2019.

9.3 SUMMARY OF FUEL STORAGE

Fuel storage and refueling facilities at the Mine Site, Milne Port and Steensby Port were used to support exploration and geotechnical drilling activities in 2018.

Fuel requirements for exploration activities in 2018 consisted of Jet-A1 fuel, for on-site helicopters transporting crews and equipment to prospects, mineral leases and borehole locations, and Arctic Diesel, for drill operations and support equipment (i.e. pick-up trucks). Jet-A1 fuel requirements for exploration activities were supplied using drummed Jet-A1 fuel stored in lined containment areas at the Mine Site and Steensby Port. Arctic Diesel requirements for exploration activities were supplied by the Mine Site and Milne Port bulk fuel storage facilities.

Fuel requirements for the 2018 geotechnical drilling programs consisted of Arctic Diesel supplied by the Mine Site and Milne Port bulk fuel storage facilities. The drill rig and supporting equipment (Nodwell flatdeck, skidsteer) were refueled using pick-up trucks equipped with double walled portable tanks (tidy tanks).

To safeguard impacts to freshwater bodies and mitigate fuel spills, fueling activities adhered to the protocols and mitigation measures (i.e. spill trays, spill kits) outlined in Baffinland's current EPP and Exploration Spill Contingency Plan (BAF-PH1-830-P16-0037).

As of December 31st, 2018 there were approximately 1,172 drums (205 L) of fuel (624 Arctic Diesel and 548 Jet-A1) stored at Steensby Port and 715 drums (205 L) of fuel (674 Jet-A1 and 41 gasoline) at the Mine Site. Drummed fuel at the Mine Site and Steensby Port are stored within lined secondary containment areas. End of year fuel inventories for the Mine Site and Milne Port bulk fuel storage facilities, operated under the Type 'A' Water Licence, are provided in the *2018 QIA and NWB Annual Report for Operations*.

9.4 INSPECTION AND COMPLIANCE REPORTS

9.4.1 CIRNAC Inspections

During 2018, Baffinland did not receive any inspection and/or compliance reports from CIRNAC Water Resources Officers (the Inspector) outlining concerns pertaining to the scope of the Type 'B' Water Licence.

9.4.2 QIA Inspections

During 2018, the QIA conducted several inspections and an annual audit at the Project. During the annual audit in September 2018, it was identified that a geotechnical borehole completed in 2018 along the Tote Road had not been fully backfilled. It is suspected that drill crews had backfilled the borehole during winter months with soil mixed with snow, which had subsequently melted and subsided during summer months. To prevent similar incidents from occurring in the future, Baffinland will conduct a routine inspection during summer months of boreholes locations completed during the previous winter months.

During the annual audit, QIA also noted concerns regarding the management of drill cuttings near watercourses. To improve the management drill cuttings, Baffinland will implement the use of sand bags at borehole locations, where feasible, to increase sump capacity and the settling time of drill water in sumps as well as support silt fences downstream.

9.5 SUMMARY OF ARTESIAN FLOWS

During the 2018 geotechnical and exploration drilling programs, artesian flows were not observed at any of the borehole locations.

9.6 SUMMARY OF GEOCHEMICAL ANALYSIS OF DRILL CORES

As of March 31, 2019, geochemical analysis of the geotechnical drill cores collected during 2018 has not been completed and is not planned at this time.

As of March 31, 2019, geochemical analysis of the drill cores collected during the exploration drilling programs at Deposit Nos. 1, 2 and 3 has not been completed and is currently under review.

SECTION 10.0 - PUBLIC CONSULTATIONS

Throughout 2018, Baffinland continued to consult with the North Baffin communities and organizations regarding; ongoing construction and operational activities at the Project, the 2018 shipping season, progress regarding employment from the North Baffin communities, environmental monitoring activities and results, exploration activities and future phases of the Project. Baffinland's senior management team continued to participate in these meetings.

A list of the 2018 community group meetings and consultations undertaken by Baffinland that pertained to exploration and drilling activities is provided in Table 10.0. The reader is referred to the *2018 NIRB Annual Report* and the *2018 QIA and NWB Annual Report for Operations* for a complete list of consultations and meetings held with regulators, stakeholders and the public by Baffinland during 2018.

SECTION 11.0 - 2019 EXPLORATION AND GEOTECHNICAL ACTIVITIES

The 2019 Work Plan was prepared and provided by Baffinland to relevant parties on November 1, 2018 as required under Section 6.1 of the Commercial Lease and under Part J, Item 3 of the Type 'A' Water Licence, for the purposes of an Annual Security Review (ASR) for activities undertaken on an annual basis. The 2019 Work Plan described the planned development and operation of the Project in 2019, including planned exploration and geotechnical drilling activities.

The scope of Baffinland's Type 'B' Water Licence and Commercial Lease allows for Baffinland to continue to undertake exploration activities and drilling programs at Project areas and Baffinland's mineral leases within the Qikiqtani Region of Nunavut. This includes exploration land use areas as defined in Section 2.2 of the Commercial Lease.

Exploration activities for 2019 have not yet been finalized however it is anticipated that activities at a minimum will include mapping, sampling and geophysical and geochemical surveys of prospects and Baffinland's mineral leases and will include additional exploration drilling programs on Deposit Nos. 1, 2 and 3. Notification will be provided to the NWB, CIRNAC and the QIA prior to the commencement of exploration drilling activities.

During 2019, Baffinland plans to establish a new exploration camp within the Ege Bay Area (refer to Figure 2) to support a drilling program planned for early 2020 as well as other exploration activities within the Ege bay Area. Regulatory approvals required for these planned activities, including a new Type 'B' Water Licence and Inuit-Owned Land Use permits, were applied for by Baffinland in 2018 and continue to proceed through their respective regulatory processes outlined by the NWB and QIA.

Geotechnical activities, including drilling programs, will be conducted during 2019 to support on-going engineering design studies for future Project infrastructure. To date, notifications provided to the NWB, CIRNAC and the QIA for 2019 geotechnical activities include the notification, dated February 7, 2019, detailing Baffinland's plans to undertake a geotechnical drilling program at the Mine Site in late February 2019. The drilling program consists of fourteen (14) boreholes on and near the Mine Site Aerodrome. Should additional geotechnical drilling activities be identified for 2019, Baffinland will provide notification to the NWB, CIRNAC and the QIA prior to commencement of the activities.

Operation of the Steensby and Mid Rail camps to support exploration and geotechnical activities are not anticipated to be required during 2019.

TABLES

TABLE 2.0

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES

EXPLORATION AND GEOTECHNICAL ACTIVITIES AND DRILLING SUMMARY – 2018

Property Section	Description of Activity	Description of Drilling Plan	ID	Location (UTM; NAD 83)	Status⁵	Results
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-08	17 W 503970 7976660	Completed April 14, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-01	17 W 503619 7976751	Completed April 15, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-02	17 W 503757 7976767	Completed April 15, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-11	17 W 503970 7976545	Completed April 15, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-03	17 W 503764 7976718	Completed April 16, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-04	17 W 503700 7976702	Completed April 16, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-05	17 W 503624 7976695	Completed April 16, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-07	17 W 503773 7976640	Completed April 16, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-09	17 W 503651 7976576	Completed April 16, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-10	17 W 503591 7976472	Completed April 16, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-06	17 W 503572 7976628	Completed April 17, 2018	Geotechnical conditions characterized.

Notes:

¹Crown Lands - Foreshore - Milne Inlet

²Inuit-Owned Lands - Parcel PI-19

³Inuit-Owned Lands - Parcel PI-16

⁴Inuit-Owned Lands - Parcel PI-17

⁵In cases where a site's completion date is not available, the date of the site's final cleanup is provided.

TABLE 2.0

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES

EXPLORATION AND GEOTECHNICAL ACTIVITIES AND DRILLING SUMMARY – 2018

Property Section	Description of Activity	Description of Drilling Plan	ID	Location (UTM; NAD 83)	Status⁵	Results
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-01B	17 W 503621 7976742	Completed April 18, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-12	17 W 503972 7976671	Completed April 22, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-13	17 W 503972 7976585	Completed April 22, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-14	17 W 503974 7976699	Completed April 22, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-15	17 W 503704 7976678	Completed April 22, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-16	17 W 503695 7976729	Completed April 22, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-17	17 W 503691 7976752	Completed April 23, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-18	17 W 503684 7976778	Completed April 23, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-19	17 W 503569 7976705	Completed April 25, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-20	17 W 503821 7976738	Completed April 25, 2018	Geotechnical conditions characterized.
Milne Port ¹	Marine On-Ice Geotechnical (Cone Penetration Testing)	Characterize geotechnical conditions at potential locations for dock infrastructure in Milne Inlet.	CPT-21	17 W 503831 7976671	Completed April 25, 2018	Geotechnical conditions characterized.
Milne Port ²	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for ore management facilities.	BH18-M002	17 W 5033287974867	Completed March 5, 2018	Geotechnical conditions characterized.

Notes:

¹Crown Lands - Foreshore - Milne Inlet

²Inuit-Owned Lands - Parcel PI-19

³Inuit-Owned Lands - Parcel PI-16

⁴Inuit-Owned Lands - Parcel PI-17

⁵In cases where a site's completion date is not available, the date of the site's final cleanup is provided.

TABLE 2.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
EXPLORATION AND GEOTECHNICAL ACTIVITIES AND DRILLING SUMMARY – 2018

Property Section	Description of Activity	Description of Drilling Plan	ID	Location (UTM; NAD 83)	Status⁵	Results
Milne Port ²	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for ore management facilities.	BH18-M001	17 W 503423 7974892	Completed March 6, 2018	Geotechnical conditions characterized.
Milne Port ²	Land Geotechnical Drilling	Characterize geotechnical conditions at potential location for new ore management infrastructure.	BH18-M003	17 W 503055 7974868	Completed March 6, 2018	Geotechnical conditions characterized.
Milne Port ²	Land Geotechnical Drilling	Characterize geotechnical conditions at potential location for new ore management infrastructure.	BH18-004	17 W 503499 7975260	Completed April 3, 2018	Geotechnical conditions characterized.
Tote Road ²	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for railway bridge abutments.	BH18-BR15-2	17 W 514211 7965645	Completed March 12, 2018	Geotechnical conditions characterized.
Tote Road ²	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for railway bridge abutments.	BH18-BR15-1	17 W 514260 7965610	Completed March 14, 2018	Geotechnical conditions characterized.
Tote Road ³	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for railway bridge abutments.	BH18-BR102-1	17 W 555763 7915435	Completed April 7, 2018.	Geotechnical conditions characterized.
Tote Road ³	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for railway bridge abutments.	BH18-BR102-2	17 W 555674 7915409	Completed April 10, 2018	Geotechnical conditions characterized.
Tote Road ³	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for railway bridge abutments.	BH18-BR70-1	17 W 529138 7916667	Completed April 16, 2018	Geotechnical conditions characterized.
Tote Road ³	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for railway bridge abutments.	BH18-BR70-2	17 W 529107 7916700	Completed April 18, 2018	Geotechnical conditions characterized.
Mine Site ⁴	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for new Mine Site Bulk Fuel Facility.	BH18-TF-05	17 W 561203 7913478	Complete June 20, 2018	Geotechnical conditions characterized.
Mine Site ⁴	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for new Mine Site Bulk Fuel Facility.	BH18-TF-04	17 W 561002 7913499	Complete June 24, 2018.	Geotechnical conditions characterized.
Mine Site ⁴	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for new mobile maintenance facilities.	BH18-TW-01	17 W 561477 7913189	Completed June 17, 2018	Geotechnical conditions characterized.

Notes:

¹Crown Lands - Foreshore - Milne Inlet

²Inuit-Owned Lands - Parcel PI-19

³Inuit-Owned Lands - Parcel PI-16

⁴Inuit-Owned Lands - Parcel PI-17

⁵In cases where a site's completion date is not available, the date of the site's final cleanup is provided.

TABLE 2.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
EXPLORATION AND GEOTECHNICAL ACTIVITIES AND DRILLING SUMMARY – 2018

Property Section	Description of Activity	Description of Drilling Plan	ID	Location (UTM; NAD 83)	Status⁵	Results
Mine Site ⁴	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for new mobile maintenance facilities.	BH18-TW-02	17 W 561532 7913323	Completed June 17, 2018	Geotechnical conditions characterized.
Mine Site ⁴	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for new Mine Site Bulk Fuel Facility.	BH18-TF-03	17 W 561094 7913477	Completed June 22, 2018	Geotechnical conditions characterized.
Mine Site ⁴	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for new Mine Site Bulk Fuel Facility.	BH18-TF-02	17 W 560988 7913441	Completed June 24, 2018	Geotechnical conditions characterized.
Mine Site ⁴	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for new Mine Site Bulk Fuel Facility.	BH18-TF-01	17 W 561154 7913396	Completed June 25, 2018	Geotechnical conditions characterized.
Mine Site ⁴	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for new Mine Site Bulk Fuel Facility.	BH18-TF-7N	17 W 561064 7913438	Completed June 26, 2018	Geotechnical conditions characterized.
Mine Site ⁴	Land Geotechnical Drilling	Characterize geotechnical conditions at potential locations for new Mine Site Bulk Fuel Facility.	BH18-TF-8N	17 W 561166 7913449	Completed June 27, 2018	Geotechnical conditions characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 3 ore body.	MR3-18-239	17 W 567597 7913639	Completed June 25, 2018	Deposit No. 3 ore body further characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 3 ore body.	MR3-18-240	17 W 567355 7913559	Completed June 27, 2018	Deposit No. 3 ore body further characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 3 ore body.	MR3-18-241	17 W 567775 7913614	Completed July 6, 2018	Deposit No. 3 ore body further characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 3 ore body.	MR3-18-244	17 W 567244 7911352	Completed July 18, 2018	Deposit No. 3 ore body further characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 3 ore body.	MR3-18-243	17 W 567137 7913539	Completed July 23, 2018	Deposit No. 3 ore body further characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 2 ore body.	MR2-18-242	17 W 566066 7913720	Completed July 24, 2018	Deposit No. 2 ore body further characterized.

Notes:

¹Crown Lands - Foreshore - Milne Inlet

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³Inuit-Owned Lands - Parcel PI-16

⁴Inuit-Owned Lands - Parcel PI-17

⁵In cases where a site's completion date is not available, the date of the site's final cleanup is provided.

TABLE 2.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
EXPLORATION AND GEOTECHNICAL ACTIVITIES AND DRILLING SUMMARY – 2018

Property Section	Description of Activity	Description of Drilling Plan	ID	Location (UTM; NAD 83)	Status⁵	Results
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 3 ore body.	MR3-18-246	17 W 567137 7913539	Completed August 2, 2018	Deposit No. 3 ore body further characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 2 ore body.	MR2-18-245	17 W 565894 7914235	Completed August 8, 2018	Deposit No. 2 ore body further characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 3 ore body.	MR3-18-248	17 W 566976 7913790	Completed August 22, 2018	Deposit No. 3 ore body further characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 1 ore body.	MR1-18-249	17 W 563138 7914004	Completed September 3, 2018	Deposit No. 1 ore body further characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 1 ore body.	MR1-18-247	17 W 563868 7915565	Completed September 4, 2018	Deposit No. 1 ore body further characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 1 ore body.	MR1-18-P05	17 W 563771 7915525	Completed September 9, 2018	Deposit No. 1 ore body further characterized.
Mine Site ⁴	Exploration Diamond Drilling	Further characterize Deposit No. 1 ore body.	MR1-18-250	17 W 563114 7914043	Completed September 18, 2018	Deposit No. 1 ore body further characterized.

Notes:

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⁴Inuit-Owned Lands - Parcel PI-17

⁵In cases where a site's completion date is not available, the date of the site's final cleanup is provided.



TABLE 4.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
ANNUAL VOLUMES OF WATER USED FOR DRILLING ACTIVITIES
ON INUIT-OWNED AND CROWN LANDS BY SOURCE – 2018

Property Section	Water Source ID	Water Source Location (UTM; NAD 83)	Annual Volume Used (m³)¹	Percent of Total Annual Volume Used (%)
Tote Road	Km 32 Lake	17 W 521547 7953735	17	0.22%
Tote Road	PWS-4	17 W 528345 7922100	4	0.05%
Mine Site	Camp Lake	17 W 557793 7914684	442	5.76%
Mine Site	WS-18-01/02	17 W 563750 7916100 17 W 563900 7917290	556	7.25%
Mine Site	Mary River - 1	17 W 565886 7912804	2,341	30.52%
Mine Site	Mary River - 2	17 W 567812 7912689	4,310	56.19%
TOTAL			7,670	100.00%

Notes:

¹Refer to Table 4.1 for 2018 daily and monthly water use volumes by water source.

TABLE 4.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
DAILY AND MONTHLY VOLUMES OF WATER USED FOR DRILLING ACTIVITIES
ON INUIT-OWNED AND CROWN LANDS BY SOURCE – 2018**

Day	March	April			June		July	
	KM 32 Lake	KM 32 Lake	PWS-4	Camp Lake	Mary River -2	Camp Lake	Mary River -1	Mary River -2
1	-	-	-	-	-	-	-	67
2	-	-	-	-	-	-	-	67
3	-	-	-	-	-	-	-	67
4	3	-	-	-	-	-	-	67
5	3	-	-	-	-	-	-	67
6	-	-	-	-	-	-	-	67
7	-	-	-	4	-	-	52	67
8	-	-	-	4	-	-	52	67
9	-	-	-	-	-	-	52	67
10	-	-	-	-	-	-	52	67
11	3	-	-	-	-	-	52	67
12	1.5	-	-	-	-	-	52	67
13	1.5	5	-	-	-	-	52	67
14	-	-	-	-	-	-	52	67
15	-	-	-	-	-	-	52	67
16	-	-	-	-	-	-	52	67
17	-	-	4	-	-	-	52	67
18	-	-	-	-	-	-	52	67
19	-	-	-	-	67	2	52	67
20	-	-	-	-	67	-	52	67
21	-	-	-	-	67	-	52	67
22	-	-	-	-	67	-	52	67
23	-	-	-	-	67	-	52	67
24	-	-	-	-	67	-	52	67
25	-	-	-	-	67	-	52	67
26	-	-	-	-	59	-	52	64
27	-	-	-	-	56	-	52	94
28	-	-	-	-	67	-	63	67
29	-	-	-	-	49	-	32.6	67
30	-	-	-	-	53	-	52	67
31	-	-	-	-	-	-	52	67
TOTAL	12	5	4	8	752	2	1,292	2,095
MONTHLY TOTAL	12	17			754		3,387	

Notes:

All volumes in cubic metres (m³).

No exceedances of the daily drilling water use limit (250 m³/day) occurred in 2018.

TABLE 4.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
DAILY AND MONTHLY VOLUMES OF WATER USED FOR DRILLING ACTIVITIES
ON INUIT-OWNED AND CROWN LANDS BY SOURCE – 2018

Day	August				September	
	Mary River -1	Mary River - 2	Camp Lake	WS-18-01/02	Camp Lake	WS-18-01/02
1	52	67	-	-	53	62
2	52	76	-	-	52	43
3	52	67	-	-	8	43
4	52	67	-	-	-	13
5	52	67	-	-	15	-
6	52	70	-	-	31	-
7	52	90	-	-	31	-
8	52	79	-	-	27	-
9	52	80	-	-	16	-
10	52	66	-	-	25	-
11	52	67	-	-	25	-
12	52	65	-	-	-	-
13	52	60	-	-	-	-
14	57	64	-	-	-	-
15	70	70	-	-	-	-
16	36	40	-	-	-	-
17	52	57	-	-	-	-
18	52	71	-	-	-	-
19	52	71	-	-	-	-
20	52	75	-	-	-	-
21	-	70	-	-	-	-
22	-	25	-	-	-	-
23	-	-	-	-	-	-
24	-	-	-	-	-	-
25	-	-	15	26	-	-
26	-	-	31	52	-	-
27	-	-	31	75	-	-
28	-	-	25	50	-	-
29	-	-	-	58	-	-
30	-	-	31	55	-	-
31	-	-	15	80	-	-
TOTAL	1,049	1,463	149	395	283	161
MONTHLY TOTAL	3,057				445	

Notes:

All volumes in cubic metres (m³).

No exceedances of the daily drilling water use limit (250 m³/day) occurred in 2018.

TABLE 5.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
EXPLORATION AND GEOTECHNICAL ENVIRONMENTAL MONITORING LOGS – 2018

Property Section	ID	Location (UTM; NAD 83)	Environmental Monitoring Logs (Pre, Daily, Post)
Milne Port ¹	CPT-01	17 W 503619 7976751	CPT-01 - Appendix E.1.1
Milne Port ¹	CPT-01B	17 W 503621 7976742	CPT-01B - Appendix E.1.2
Milne Port ¹	CPT-02	17 W 503757 7976767	CPT-02 - Appendix E.1.3
Milne Port ¹	CPT-03	17 W 503764 7976718	CPT-03 - Appendix E.1.4
Milne Port ¹	CPT-04	17 W 503700 7976702	CPT-04 - Appendix E.1.5
Milne Port ¹	CPT-05	17 W 503624 7976695	CPT-05 - Appendix E.1.6
Milne Port ¹	CPT-06	17 W 503572 7976628	CPT-06 - Appendix E.1.7
Milne Port ¹	CPT-07	17 W 503773 7976640	CPT-07 - Appendix E.1.8
Milne Port ¹	CPT-08	17 W 503970 7976660	CPT-08 - Appendix E.1.9
Milne Port ¹	CPT-09	17 W 503651 7976576	CPT-09 - Appendix E.1.10
Milne Port ¹	CPT-10	17 W 503591 7976472	CPT-10 - Appendix E.1.11
Milne Port ¹	CPT-11	17 W 503970 7976545	CPT-11 - Appendix E.1.12
Milne Port ¹	CPT-12	17 W 503972 7976671	CPT-12 - Appendix E.1.13
Milne Port ¹	CPT-13	17 W 503972 7976585	CPT-13 - Appendix E.1.14
Milne Port ¹	CPT-14	17 W 503974 7976699	CPT-14 - Appendix E.1.15
Milne Port ¹	CPT-15	17 W 503704 7976678	CPT-15 - Appendix E.1.16
Milne Port ¹	CPT-16	17 W 503695 7976729	CPT-16 - Appendix E.1.17
Milne Port ¹	CPT-17	17 W 503691 7976752	CPT-17 - Appendix E.1.18
Milne Port ¹	CPT-18	17 W 503684 7976778	CPT-18 - Appendix E.1.19
Milne Port ¹	CPT-19	17 W 503569 7976705	CPT-19 - Appendix E.1.20
Milne Port ¹	CPT-20	17 W 503821 7976738	CPT-20 - Appendix E.1.21

Notes:

¹Crown Lands - Foreshore - Milne Inlet

²Inuit-Owned Lands - Parcel PI-19

³Inuit-Owned Lands - Parcel PI-16

⁴Inuit-Owned Lands - Parcel PI-17

TABLE 5.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
EXPLORATION AND GEOTECHNICAL ENVIRONMENTAL MONITORING LOGS – 2018

Property Section	ID	Location (UTM; NAD 83)	Environmental Monitoring Logs (Pre, Daily, Post)
Milne Port ¹	CPT-21	17 W 503831 7976671	CPT-21 - Appendix E.1.22
Milne Port ²	BH18-004	17 W 503499 7975260	BH18-004 - Appendix E.2.1
Milne Port ²	BH18-M001	17 W 503423 7974892	BH18-M001 - Appendix E.2.2
Milne Port ²	BH18-M002	17 W 5033287974867	BH18-M002 - Appendix E.2.3
Milne Port ²	BH18-M003	17 W 503055 7974868	BH18-M003 - Appendix E.2.4
Tote Road ²	BH18-BR15-1	17 W 514260 7965610	BH18-BR15-1 - Appendix E.3.1
Tote Road ²	BH18-BR15-2	17 W 514211 7965645	BH18-BR15-2 - Appendix E.3.2
Tote Road ³	BH18-BR102-1	17 W 555763 7915435	BH18-BR102-1 - Appendix E.3.3
Tote Road ³	BH18-BR102-2	17 W 555674 7915409	BH18-BR102-2 - Appendix E.3.4
Tote Road ³	BH18-BR70-1	17 W 529138 7916667	BH18-BR70-1 - Appendix E.3.5
Tote Road ³	BH18-BR70-2	17 W 529107 7916700	BH18-BR70-2 - Appendix E.3.6
Mine Site ⁴	BH18-TF-01	17 W 561154 7913396	BH18-TF-01 - Appendix E.4.1
Mine Site ⁴	BH18-TF-02	17 W 560988 7913441	BH18-TF-02 - Appendix E.4.2
Mine Site ⁴	BH18-TF-03	17 W 561094 7913477	BH18-TF-03 - Appendix E.4.3
Mine Site ⁴	BH18-TF-04	17 W 561002 7913499	BH18-TF-04 - Appendix E.4.4
Mine Site ⁴	BH18-TF-05	17 W 561203 7913478	BH18-TF-05 - Appendix E.4.5
Mine Site ⁴	BH18-TF-7N	17 W 561064 7913438	BH18-TF-7N - Appendix E.4.6
Mine Site ⁴	BH18-TF-8N	17 W 561166 7913449	BH18-TF-8N - Appendix E.4.7
Mine Site ⁴	BH18-TW-01	17 W 561477 7913189	BH18-TW-01 - Appendix E.4.8
Mine Site ⁴	BH18-TW-02	17 W 561532 7913323	BH18-TW-02 - Appendix E.4.9
Mine Site ⁴	MR3-18-239	17 W 567597 7913639	MR3-18-239 - Appendix E.5.1

Notes:

¹Crown Lands - Foreshore - Milne Inlet

²Inuit-Owned Lands - Parcel PI-19

³Inuit-Owned Lands - Parcel PI-16

⁴Inuit-Owned Lands - Parcel PI-17

TABLE 5.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
EXPLORATION AND GEOTECHNICAL ENVIRONMENTAL MONITORING LOGS – 2018

Property Section	ID	Location (UTM; NAD 83)	Environmental Monitoring Logs (Pre, Daily, Post)
Mine Site ⁴	MR3-18-240	17 W 567355 7913559	MR3-18-240 - Appendix E.5.2
Mine Site ⁴	MR3-18-241	17 W 567775 7913614	MR3-18-241 - Appendix E.5.3
Mine Site ⁴	MR3-18-244	17 W 567244 7911352	MR3-18-244 - Appendix E.5.4
Mine Site ⁴	MR3-18-243	17 W 567137 7913539	MR3-18-243 - Appendix E.5.5
Mine Site ⁴	MR2-18-242	17 W 566066 7913720	MR2-18-242 - Appendix E.5.6
Mine Site ⁴	MR3-18-246	17 W 567137 7913539	MR3-18-246 - Appendix E.5.7
Mine Site ⁴	MR2-18-245	17 W 565894 7914235	MR2-18-245 - Appendix E.5.8
Mine Site ⁴	MR3-18-248	17 W 566976 7913790	MR3-18-248 - Appendix E.5.9
Mine Site ⁴	MR1-18-249	17 W 563138 7914004	MR1-18-249 - Appendix E.5.10
Mine Site ⁴	MR1-18-247	17 W 563868 7915565	MR1-18-247 - Appendix E.5.11
Mine Site ⁴	MR1-18-P05	17 W 563771 7915525	MR1-18-P05 - Appendix E.5.12
Mine Site ⁴	MR1-18-250	17 W 563114 7914043	MR1-18-250 - Appendix E.5.13

Notes:

¹Crown Lands - Foreshore - Milne Inlet

²Inuit-Owned Lands - Parcel PI-19

³Inuit-Owned Lands - Parcel PI-16

⁴Inuit-Owned Lands - Parcel PI-17

TABLE 5.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
MARINE WATER QUALITY MONITORING RESULTS - MILNE INLET - 2018**

ANALYTE	CPT ID			CPT-01 ³	
	Date			15-Apr-18	15-Apr-18
	Time			-	-
	Sample ID			BH18-CPT18-01-A	BH18-CPT18-01-B
	ALS Laboratory ID			L2082628-1	L2082628-2
	Sample Type			Pre-Drilling	Post-Drilling
General Parameters	Unit	MDL	CCME Criteria		
pH	pH Units	0.1	-	7.86	7.86
Total Suspended Solids (TSS)	mg/L	2	25 ¹	33.9	16.9
Total Dissolved Solids (TDS)	mg/L	20	-	30900	31300
Turbidity	NTU	0.1	8 ¹	2.27	1.89
Total Metals					
Aluminum (Al)-Total	mg/L	0.01	-	<0.50	<0.50
Antimony (Sb)-Total	mg/L	0.0001	-	<0.010	<0.010
Arsenic (As)-Total	mg/L	0.0001	-	<0.010	<0.010
Barium (Ba)-Total	mg/L	0.0002	-	<0.010	0.023
Beryllium (Be)-Total	mg/L	0.0001	-	<0.010	<0.010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Boron (B)-Total	mg/L	0.01	-	4	3.9
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.00050	<0.00050
Calcium (Ca)-Total	mg/L	0.5	-	386	375
Cesium (Cs)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.050	<0.050
Cobalt (Co)-Total	mg/L	0.0001	-	<0.010	<0.010
Copper (Cu)-Total	mg/L	0.001	-	<0.10	<0.10
Iron (Fe)-Total	mg/L	0.05	-	<1.0	<1.0
Lead (Pb)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Lithium (Li)-Total	mg/L	0.001	-	0.17	0.17
Magnesium (Mg)-Total	mg/L	0.05	-	1170	1180
Manganese (Mn)-Total	mg/L	0.0005	-	<0.050	<0.050
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.0095	0.0106
Nickel (Ni)-Total	mg/L	0.0005	-	<0.050	<0.050
Phosphorus (P)-Total	mg/L	0.05	-	<5.0	<5.0
Potassium (K)-Total	mg/L	0.05	-	393	380
Rubidium (Rb)-Total	mg/L	0.0002	-	0.109	0.104
Selenium (Se)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Silicon (Si)-Total	mg/L	0.1	-	<10	<10
Silver (Ag)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Sodium (Na)-Total	mg/L	0.5	-	9820	9980
Strontium (Sr)-Total	mg/L	0.001	-	7.25	6.96
Sulfur (S)-Total	mg/L	0.5	-	899	894
Tellurium (Te)-Total	mg/L	0.0002	-	<0.020	<0.020
Thallium (Tl)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Thorium (Th)-Total	mg/L	0.0001	-	<0.010	<0.010
Tin (Sn)-Total	mg/L	0.0001	-	<0.010	<0.010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.030	<0.030
Tungsten (W)-Total	mg/L	0.0001	-	<0.010	<0.010
Uranium (U)-Total	mg/L	0.00001	-	0.0029	0.003
Vanadium (V)-Total	mg/L	0.0005	-	<0.050	<0.050
Zinc (Zn)-Total	mg/L	0.003	-	<0.30	<0.30
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.030	<0.030

Notes:

¹TSS criteria - 25 mg/L above background (pre-testing) levels (CCME, 2002)

²Turbidity criteria - 8 NTUs above background (pre-testing) levels (CCME, 2002)

³Sample time not available.

Table excludes results at CPT-07 and CPT-09 due to the lack of either a corresponding pre-testing or post-testing sample.

TABLE 5.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
MARINE WATER QUALITY MONITORING RESULTS - MILNE INLET - 2018**

ANALYTE	CPT ID			CPT-01B	
	Date			16-Apr-18	18-Apr-18
	Time			17:15	8:20
	Sample ID			BH18-CPT18-01B-A	BH18-CPT18-01B-B
	ALS Laboratory ID			L2082628-12	L2082628-14
	Sample Type			Pre-Drilling	Post-Drilling
General Parameters	Unit	MDL	CCME Criteria		
pH	pH Units	0.1	-	7.82	7.83
Total Suspended Solids (TSS)	mg/L	2	25 ¹	50.1	<2.0
Total Dissolved Solids (TDS)	mg/L	20	-	32600	32300
Turbidity	NTU	0.1	8 ¹	17.1	0.79
Total Metals					
Aluminum (Al)-Total	mg/L	0.01	-	<0.50	<0.50
Antimony (Sb)-Total	mg/L	0.0001	-	<0.010	<0.010
Arsenic (As)-Total	mg/L	0.0001	-	<0.010	<0.010
Barium (Ba)-Total	mg/L	0.0002	-	<0.010	<0.010
Beryllium (Be)-Total	mg/L	0.0001	-	<0.010	<0.010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Boron (B)-Total	mg/L	0.01	-	4.1	4.1
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.00050	<0.00050
Calcium (Ca)-Total	mg/L	0.5	-	389	389
Cesium (Cs)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.050	<0.050
Cobalt (Co)-Total	mg/L	0.0001	-	<0.010	<0.010
Copper (Cu)-Total	mg/L	0.001	-	<0.10	<0.10
Iron (Fe)-Total	mg/L	0.05	-	<1.0	<1.0
Lead (Pb)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Lithium (Li)-Total	mg/L	0.001	-	0.2	0.2
Magnesium (Mg)-Total	mg/L	0.05	-	1140	1170
Manganese (Mn)-Total	mg/L	0.0005	-	<0.050	<0.050
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.0106	0.0098
Nickel (Ni)-Total	mg/L	0.0005	-	<0.050	<0.050
Phosphorus (P)-Total	mg/L	0.05	-	<5.0	<5.0
Potassium (K)-Total	mg/L	0.05	-	405	390
Rubidium (Rb)-Total	mg/L	0.0002	-	0.104	0.105
Selenium (Se)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Silicon (Si)-Total	mg/L	0.1	-	<10	<10
Silver (Ag)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Sodium (Na)-Total	mg/L	0.5	-	9880	10100
Strontium (Sr)-Total	mg/L	0.001	-	7.48	7.33
Sulfur (S)-Total	mg/L	0.5	-	939	929
Tellurium (Te)-Total	mg/L	0.0002	-	<0.020	<0.020
Thallium (Tl)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Thorium (Th)-Total	mg/L	0.0001	-	<0.010	<0.010
Tin (Sn)-Total	mg/L	0.0001	-	<0.010	<0.010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.030	<0.030
Tungsten (W)-Total	mg/L	0.0001	-	<0.010	<0.010
Uranium (U)-Total	mg/L	0.00001	-	0.0027	0.003
Vanadium (V)-Total	mg/L	0.0005	-	<0.050	<0.050
Zinc (Zn)-Total	mg/L	0.003	-	<0.30	<0.30
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.030	<0.030

Notes:

¹TSS criteria - 25 mg/L above background (pre-testing) levels (CCME, 2002)

²Turbidity criteria - 8 NTUs above background (pre-testing) levels (CCME, 2002)

³Sample time not available.

Table excludes results at CPT-07 and CPT-09 due to the lack of either a corresponding pre-testing or post-testing sample.

TABLE 5.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
MARINE WATER QUALITY MONITORING RESULTS - MILNE INLET - 2018**

ANALYTE	CPT ID			CPT-01B cont'd	
	Date			18-Apr-18	18-Apr-18
	Time			8:20	11:20
	Sample ID			BH18-CPT18-01B-B01	BH18-CPT18-01B-B04
	ALS Laboratory ID			L2082628-15	L2082628-16
	Sample Type			Duplicate	Equipment Blank
General Parameters	Unit	MDL	CCME Criteria		
pH	pH Units	0.1	-	7.84	6.28
Total Suspended Solids (TSS)	mg/L	2	25 ¹	10.2	<2.0
Total Dissolved Solids (TDS)	mg/L	20	-	33500	57
Turbidity	NTU	0.1	8 ¹	1.07	0.52
Total Metals					
Aluminum (Al)-Total	mg/L	0.01	-	<0.50	<0.0050
Antimony (Sb)-Total	mg/L	0.0001	-	<0.010	<0.00010
Arsenic (As)-Total	mg/L	0.0001	-	<0.010	<0.00010
Barium (Ba)-Total	mg/L	0.0002	-	<0.010	<0.00010
Beryllium (Be)-Total	mg/L	0.0001	-	<0.010	<0.00010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.0050	<0.000050
Boron (B)-Total	mg/L	0.01	-	4.1	<0.010
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.00050	<0.0000050
Calcium (Ca)-Total	mg/L	0.5	-	383	0.056
Cesium (Cs)-Total	mg/L	0.00001	-	<0.0010	<0.000010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.050	<0.00050
Cobalt (Co)-Total	mg/L	0.0001	-	<0.010	<0.00010
Copper (Cu)-Total	mg/L	0.001	-	<0.10	<0.0010
Iron (Fe)-Total	mg/L	0.05	-	<1.0	<0.010
Lead (Pb)-Total	mg/L	0.00005	-	<0.0050	<0.000050
Lithium (Li)-Total	mg/L	0.001	-	0.2	<0.0010
Magnesium (Mg)-Total	mg/L	0.05	-	1170	0.0443
Manganese (Mn)-Total	mg/L	0.0005	-	<0.050	<0.00050
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.0102	<0.000050
Nickel (Ni)-Total	mg/L	0.0005	-	<0.050	<0.00050
Phosphorus (P)-Total	mg/L	0.05	-	<5.0	<0.050
Potassium (K)-Total	mg/L	0.05	-	393	<0.050
Rubidium (Rb)-Total	mg/L	0.0002	-	0.104	<0.00020
Selenium (Se)-Total	mg/L	0.00005	-	<0.0050	<0.000050
Silicon (Si)-Total	mg/L	0.1	-	<10	<0.10
Silver (Ag)-Total	mg/L	0.00005	-	<0.0050	0.000104
Sodium (Na)-Total	mg/L	0.5	-	10100	0.326
Strontium (Sr)-Total	mg/L	0.001	-	7.22	<0.0010
Sulfur (S)-Total	mg/L	0.5	-	928	<0.50
Tellurium (Te)-Total	mg/L	0.0002	-	<0.020	<0.00020
Thallium (Tl)-Total	mg/L	0.00001	-	<0.0010	<0.000010
Thorium (Th)-Total	mg/L	0.0001	-	<0.010	<0.00010
Tin (Sn)-Total	mg/L	0.0001	-	<0.010	0.00778
Titanium (Ti)-Total	mg/L	0.0003	-	<0.030	<0.00030
Tungsten (W)-Total	mg/L	0.0001	-	<0.010	<0.00010
Uranium (U)-Total	mg/L	0.00001	-	0.0029	<0.000010
Vanadium (V)-Total	mg/L	0.0005	-	<0.050	<0.00050
Zinc (Zn)-Total	mg/L	0.003	-	<0.30	<0.0030
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.030	<0.00030

Notes:

¹TSS criteria - 25 mg/L above background (pre-testing) levels (CCME, 2002)

²Turbidity criteria - 8 NTUs above background (pre-testing) levels (CCME, 2002)

³Sample time not available.

Table excludes results at CPT-07 and CPT-09 due to the lack of either a corresponding pre-testing or post-testing sample.

TABLE 5.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
MARINE WATER QUALITY MONITORING RESULTS - MILNE INLET - 2018**

ANALYTE	CPT ID			CPT-02	
	Date			15-Apr-18	16-Apr-18
	Time			12:00	19:00
	Sample ID			BH18-CPT18-02A	BH18-CPT18-02-B
	ALS Laboratory ID			L2082628-10	L2082628-5
	Sample Type			Pre-Drilling	Post-Drilling
General Parameters	Unit	MDL	CCME Criteria		
pH	pH Units	0.1	-	7.86	7.83
Total Suspended Solids (TSS)	mg/L	2	25 ¹	44.7	20.8
Total Dissolved Solids (TDS)	mg/L	20	-	30700	30900
Turbidity	NTU	0.1	8 ¹	8.78	1.3
Total Metals					
Aluminum (Al)-Total	mg/L	0.01	-	<0.50	<0.50
Antimony (Sb)-Total	mg/L	0.0001	-	<0.010	<0.010
Arsenic (As)-Total	mg/L	0.0001	-	<0.010	<0.010
Barium (Ba)-Total	mg/L	0.0002	-	<0.010	<0.010
Beryllium (Be)-Total	mg/L	0.0001	-	<0.010	<0.010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Boron (B)-Total	mg/L	0.01	-	4	4.1
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.00050	<0.00050
Calcium (Ca)-Total	mg/L	0.5	-	382	382
Cesium (Cs)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.050	<0.050
Cobalt (Co)-Total	mg/L	0.0001	-	<0.010	<0.010
Copper (Cu)-Total	mg/L	0.001	-	<0.10	<0.10
Iron (Fe)-Total	mg/L	0.05	-	<1.0	<1.0
Lead (Pb)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Lithium (Li)-Total	mg/L	0.001	-	0.19	0.18
Magnesium (Mg)-Total	mg/L	0.05	-	1180	1170
Manganese (Mn)-Total	mg/L	0.0005	-	<0.050	<0.050
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.0101	0.0126
Nickel (Ni)-Total	mg/L	0.0005	-	<0.050	<0.050
Phosphorus (P)-Total	mg/L	0.05	-	<5.0	<5.0
Potassium (K)-Total	mg/L	0.05	-	385	398
Rubidium (Rb)-Total	mg/L	0.0002	-	0.104	0.114
Selenium (Se)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Silicon (Si)-Total	mg/L	0.1	-	<10	<10
Silver (Ag)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Sodium (Na)-Total	mg/L	0.5	-	9990	10000
Strontium (Sr)-Total	mg/L	0.001	-	7.16	7.17
Sulfur (S)-Total	mg/L	0.5	-	896	893
Tellurium (Te)-Total	mg/L	0.0002	-	<0.020	<0.020
Thallium (Tl)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Thorium (Th)-Total	mg/L	0.0001	-	<0.010	<0.010
Tin (Sn)-Total	mg/L	0.0001	-	<0.010	<0.010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.030	<0.030
Tungsten (W)-Total	mg/L	0.0001	-	<0.010	<0.010
Uranium (U)-Total	mg/L	0.00001	-	0.0029	0.0029
Vanadium (V)-Total	mg/L	0.0005	-	<0.050	<0.050
Zinc (Zn)-Total	mg/L	0.003	-	<0.30	<0.30
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.030	<0.030

Notes:

¹TSS criteria - 25 mg/L above background (pre-testing) levels (CCME, 2002)

²Turbidity criteria - 8 NTUs above background (pre-testing) levels (CCME, 2002)

³Sample time not available.

Table excludes results at CPT-07 and CPT-09 due to the lack of either a corresponding pre-testing or post-testing sample.

TABLE 5.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
MARINE WATER QUALITY MONITORING RESULTS - MILNE INLET - 2018**

ANALYTE	CPT ID			CPT-03	
	Date			15-Apr-18	16-Apr-18
	Time			20:05	20:00
	Sample ID			BH18-CPT18-03-A	BH18-CPT-03-B
	ALS Laboratory ID			L2082628-6	L2082628-11
	Sample Type			Pre-Drilling	Post Drilling
General Parameters	Unit	MDL	CCME Criteria		
pH	pH Units	0.1	-	7.86	7.83
Total Suspended Solids (TSS)	mg/L	2	25 ¹	27.6	21.1
Total Dissolved Solids (TDS)	mg/L	20	-	32300	31800
Turbidity	NTU	0.1	8 ¹	3.84	0.63
Total Metals					
Aluminum (Al)-Total	mg/L	0.01	-	<0.50	<0.50
Antimony (Sb)-Total	mg/L	0.0001	-	<0.010	<0.010
Arsenic (As)-Total	mg/L	0.0001	-	<0.010	<0.010
Barium (Ba)-Total	mg/L	0.0002	-	<0.010	<0.010
Beryllium (Be)-Total	mg/L	0.0001	-	<0.010	<0.010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Boron (B)-Total	mg/L	0.01	-	4	4.1
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.00050	<0.00050
Calcium (Ca)-Total	mg/L	0.5	-	387	385
Cesium (Cs)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.050	<0.050
Cobalt (Co)-Total	mg/L	0.0001	-	<0.010	<0.010
Copper (Cu)-Total	mg/L	0.001	-	<0.10	<0.10
Iron (Fe)-Total	mg/L	0.05	-	<1.0	<1.0
Lead (Pb)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Lithium (Li)-Total	mg/L	0.001	-	0.19	0.19
Magnesium (Mg)-Total	mg/L	0.05	-	1170	1180
Manganese (Mn)-Total	mg/L	0.0005	-	<0.050	<0.050
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.0106	0.0103
Nickel (Ni)-Total	mg/L	0.0005	-	<0.050	<0.050
Phosphorus (P)-Total	mg/L	0.05	-	<5.0	<5.0
Potassium (K)-Total	mg/L	0.05	-	417	405
Rubidium (Rb)-Total	mg/L	0.0002	-	0.104	0.104
Selenium (Se)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Silicon (Si)-Total	mg/L	0.1	-	<10	<10
Silver (Ag)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Sodium (Na)-Total	mg/L	0.5	-	9960	9910
Strontium (Sr)-Total	mg/L	0.001	-	7.08	7.21
Sulfur (S)-Total	mg/L	0.5	-	889	910
Tellurium (Te)-Total	mg/L	0.0002	-	<0.020	<0.020
Thallium (Tl)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Thorium (Th)-Total	mg/L	0.0001	-	<0.010	<0.010
Tin (Sn)-Total	mg/L	0.0001	-	<0.010	<0.010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.030	<0.030
Tungsten (W)-Total	mg/L	0.0001	-	<0.010	<0.010
Uranium (U)-Total	mg/L	0.00001	-	0.0029	0.003
Vanadium (V)-Total	mg/L	0.0005	-	<0.050	<0.050
Zinc (Zn)-Total	mg/L	0.003	-	<0.30	<0.30
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.030	<0.030

Notes:

¹TSS criteria - 25 mg/L above background (pre-testing) levels (CCME, 2002)

²Turbidity criteria - 8 NTUs above background (pre-testing) levels (CCME, 2002)

³Sample time not available.

Table excludes results at CPT-07 and CPT-09 due to the lack of either a corresponding pre-testing or post-testing sample.

TABLE 5.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
MARINE WATER QUALITY MONITORING RESULTS - MILNE INLET - 2018**

ANALYTE	CPT ID			CPT-04	
	Date			15-Apr-18	16-Apr-18
	Time			20:00	20:30
	Sample ID			BH18-CPT18-04-A	BH18-CPT18-04-B
	ALS Laboratory ID			L2082628-7	L2082628-3
	Sample Type			Pre-Drilling	Post-Drilling
General Parameters	Unit	MDL	CCME Criteria		
pH	pH Units	0.1	-	7.86	7.84
Total Suspended Solids (TSS)	mg/L	2	25 ¹	29.9	14.9
Total Dissolved Solids (TDS)	mg/L	20	-	31600	32500
Turbidity	NTU	0.1	8 ¹	0.58	1.42
Total Metals					
Aluminum (Al)-Total	mg/L	0.01	-	<0.50	<0.50
Antimony (Sb)-Total	mg/L	0.0001	-	<0.010	<0.010
Arsenic (As)-Total	mg/L	0.0001	-	<0.010	<0.010
Barium (Ba)-Total	mg/L	0.0002	-	<0.010	<0.010
Beryllium (Be)-Total	mg/L	0.0001	-	<0.010	<0.010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Boron (B)-Total	mg/L	0.01	-	4	3.9
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.00050	<0.00050
Calcium (Ca)-Total	mg/L	0.5	-	377	379
Cesium (Cs)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.050	<0.050
Cobalt (Co)-Total	mg/L	0.0001	-	<0.010	<0.010
Copper (Cu)-Total	mg/L	0.001	-	<0.10	<0.10
Iron (Fe)-Total	mg/L	0.05	-	<1.0	<1.0
Lead (Pb)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Lithium (Li)-Total	mg/L	0.001	-	0.18	0.16
Magnesium (Mg)-Total	mg/L	0.05	-	1160	1200
Manganese (Mn)-Total	mg/L	0.0005	-	<0.050	<0.050
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.0104	0.0098
Nickel (Ni)-Total	mg/L	0.0005	-	<0.050	<0.050
Phosphorus (P)-Total	mg/L	0.05	-	<5.0	<5.0
Potassium (K)-Total	mg/L	0.05	-	384	395
Rubidium (Rb)-Total	mg/L	0.0002	-	0.105	0.108
Selenium (Se)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Silicon (Si)-Total	mg/L	0.1	-	<10	<10
Silver (Ag)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Sodium (Na)-Total	mg/L	0.5	-	9920	9890
Strontium (Sr)-Total	mg/L	0.001	-	6.96	6.97
Sulfur (S)-Total	mg/L	0.5	-	911	910
Tellurium (Te)-Total	mg/L	0.0002	-	<0.020	<0.020
Thallium (Tl)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Thorium (Th)-Total	mg/L	0.0001	-	<0.010	<0.010
Tin (Sn)-Total	mg/L	0.0001	-	<0.010	<0.010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.030	<0.030
Tungsten (W)-Total	mg/L	0.0001	-	<0.010	<0.010
Uranium (U)-Total	mg/L	0.00001	-	0.0031	0.0029
Vanadium (V)-Total	mg/L	0.0005	-	<0.050	<0.050
Zinc (Zn)-Total	mg/L	0.003	-	<0.30	<0.30
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.030	<0.030

Notes:

¹TSS criteria - 25 mg/L above background (pre-testing) levels (CCME, 2002)

²Turbidity criteria - 8 NTUs above background (pre-testing) levels (CCME, 2002)

³Sample time not available.

Table excludes results at CPT-07 and CPT-09 due to the lack of either a corresponding pre-testing or post-testing sample.

TABLE 5.1

**BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT**

**2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
MARINE WATER QUALITY MONITORING RESULTS - MILNE INLET - 2018**

ANALYTE	CPT ID			CPT-05	
	Date			15-Apr-18	16-Apr-18
	Time			19:45	12:20
	Sample ID			BH18-CPT18-05-A	BH18-CPT18-05-B
	ALS Laboratory ID			L2082628-8	L2082628-9
	Sample Type			Pre-Drilling	Post-Drilling
General Parameters	Unit	MDL	CCME Criteria		
pH	pH Units	0.1	-	7.86	7.83
Total Suspended Solids (TSS)	mg/L	2	25 ¹	15.7	16.3
Total Dissolved Solids (TDS)	mg/L	20	-	32500	32600
Turbidity	NTU	0.1	8 ¹	0.94	2.06
Total Metals					
Aluminum (Al)-Total	mg/L	0.01	-	<0.50	<0.50
Antimony (Sb)-Total	mg/L	0.0001	-	<0.010	<0.010
Arsenic (As)-Total	mg/L	0.0001	-	<0.010	<0.010
Barium (Ba)-Total	mg/L	0.0002	-	<0.010	<0.010
Beryllium (Be)-Total	mg/L	0.0001	-	<0.010	<0.010
Bismuth (Bi)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Boron (B)-Total	mg/L	0.01	-	4	4.1
Cadmium (Cd)-Total	mg/L	0.00001	-	<0.00050	<0.00050
Calcium (Ca)-Total	mg/L	0.5	-	379	380
Cesium (Cs)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Chromium (Cr)-Total	mg/L	0.0005	-	<0.050	<0.050
Cobalt (Co)-Total	mg/L	0.0001	-	<0.010	<0.010
Copper (Cu)-Total	mg/L	0.001	-	<0.10	<0.10
Iron (Fe)-Total	mg/L	0.05	-	<1.0	<1.0
Lead (Pb)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Lithium (Li)-Total	mg/L	0.001	-	0.18	0.19
Magnesium (Mg)-Total	mg/L	0.05	-	1120	1150
Manganese (Mn)-Total	mg/L	0.0005	-	<0.050	<0.050
Molybdenum (Mo)-Total	mg/L	0.00005	-	0.0101	0.0121
Nickel (Ni)-Total	mg/L	0.0005	-	<0.050	<0.050
Phosphorus (P)-Total	mg/L	0.05	-	<5.0	<5.0
Potassium (K)-Total	mg/L	0.05	-	384	386
Rubidium (Rb)-Total	mg/L	0.0002	-	0.102	0.098
Selenium (Se)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Silicon (Si)-Total	mg/L	0.1	-	<10	<10
Silver (Ag)-Total	mg/L	0.00005	-	<0.0050	<0.0050
Sodium (Na)-Total	mg/L	0.5	-	9680	9880
Strontium (Sr)-Total	mg/L	0.001	-	7.36	7.12
Sulfur (S)-Total	mg/L	0.5	-	884	887
Tellurium (Te)-Total	mg/L	0.0002	-	<0.020	<0.020
Thallium (Tl)-Total	mg/L	0.00001	-	<0.0010	<0.0010
Thorium (Th)-Total	mg/L	0.0001	-	<0.010	<0.010
Tin (Sn)-Total	mg/L	0.0001	-	<0.010	<0.010
Titanium (Ti)-Total	mg/L	0.0003	-	<0.030	<0.030
Tungsten (W)-Total	mg/L	0.0001	-	<0.010	<0.010
Uranium (U)-Total	mg/L	0.00001	-	0.0029	0.0029
Vanadium (V)-Total	mg/L	0.0005	-	<0.050	<0.050
Zinc (Zn)-Total	mg/L	0.003	-	<0.30	<0.30
Zirconium (Zr)-Total	mg/L	0.0003	-	<0.030	<0.030

Notes:

¹TSS criteria - 25 mg/L above background (pre-testing) levels (CCME, 2002)

²Turbidity criteria - 8 NTUs above background (pre-testing) levels (CCME, 2002)

³Sample time not available.

Table excludes results at CPT-07 and CPT-09 due to the lack of either a corresponding pre-testing or post-testing sample.

TABLE 6.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
DRILLING WASTES MANAGED AND DEPOSITED ON INUIT-OWNED AND CROWN LANDS - 2018¹

Property Section	Type of Drilling Waste Produced (e.g. drill cuttings, drill mud)	Waste Storage Area / Type²	Waste Storage Location (UTM; NAD83)	Annual Drilling Waste Deposited (m³)³
Mine Site - Deposit No. 1 ⁴	Drill Cuttings	In-Ground Sump - MR1-18-247	17 W 563878 7915547	1
Mine Site - Deposit No. 1 ⁴	Drill Cuttings	In-Ground Sump - MR1-18-249 / MR1-18-250	17 W 563152 7914008	1
TOTAL				2

Notes:

¹Other small volumes of drill cuttings were deposited within or within close proximity to land based geotechnical and exploration boreholes (refer to Table 2.0 for borehole coordinates).

²In-Ground Sump IDs correspond to the exploration boreholes IDs that generated the deposited cuttings.

³Approximate volumes based on visual assessment.

⁴Inuit-Owned Lands - Parcel PI-17

TABLE 8.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
NEW IMPACTS RELATED TO EXPLORATION AND GEOTECHNICAL ACTIVITIES ON INUIT-OWNED AND CROWN LANDS - 2018

Property Section	Land Type / Parcel ID	Description of New Impact	Impact on Financial Security
Milne Port (Foreshore - Milne Inlet)	Crown Lands	Twelve (22) marine on-ice geotechnical cone penetration tests (CPT) on Milne Inlet (Crown Lands). Includes CPT locations: CPT-01, CPT-01B, CPT-02 through CPT-21.	No impact on financial security. All equipment promptly removed from on-ice CPT locations following completion. Disturbance to the Milne Inlet sea floor from CPTs negligible.
Milne Port	Inuit-Owned Lands - Surface (PI-19)	Three (3) land-based geotechnical boreholes at Milne Port on undisturbed Inuit-Owned Lands. Includes boreholes: BH18-M001, BH18-M002 and BH18-003.	No impact on financial security. Boreholes promptly backfilled and equipment removed from site following completion of each borehole. No outstanding reclamation works.
Milne Port	Inuit-Owned Lands - Surface (PI-19)	One (1) land-based geotechnical borehole (BH18-004) at Milne Port on the existing Ore Haul Truck Services Pad (disturbed) situated on Inuit-Owned Lands.	No impact on financial security. Borehole promptly backfilled and equipment removed from site following completion. No outstanding reclamation works.
Tote Road	Inuit-Owned Lands - Surface (PI-19, PI-16)	Six (6) land-based geotechnical boreholes along the Tote Road and proposed northern railway alignment on undisturbed Inuit-Owned Lands. Includes boreholes: BH18-BR15-1, BH18-BR15-2, BH18-BR102-1, BH18-BR102-2, BH18-BR70-1 and BG18-BR70-2.	No impact on financial security. Boreholes promptly backfilled and equipment removed from site following completion of each borehole. No outstanding reclamation works, with exception of the minimal works anticipated to address the partially backfilled borehole identified during the 2018 QIA Annual Audit. Negligible costs anticipated for addressing this concern.
Mine Site	Inuit-Owned Lands - Surface and Subsurface (PI-17)	Nine (9) land-based geotechnical boreholes at the Mine Site on existing laydowns (disturbed) situated on Inuit-Owned Lands. Includes boreholes: BH18-TF-01, BH18-TF-02, BH18-TF-03, BH18-TF-04, BH18-TF-05, BH18-TF-7N, BH18-TF-8N, BH18-TW-01, BH18-TW-02.	No impact on financial security. Boreholes promptly backfilled and equipment removed from site following completion of each borehole. No outstanding reclamation works.
Mine Site (Deposit No. 1)	Inuit-Owned Lands - Surface and Subsurface (PI-17)	Four (4) exploration boreholes at the Mine Site on Deposit No. 1 situated on Inuit-Owned Lands. Boreholes included: MR1-18-P05, MR1-18-247, MR1-18-249 and MR1-18-250. Drilling equipment remains at exploration boreholes MR1-18-P05 and MR1-18-247 on Deposit No. 1 for 2019 drilling activities, including drill platforms, casing, drill rods, lumber, water tubs and a survival shack.	No impact on financial security. Exploration boreholes MR1-18-249 and MR1-18-250 are situated within the disturbed active mining area limits and have no reclamation works outstanding (i.e. equipment). Exploration boreholes MR1-18-P05 and MR1-18-247 are within close proximity to the Mine Haul Road and active mining area resulting in negligible costs to reclaim equipment (refer to Figure 5).
Mine Site (Deposit Nos. 2 & 3)	Inuit-Owned Lands - Surface and Subsurface (PI-17)	Nine (9) exploration boreholes at the Mine Site on Deposit Nos. 2 and 3 situated on Inuit-Owned Lands. Includes boreholes: MR2-18-242, MR2-18-245, MR3-18-239, MR3-18-240, MR3-18-241, MR3-18-243, MR3-18-244, MR3-18-246 and MR3-18-248. Drilling equipment remains at exploration borehole MR3-18-244 on Deposit No. 3 for 2019 exploration drilling activities, including a drill rig, drill platform, casing, drill rods, lumber and water tubs.	No impact on financial security, with exception of borehole MR3-18-244. Minor costs associated with the reclamation of drilling equipment at MR3-18-244.

TABLE 8.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
RECLAMATION WORKS RELATED TO EXPLORATION AND GEOTECHNICAL ACTIVITIES ON INUIT-OWNED AND CROWN LANDS - 2018

Property Section	Land Type / Parcel ID	Reclamation Objectives	Reclamation Principle	Description of Reclamation Works	Regulatory Authority	Impact on Financial Security
Milne Port (Foreshore - Milne Inlet)	Crown Lands	<ul style="list-style-type: none"> • Provide for the long term physical, biological and chemical stability of the Exploration Project areas so as to protect the public health and safety and ecosystem integrity. • Allow for productive use of the land where exploration activities are undertaken and ensures all disturbed areas are restored to a pre-disturbed state upon completion of work. • Ensure that the land is reclaimed in a manner that minimize or prevents erosion, and negates the requirement for long term maintenance and monitoring. 	Progressive Reclamation	Removal of drilling equipment associated with the marine on-ice geotechnical program on Milne Inlet.	CIRNAC	No change in financial security held by the Crown (CIRNAC). No reclamation works outstanding for 2018 impacts.
Milne Port	Inuit-Owned Lands - Surface (PI-19)		Progressive Reclamation	Boreholes backfilled and drilling equipment removed at the three (3) 2018 land-based geotechnical borehole locations at Milne Port.	QIA	No impact on financial security held by the QIA. No reclamation works outstanding for 2018 impacts.
Milne Port	Inuit-Owned Lands - Surface (PI-19)		Progressive Reclamation	Borehole backfilled and drilling equipment removed at one (1) 2018 land-based geotechnical borehole (BH18-004) at Milne Port situated on existing Ore Haul Truck Services Pad.	QIA	No impact on financial security held by the QIA. No reclamation works outstanding for 2018 impacts.
Tote Road	Inuit-Owned Lands - Surface (PI-19, PI-16)		Progressive Reclamation	Boreholes backfilled and drilling equipment removed at the six (6) 2018 land-based geotechnical boreholes along the Tote Road and proposed northern railway alignment.	QIA	No impact on financial security held by the QIA. No reclamation works outstanding for 2018 impacts. ¹
Mine Site	Inuit-Owned Lands - Surface and Subsurface (PI-17)		Progressive Reclamation	Boreholes backfilled and drilling equipment removed at the nine (9) 2018 land-based geotechnical boreholes at the Mine Site on existing laydowns.	QIA	No impact on financial security held by the QIA. No reclamation works outstanding for 2018 impacts.

Notes:

¹Negligible costs associated with backfilling borehole identified during 2018 QIA Annual Audit.

TABLE 8.1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
RECLAMATION WORKS RELATED TO EXPLORATION AND GEOTECHNICAL ACTIVITIES ON INUIT-OWNED AND CROWN LANDS - 2018

Property Section	Land Type / Parcel ID	Reclamation Objectives	Reclamation Principle	Description of Reclamation Works	Regulatory Authority	Impact on Financial Security
Mine Site (Deposit No. 1)	Inuit-Owned Lands - Surface and Subsurface (PI-17)	<ul style="list-style-type: none"> • Provide for the long term physical, biological and chemical stability of the Exploration Project areas so as to protect the public health and safety and ecosystem integrity. • Allow for productive use of the land where exploration activities are undertaken and ensures all disturbed areas are restored to a pre-disturbed state upon completion of work. • Ensure that the land is reclaimed in a manner that minimize or prevents erosion, and negates the requirement for long term maintenance and monitoring. 	Progressive Reclamation	Drilling equipment removed from two (2) of the four (4) 2018 exploration boreholes at the Mine Site on Deposit No. 1. ²	QIA	No impact on financial security held by QIA. Exploration boreholes MR1-18-249 and MR1-18-250 are situated within the disturbed active mining area limits and have no reclamation works outstanding. Exploration boreholes MR1-18-P05 and MR1-18-247 are within close proximity to the Mine Haul Road and active mining area resulting in negligible costs to reclaim equipment (refer to Figure 5).
Mine Site (Deposit Nos. 2 & 3)	Inuit-Owned Lands - Surface and Subsurface (PI-17)		Progressive Reclamation	Drilling equipment removed from eight (8) of the nine (9) 2018 exploration boreholes at the Mine Site on Deposit Nos. 2 and 3. ³	QIA	No impact on financial security, with exception of exploration borehole MR3-18-244. Minor costs associated with the reclamation of drilling equipment at MR3-18-244.

Notes:

²Drilling equipment remains at exploration boreholes MR1-18-P05 and MR1-18-247 on Deposit No. 1 for 2019 drilling activities, including drill platforms, casing, drill rods, lumber, water tubs and a survival shack.

³Drilling equipment remains at exploration borehole MR3-18-244 on Deposit No. 3 for 2019 exploration drilling activities, including a drill rig, drill platform, casing, drill rods, lumber and water tubs.

TABLE 8.2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
MARY RIVER PROJECT TOTAL CLOSURE AND RECLAMATION SECURITY SUMMARY - 2018¹

Authorization	Liability	Securities Held on 1 Jan 2018 (Actual) (\$)	Adjustment for 2018 ASR (Actual) (\$)	Adjustment for 2018 Addendum ASR (Actual) (\$)	Securities Held on 31 Dec 2018 (Actual) (\$)
					F-D
Type 'A' Water Licence 2AM-MRY1325	IOL ²	61,641,771	10,328,000	1,860,000	73,829,771
	Crown	1,298,555	-	-	1,298,555
Subtotal Type 'A' Water Licence		62,940,326	10,328,000	1,860,000	75,128,326
Type 'B' Water Licence 2BE-MRY1421	IOL ²	-	-	-	-
	Crown	1,250,000	-	-	1,250,000
Subtotal Type 'B' Water Licence		1,250,000	-	-	1,250,000
GRAND TOTAL		66,818,000	10,328,000	1,860,000	79,006,000

Notes:

¹Totals rounded to nearest '000 in CAD

²All security relating to IOL held by Qikiqtani Inuit Association (QIA) under Commercial Lease No. Q13C301



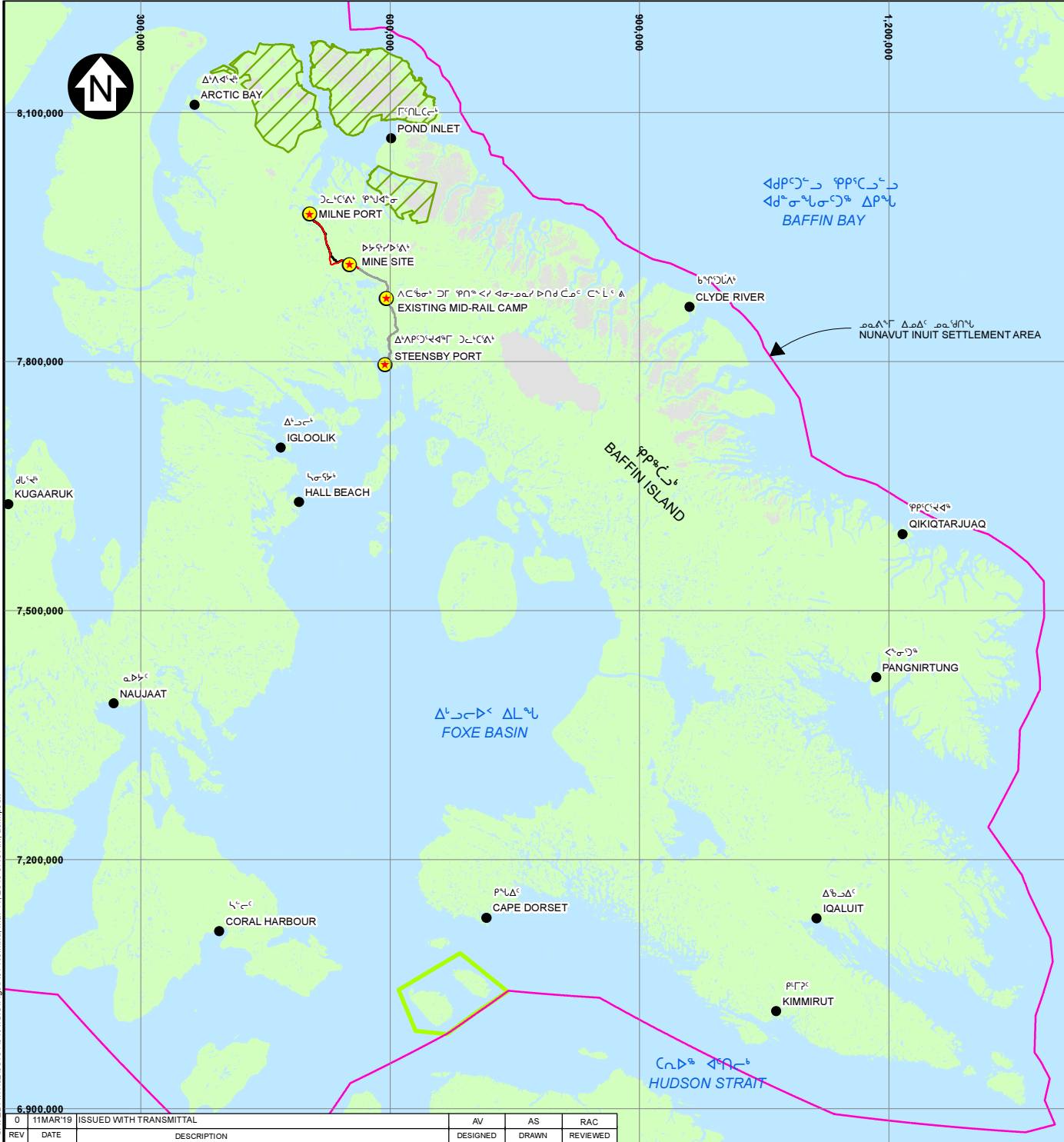
TABLE 10.0

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

2018 QIA AND NWB ANNUAL REPORT FOR EXPLORATION AND GEOTECHNICAL ACTIVITIES
COMMUNITY GROUP MEETINGS AND CONSULTATIONS - 2018

Date	Community	Organization / Agency	Description
05-Apr-18	Hall Beach	Mayor and Hamlet Council Hall Beach Hunters and Trappers Organization (HTO)	Eqe Bay Exploration Program
06-Apr-18	Igloolik	Mayor and Hamlet Council Igloolik Hunters and Trappers Organization (HTO)	Eqe Bay Exploration Program
12-Apr-18	Iqaluit	Qikiqtani Inuit Association	Eqe Bay Exploration Program
27-Nov-18	Igloolik	Mayor and Hamlet Council Igloolik Hunters and Trappers Organization (HTO)	Eqe Bay Exploration Program

FIGURES

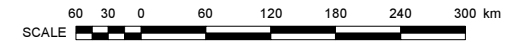


LEGEND:

- COMMUNITY
- MILNE INLET TOTE ROAD
- PROPOSED SOUTHERN RAILWAY ALIGNMENT
- PROPOSED NORTHERN RAILWAY ALIGNMENT
- AREA OF EQUAL USE AND OCCUPANCY NUNAVUT AND NUNAVIK
- NUNAVUT INUIT SETTLEMENT AREA
- Δ WATER
- ▨ SIRMILIK NATIONAL PARK
- ▨ GLACIER

NOTES:

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA, DEPARTMENT OF NATURAL RESOURCES (2004). ALL RIGHTS RESERVED.
2. COORDINATE GRID IS SHOWN IN UTM (NAD83) ZONE 17 AND IS IN METRES.



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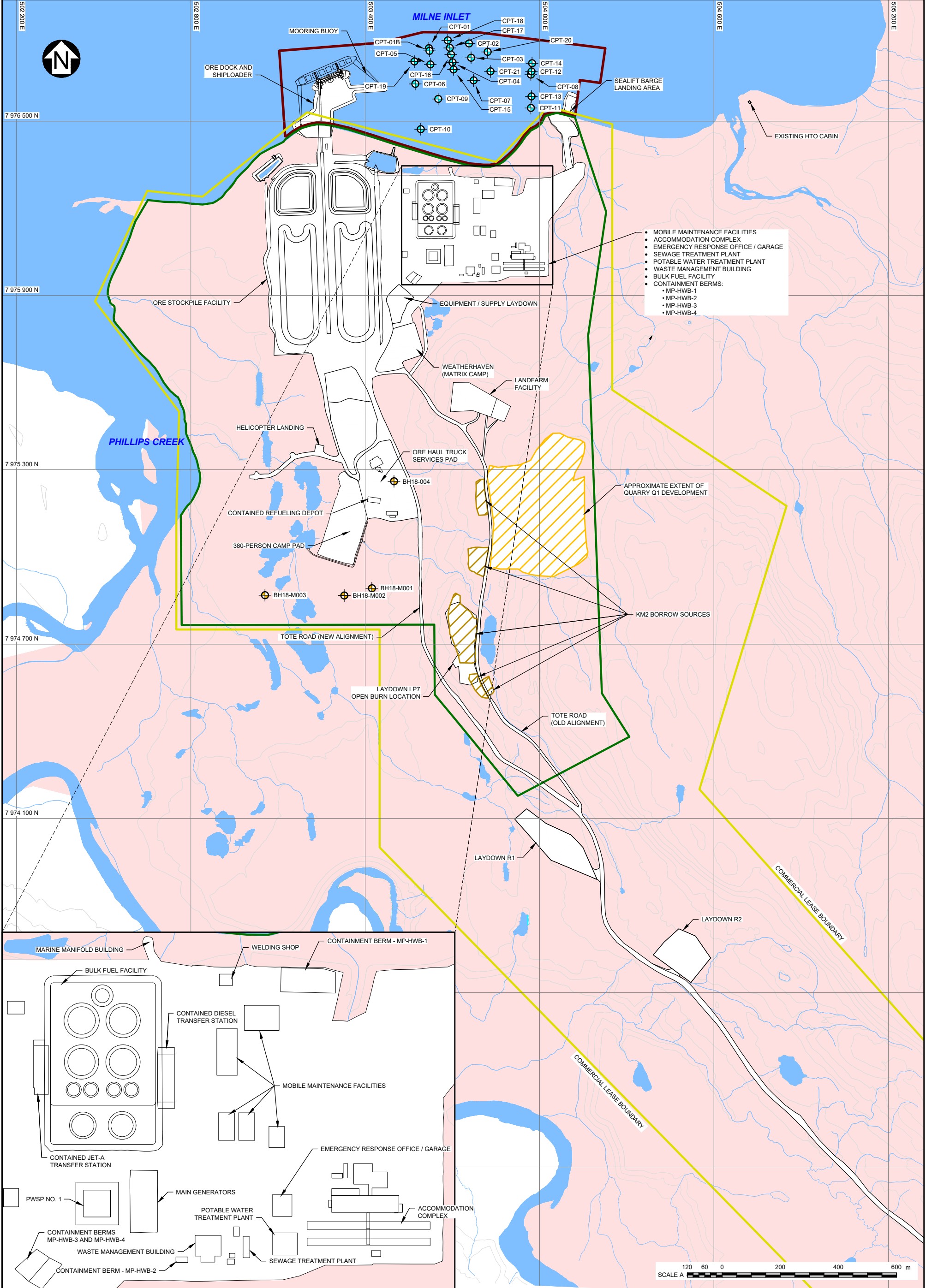
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PROJECT LOCATION MAP

SAVED: 11:02:00 154\A\GIS\Fig\A01 RD.mxd, Mar 11, 2019 9:45 AM, asimpson

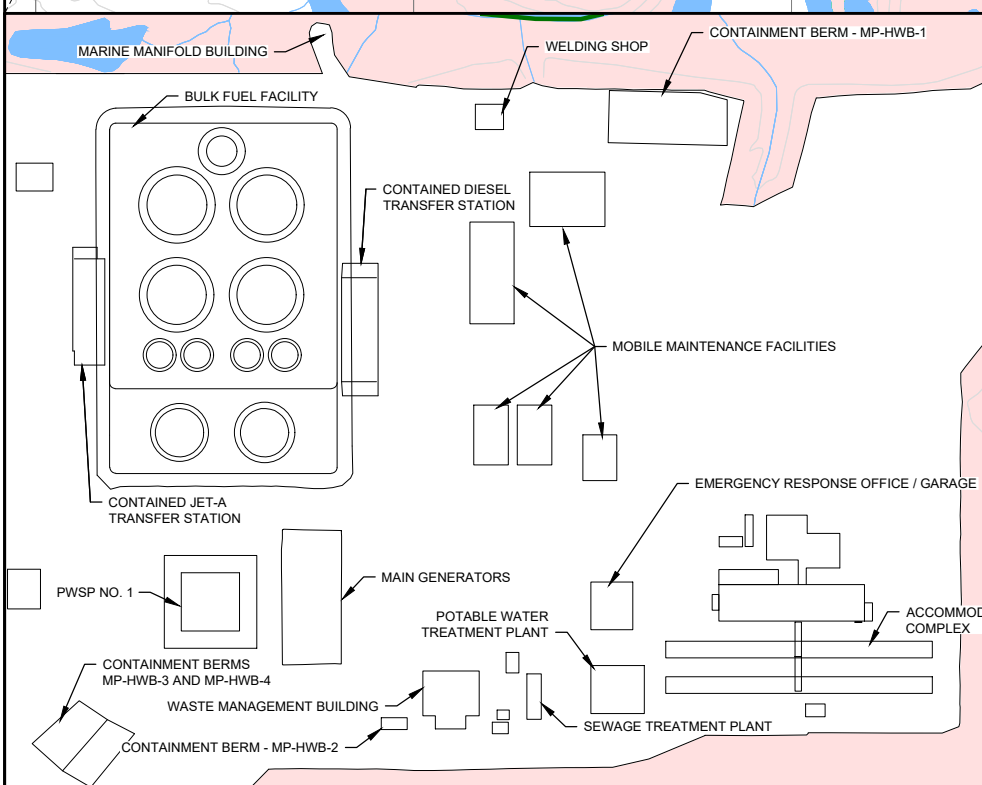
REV	DATE	DESCRIPTION	AV DESIGNED	AS DRAWN	RAC REVIEWED
0	11MAR19	ISSUED WITH TRANSMITTAL			



P/A NO. NB102-181/54	REF NO. NB19-00190
ᑲᓕᓐ ᑲᓕᓐ ᑲᓕᓐ FIGURE 1	
	REV 0



- MOBILE MAINTENANCE FACILITIES
- ACCOMMODATION COMPLEX
- EMERGENCY RESPONSE OFFICE / GARAGE
- SEWAGE TREATMENT PLANT
- POTABLE WATER TREATMENT PLANT
- WASTE MANAGEMENT BUILDING
- BULK FUEL FACILITY
- CONTAINMENT BERMS:
 - MP-HWB-1
 - MP-HWB-2
 - MP-HWB-3
 - MP-HWB-4



LEGEND:

	WATER		RIVER/STREAM/DRAINAGE
	BORROW AREAS (2013 UNDER Q10C3001)		ROAD
	QUARRY AREA (EXISTING UNDER Q13C301)		POTENTIAL DEVELOPMENT AREA
	INUIT OWNED LAND - SURFACE ONLY EXCLUDING MINERALS		QIA SURFACE COMMERCIAL LEASE IMPACT BOUNDARY
			FORESHORE LEASE BOUNDARY
			GEO TECHNICAL BOREHOLE
			MARINE CONE PENETRATION TEST LOCATION

- NOTES:**
1. COORDINATE GRID IS UTM NAD83 ZONE 17N.
 2. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
 3. PLAN/SECTION BASED ON INFORMATION PROVIDED BY HATCH, DATED (JAN 31, 2014).
 4. CONTOUR INTERVAL IS 10 METRES.

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	27MAR'19	ISSUED WITH TRANSMITTAL	AV	AS	AV

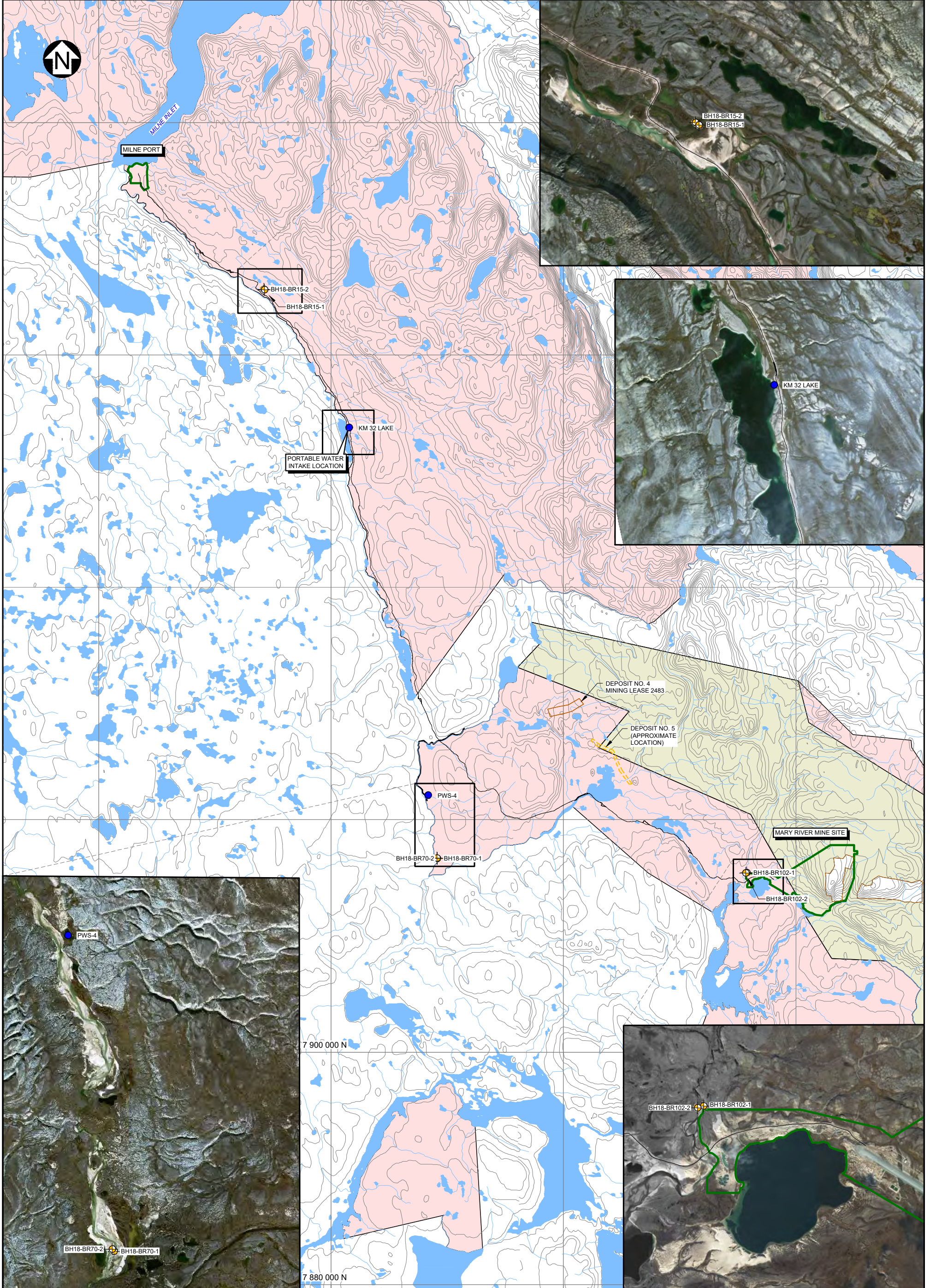
BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

MILNE PORT
2018 GEOTECHNICAL ACTIVITIES

P/A NO. NB102-181/54	REF NO. NB19-00254
FIGURE 3	

Knight Piésold CONSULTING



LEGEND:

	WATER
	INUIT OWNED LAND SURFACE AND SUBSURFACE
	INUIT OWNED LAND SURFACE ONLY
	CROWN LAND
	MINERAL LEASE BOUNDARY
	DEPOSIT NO. 5 (APPROXIMATE LOCATION)
	POTENTIAL DEVELOPMENT AREA
	CONTOUR
	GEOTECHNICAL BOREHOLE
	WATER SOURCE LOCATION

- NOTES:**
1. COORDINATE GRID IS UTM NAD83, ZONE 17.
 2. DETAILED WATER AND CONTOURS FROM EAGLE MAPPING (2005), CONTOUR INTERVAL IS 60 m.
 3. IMAGERY BASED ON INFORMATION PROVIDED BY BAFFINLAND IRON MINES CORPORATION, OCTOBER 2018.

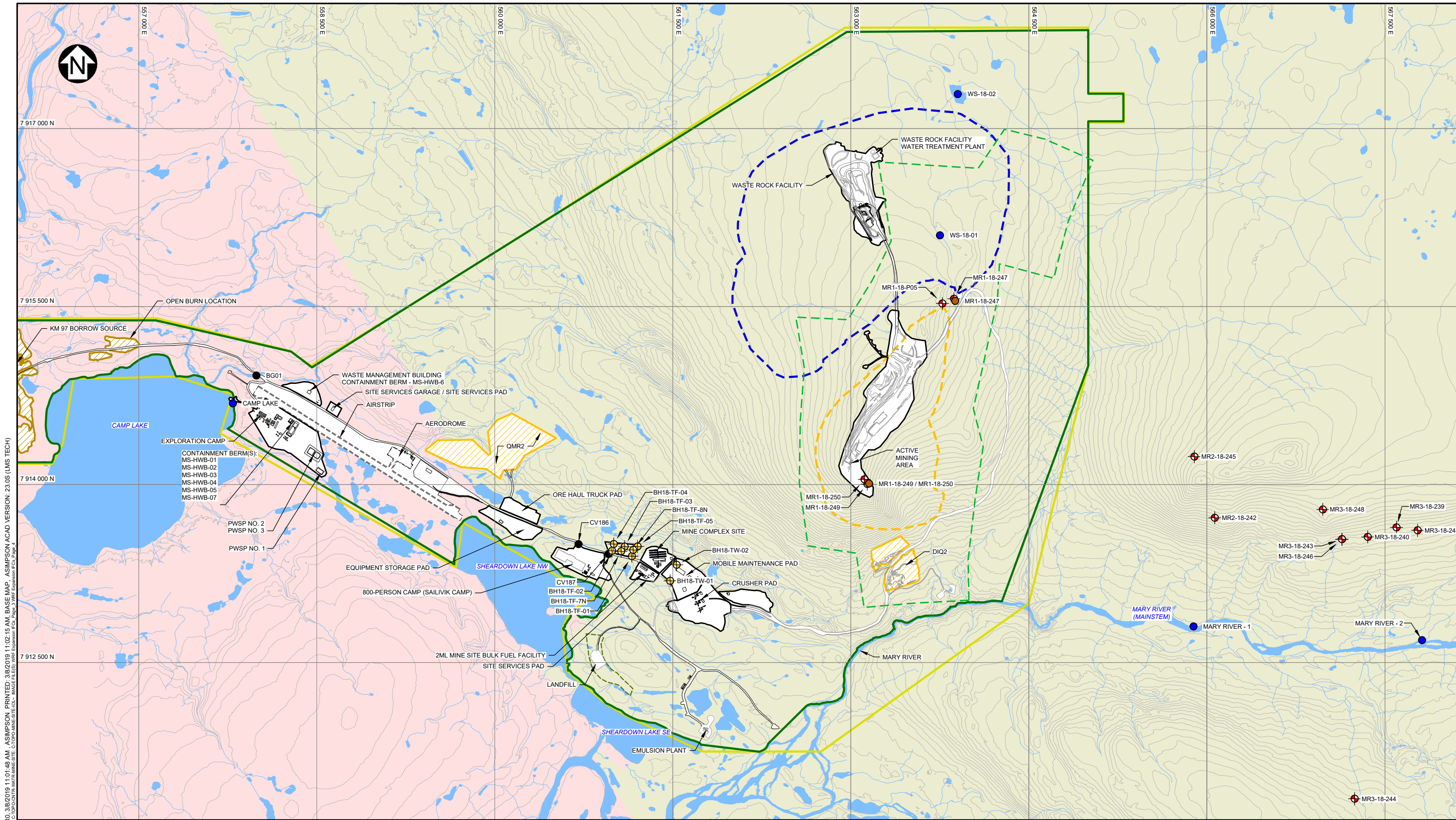
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT
TOTE ROAD
2018 GEOTECHNICAL ACTIVITIES

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	06MAR'19	ISSUED WITH TRANSMITTAL	AV	AS	AV



Knight Piésold CONSULTING

P/A NO. NB102-181/54	REF NO. NB19-00179
FIGURE 4	
	REV 0

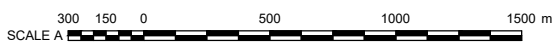


SAV: 1:1020018154A4ad\FIGSIB11.RD, 3/8/2019 11:01:48 AM, ASIMPSON PRINTED: 3/8/2019 11:02:15 AM, BASE MAP: ASIMPSON ACAD VERSION: 23.05 (LMS TECH)
 FILE(S): C:\p\mine\3d\exploration\map\3d\exploration\figsib11.dwg, C:\p\mine\3d\exploration\map\3d\exploration\figsib11.dwg, C:\p\mine\3d\exploration\map\3d\exploration\figsib11.dwg

- LEGEND:**
- QUARRY
 - BORROW AREA
 - INUIT OWNED LAND SURFACE AND SUBSURFACE
 - INUIT OWNED LAND SURFACE ONLY
 - WATER
 - QIA SURFACE COMMERCIAL LEASE BOUNDARY
 - POTENTIAL DEVELOPMENT AREA BOUNDARY
 - ULTIMATE DEPOSIT 1 PIT LIMITS
 - ULTIMATE WASTE ROCK STOCKPILE LIMITS
 - DEPOSIT NO. 1 MINING LEASE 2484
 - ULTIMATE LANDFILL LIMITS
 - CONTOUR
 - CULVERT
 - EXPLORATION BOREHOLE
 - GEOTECHNICAL BOREHOLE
 - WATER SOURCE LOCATION
 - IN GROUND SUMP

NOTES:

1. COORDINATE GRID IS UTM NAD83, ZONE 17.
2. DETAILED WATER AND CONTOURS FROM EAGLE MAPPING (2005). CONTOUR INTERVAL IS 10 m.
3. CURRENT MINE AREA FROM THE WASTE DUMP TO THE CRUSHER PAD, AND DITCHES ALONG THE HAUL ROAD PROVIDED BY BIM (MARCH 12, 2018).
4. ALL OTHER SITE INFRASTRUCTURE PROVIDED BY HATCH (AUGUST 2, 2016), AND SIMPLIFIED BY KP STAFF (JAN, 2018).



BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

**MINE SITE
2018 EXPLORATION AND
GEOTECHNICAL ACTIVITIES**



P/A NO. NB102-181/54	REF. NO. NB19-00179
-------------------------	------------------------

FIGURE 5

REV
0

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	06MAR'19	ISSUED WITH TRANSMITTAL	AV	AS	AV

APPENDIX A
CONCORDANCE TABLES

Concordance Table - Type 'B' Water Licence 2BE-MRY1421			
Type B Water Licence 2BE-MRY1421		2018 QIA and NWB Annual Report for Exploration and Geotechnical Activities	
Condition No.	Condition	Report Reference/Response	
Part B. General Conditions <i>The Annual Report referred to in Part B, Item 6 shall include:</i>			
6	The Licensee shall file with the Board no later than March 31st of the year following the calendar year being reported, an Annual Report on the appurtenant undertaking, which shall contain the following information:	See below	Annual Report was submitted on March 31, 2019.
i	the monthly and annual volumes, in cubic metres, of freshwater used for all purposes under the Licence and obtained from sources located on, in or flowing through Crown Lands;	Section 4 Table 4.0	Water Use Annual Volumes of Water Used for Drilling Activities on Inuit-Owned and Crown Lands by Source
		Table 4.1	Daily and Monthly Volumes of Water Used for Drilling Activities on Inuit-Owned and Crown Lands by Source
ii	the monthly and annual volumes, in cubic metres, of freshwater used for all purposes under the Licence and obtained from sources located on, in or flowing through Inuit-owned lands;	Section 4 Table 4.0	Water Use Annual Volumes of Water Used for Drilling Activities on Inuit-Owned and Crown Lands by Source
		Table 4.1	Daily and Monthly Volumes of Water Used for Drilling Activities on Inuit-Owned and Crown Lands by Source
iii	A summary, including photographic records before, during and after any relevant construction activities or modifications and/or major maintenance work carried out on facilities under this Licence and an outline of any work anticipated for the next year;	Section 3	Modifications, Infrastructure Changes and Construction
iv	The geochemical analysis of drill cores as per Part F, Item 3;	Section 9.6	Summary of Geochemical Analysis of Drill Cores
v	Detailed discussion on the performance, installation, and evaluation, including the use of photographic record, of the primary and secondary containment functions used in fuel storage to safeguard impacts to freshwaters;	Section 9.3	Summary of Fuel Storage
		Appendix D	Photo Journal
vi	Report all artesian flow occurrences as required under Part F, Item 6;	Section 9.5	Summary of Artesian Flows
vii	A list of unauthorized discharges and a summary of follow-up action(s) taken;	Section 7.1	Spills
viii	A brief description of follow-up action(s) taken to address concerns presented within inspection and compliance reports prepared by the Inspector;	Section 9.4	Inspection and Compliance Reports
ix	Updates in the form of an addendum or revisions to the Abandonment and Restoration Plan, and Spill Contingency Plan;	Section 9.2	Revisions to Plans, Reports and Manuals
x	A description of all progressive and/or final reclamation work undertaken, including drill sites, presented with photographic records of site conditions before, during and after completion of operations;	Section 8.0	Reclamation, Closure and Financial Security
		Table 8.1	Reclamation Works Related to Exploration and Geotechnical Activities on Inuit-Owned and Crown Lands
		Appendix D	Photo Journal
xi	An updated estimate of the current restoration liability required under Part B, Item 2, based upon the results of restoration assessment, project development monitoring, and any changes or modifications to the project;	Section 8.2 Table 8.2	Current Restoration Liability Mary River Project Total Closure and Reclamation Security Summary
xii	A summary of public consultation/participation, describing consultation with local organizations and residents of the nearby communities, if any were conducted;	Section 10	Public Consultations
xiii	A summary of any specific studies or reports requested by the Board, and a brief description of any future studies planned or proposed; and	Section 9.1	Summary of Studies Requested by the Board
xiv	Any other details on Water use or Waste disposal requested by the Board by November 1 of the year being reported.	N/A	No other details on water use or waste disposal was requested by the Board by November 1, 2018.

Concordance Table - Commercial Lease No. Q13C301			
Commercial Lease No. Q13C301		2018 QIA and NWB Annual Report for Exploration and Geotechnical Activities	
Condition No.	Condition	Report Reference/Response	
Section 6.4 - Annual Reporting Requirements			
6.4	For informational purposes, by no later than March 31 in each Year during the Term, the Tenant shall deliver to the Landlord an Annual Report for the preceding Year which shall include the following:	See below	Annual Reports were submitted on March 31, 2019.
a.	A report of activities conducted relative to what was described in the Work Plan submission for the Previous Year;	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
b.	A description of construction and infrastructure changes, additions or removals located within the boundaries of all Land Use Areas;	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
c.	All "As Built" reports available, signed and stamped by an Engineer, for all works completed as per (b) above;	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
d.	Description of any and all mining and exploration activities, and the results and outcomes thereof including:	See below	
	i. exploration activity and drilling summary	Section 2.0	Exploration and Geotechnical Activities
	ii. amount and type of ore and waste mined in each month	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
	iii. amount and type of ore shipped each month	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
	iv. quantities of each Specified Substance including sand, gravel, construction stone, and ice, quarried each month, broken down by individual quarry site or borrow location	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
e.	Quantities of waste deposited in the landfill, landfarm and or other approved waste storage areas each calendar quarter	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
f.	Type and quantities of materials that were shipped off the Lands	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
g.	Type and quantities of materials that were shipped to and stored on the Lands	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
h.	A detailed description of any and all Reclamation Work on the Property	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
i.	Any and all information related to a finding of non-compliance or breach of environmental standards as discovered by any Governmental Authority	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
j.	A listing and compilations of reports associated with any accident, spill, release of hazardous material in the environment, fire, emergency or loss of life	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
k.	Information respecting the Tenant's compliance with the terms of this Lease and any permits or licenses required in respect of its Operations on the Property, together with details of any incidents of non-compliance, the results of any inspection reports or orders prepared or issued by or fines levied by any competent regulatory authority and any remedial action relating thereto	N/A	Refer to <i>2018 QIA and NWB Annual Report for Operations</i>
l.	Any further reports, information or data reasonably requested by the Landlord from time to time, including Inuktitut language summary versions of such material at the request of the Landlord, acting reasonably.	N/A	No additional information or data was requested by the Landlord during 2018.

Concordance Table - Commercial Lease No. Q13C301 – Operations Guide - Annual Report for Exploration and Geotechnical Activities Submission			
Operations Guide - Annual Report for Exploration and Geotechnical Activities Submission		2018 QIA and NWB Annual Report for Exploration and Geotechnical Activities	
Section	Requirements	Report Reference/Response	
1	<p>Introduction</p> <ul style="list-style-type: none"> a) The calendar year to which the Annual Report for Exploration and Geotechnical Drilling Activities refers to (example: 2015); b) The date of submission of the Annual Report for Exploration and Geotechnical Drilling Activities; c) The name and contact information of the BIMC representative(s) responsible for the preparation and approval of the Annual Report for Exploration and Geotechnical Drilling Activities; and d) The name and contact information of the BIMC representative(s) that QIA can contact should it have any questions or comments regarding the Annual Report for Exploration and Geotechnical Drilling Activities. e) Please use the Table 1 template outlined in the Excel workbook to provide this information. f) Forward guidance on the outlook on BIMC's exploration and geotechnical drilling for the current Year; 	<p>Table 0 Section 11</p>	<p>Report Submission Summary 2019 Exploration and Geotechnical Activities</p>
2	<p>Exploration and Drilling Summary</p> <ul style="list-style-type: none"> a) An exploration activity and drilling summary for the Year. Please use the Table 2 template outlined in the Excel workbook to provide this information. b) A report on activities relative to what was described in the Annual Work Plan submission for the previous Year. 	<p>Section 2 Table 2.0</p>	<p>Exploration and Geotechnical Activities Exploration and Geotechnical Activities and Drilling Summary</p>
3	<p>Infrastructure Changes and New Construction Related to Exploration and Drilling</p> <ul style="list-style-type: none"> a) A description of the infrastructure changes and/or new construction associated with the Year's exploration and geotechnical drilling activities. Please use the Table 3 template outlined in the Excel workbook to provide this information. b) The description will be accompanied by relevant site surveys, pictures, and maps. c) A description of construction and infrastructure changes, additions or removals located within the boundaries of all Land Use Areas, including all "As-Built" reports available, signed and stamped by an Engineer, for all works completed. 	<p>Section 3</p>	<p>Modifications, Infrastructure Changes and Construction</p>
4	<p>Quantities of Water Used Related to Exploration and Drilling</p> <ul style="list-style-type: none"> a) The quantities of water used from all water sources applicable to the drilling program, not including those quantities included under the Type 'A' Water Licence. b) Please use the Table 4 template outlined in the Excel workbook to provide this information. 	<p>Section 4 Table 4.0 Table 4.1</p>	<p>Water Use Annual Volumes of Water Used for Drilling Activities on Inuit-Owned and Crown Lands by Source Daily and Monthly Volumes of Water Used for Drilling Activities on Inuit-Owned and Crown Lands by Source</p>

Concordance Table - Commercial Lease No. Q13C301 – Operations Guide - Annual Report for Exploration and Geotechnical Activities Submission cont'd			
Commercial Lease No. Q13C301		2018 QIA and NWB Annual Report for Exploration and Geotechnical Activities	
Section	Requirement	Report Reference/Response	
5	<p>Pre and Post Drilling Conditions of Drill Holes Completed</p> <p>a) All environmental monitoring logs before, during and after drilling detailing the daily environmental monitoring at drill hole locations. The logs inform on the practices undertaken to limit environmental damage, and the post-activity land status and reclamation efforts.</p> <p>b) The logs will also be used to calculate reclamation security.</p> <p>c) Please use the Table 5 template outlined in the Excel workbook to provide this information.</p>	<p>Section 5.1</p> <p>Table 5.0</p> <p>Appendix E</p>	<p>Environmental Monitoring for Drilling/Testing Activities</p> <p>Exploration and Geotechnical Environmental Monitoring Logs</p> <p>2018 Pre, Daily and Post Environmental Monitoring Logs</p>
6	<p>Volumes of Waste disposed of on IOL Related to Exploration and Drilling</p> <p>a) The types, volumes, and disposal/management location of all types of drilling waste produced in the Year being reported. Please use the Table 6 template outlined in the Excel workbook to provide this information.</p>	<p>Section 6.0</p> <p>Table 6.0</p>	<p>Waste Management</p> <p>Drilling Wastes Managed and Deposited On Inuit-Owned and Crown Lands</p>
7	<p>List of Reported Spills and Health & Safety Incidents</p> <p>a) A compilation of reports associated with any accident, spill, release of hazardous material in the environment, fire, emergency or loss of life related to exploration or drilling.</p> <p>b) This section of the Annual Report for Exploration and Geotechnical Drilling Activities will include a listing and compilations of reports associated with any accident or spill following the submittal guidelines of the Accidents and Incidents Operations Guide. (CPL Section 6.4. Annual Reporting Requirements - j)). Please use the Table 7.1 and 7.2 templates outlined in the Excel workbook to provide this information.</p>	<p>Section 7.0</p>	<p>Reported Incidents</p>
8	<p>Information Relevant to Financial Security</p> <p>a) BIMC will provide details on the results of all reclamation work performed on the Property in the previous Year as well as update QIA on all financial security that is to be adjusted based on the results of such reclamation work.</p> <p>b) Relevant information, including implications to financial security for exploration and drilling activities conducted on IOL. Please use the Table 8.1 and 8.2 templates outlined in the Excel workbook to provide this information.</p>	<p>Section 8.0</p> <p>Table 8.0</p> <p>Table 8.1</p> <p>Table 8.2</p>	<p>Reclamation, Closure and Financial Security</p> <p>New Impacts Related to Exploration and Geotechnical Activities on Inuit-Owned and Crown Lands</p> <p>Reclamation Works Related to Exploration and Geotechnical Activities on Inuit-Owned and Crown Lands</p> <p>Mary River Project Total Closure and Reclamation Security Summary</p>
9	<p>Additional Report, information or Data</p> <p>a) This section of the Annual Report will include a list of any further reports, information or data reasonably requested by QIA from time to time, including Inuktitut language summary versions of such material at the request of QIA, acting reasonably.</p>	<p>N/A</p>	<p>No additional information or data was requested by the Landlord during 2018.</p>

APPENDIX B
NWB ANNUAL REPORT FORMS

NWB Annual Report

Year being reported: 2018

License No: **Issued Date:**
Expiry Date:

Project Name:

Licensee:

Mailing Address:

Name of Company filing Annual Report (if different from Name of Licensee please clarify relationship between the two entities, if applicable):

General Background Information on the Project (*optional):

Licence Requirements: the licensee must provide the following information in accordance with

A summary report of water use and waste disposal activities, including, but not limited to: methods of obtaining water; sewage and greywater management; drill waste management; solid and hazardous waste management.

Water Source(s):	<input type="text" value="Refer to Section 4.0."/>	
Water Quantity:	<input type="text" value="17,885 cu.m/year"/>	Quantity Allowable Domestic (cu.m)
	<input type="text" value="0"/>	Actual Quantity Used Domestic (cu.m)
	<input type="text" value="91,250 cu.m/year"/>	Quantity Allowable Drilling (cu.m)
	<input type="text" value="7,670"/>	Total Quantity Used Drilling (cu.m)

Waste Management and/or Disposal

- Solid Waste Disposal
- Sewage
- Drill Waste
- Greywater
- Hazardous
- Other:

Additional Details:

A list of unauthorized discharges and a summary of follow-up actions taken.

Spill No.: (as reported to the Spill Hot-line)
 Date of Spill:
 Date of Notification to an Inspector:
 Additional Details: (impacts to water, mitigation measures, short/long term monitoring, etc)

Revisions to the Spill Contingency Plan

▼
 Additional Details:

Revisions to the Abandonment and Restoration Plan

▼
 Additional Details:

Progressive Reclamation Work Undertaken

Additional Details (i.e., work completed and future works proposed)

Results of the Monitoring Program including:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where sources of water are utilized;
 ▼
 Additional Details:

The GPS Co-ordinates (in degrees, minutes and seconds of latitude and longitude) of each location where wastes associated with the licence are deposited;
 ▼
 Additional Details:

Results of any additional sampling and/or analysis that was requested by an Inspector
 ▼

Additional Details: (date of request, analysis of results, data attached, etc)

Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported.

No additional sampling requested by an Inspector or the Board ▼

Additional Details: (Attached or provided below)

Any responses or follow-up actions on inspection/compliance reports

No inspection and/or compliance report issued by INAC ▼

Additional Details: (Dates of Report, Follow-up by the Licensee)

Any additional comments or information for the Board to consider

Date Submitted:
Submitted/Prepared by:
Contact Information:

March 31, 2019
Christopher Murray
Tel: (416) 364-8820 ext. 5072
Fax: -
email: christopher.murray@baffinland.com

APPENDIX C

2018 DRILLING NOTIFICATIONS

Dec. 13, 2017 – Geotechnical Drilling Notification

May 11, 2018 – Exploration Drilling Notification

May 25, 2018 – Geotechnical Drilling Notification



December 13, 2017

Jonathan Mesher, Resource Management Officer
Nunavut Field Operations
Indigenous and Northern Affairs Canada
Box 100
Iqaluit, NU X0A 0H0

Stephen Bathory, Director Major Projects
Qikiqtani Inuit Association
P.O. Box 219
Iqaluit, NU X0A 0H0

Manager of Licensing
Nunavut Water Board
PO Box 119, Gjoa Haven, NU X0B 1J0

**Re: 2018 Geotechnical Drilling Program
Type 'B' Water Licence 2BE-MRY1421
Commercial Lease No. Q13C301**

Baffinland Iron Mines Corporation (Baffinland) plans to commence a geotechnical drilling program in January 2018 to evaluate the geotechnical conditions near the existing Milne Inlet Tote Road (Tote Road) and at Milne Inlet for the purposes of advancing engineering studies in support of Project expansion (e.g. Phase 2). The drilling program is being managed by Hatch Ltd. and performed by Boart Longyear. The drilling program is scheduled to commence in early January 2018 and is expected to be completed by late April 2018. The drilling program consists of six (6) drill holes at potential railway bridge locations near the Tote Road and ten (10) on-ice (sea ice) drill hole locations for future dock infrastructure in Milne Inlet. Proposed drill hole locations, including coordinates, are presented in Attachment 1. Alongside the 2018 drilling program, Baffinland also plans on conducting a series of ice thickness and bathymetry surveys as well as additional geotechnical tests (e.g. thermistor installation, Vane test) near drill hole sites and other locations near the Tote Road and at Milne Port.

Drilling programs are expected to require minimal water usage and will be performed using a tracked drill rig (LS 250) capable of drilling using both sonic and rotary coring techniques. Other supporting tracked vehicles include a flatbed (Nodwell type) for hauling water and other supplies and a skid steer for moving drill rods and other equipment/supplies.

An archaeology survey of the areas to be drilled and traversed near the Tote Road was completed during the summer of 2016 and observed archaeology sites were identified and staked off. These coordinates have been provided, in confidence, to the drilling manager to minimize the potential for archaeological disturbance. A review of the identified archaeological sites confirms there are no archaeological sites within close proximity to the proposed drill hole locations.

To support drilling operations, nine (9) existing water sources near the Tote Road, identified under Baffinland's Type A Water Licence 2AM-MRY1325 Amend. 1 (Part E, Item 25), have been selected. A table showing the nine (9) water sources are provided in Attachment 2. Due to temperature restrictions

tracking water usage volumes utilising water lines and flow meters will not be feasible. Therefore, Baffinland proposes to track water usage volumes by means of calibrated one cubic metre totes.

Daily environmental monitoring will be performed, including pre, during and post drilling inspections. Locations of drill waste will be disposed of in natural depressions or sumps consistent with Part F, Item 4 of Baffinland's Type B Water Licence 2BE-MRY1421 (Type B Water Licence). Drill water runoff and siltation mitigation measures consistent with Baffinland's Environmental Protection Plan BAF-PH1-830-P16-0008 r1 will be employed as required. For the Milne Inlet on-ice drilling program, under-ice turbidity and total suspended solids (TSS) water quality monitoring will be conducted to characterize water quality conditions prior to and following drilling activities.

In accordance the conditions of the Type B Water Licence, this letter and attachments provides Baffinland's notification for the drilling of six (6) drill holes near the Tote Road that will be closer than 30 metres from the ordinary high water mark of a water body and the identification of water sources for the planned 2018 drilling activities.

Despite best planning, it should be noted that unforeseen geotechnical circumstances may preclude some changes in plans as the program proceeds. Baffinland will endeavor to inform the Inspector and QIA in such circumstances.

We trust that this information meets the various notifications required. Please to not hesitate to contact the undersigned, should you have any questions or comments.

Regards,



Christopher Murray
Environmental & Regulatory Compliance Manager

Attachments:

Attachment 1: 2018 Geotechnical Drilling Program Locations

Attachment 2: Proposed Water Sources for 2018 Geotechnical Drilling Program

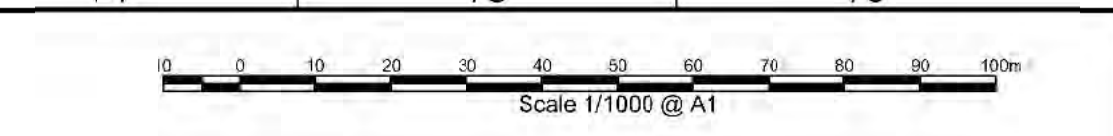
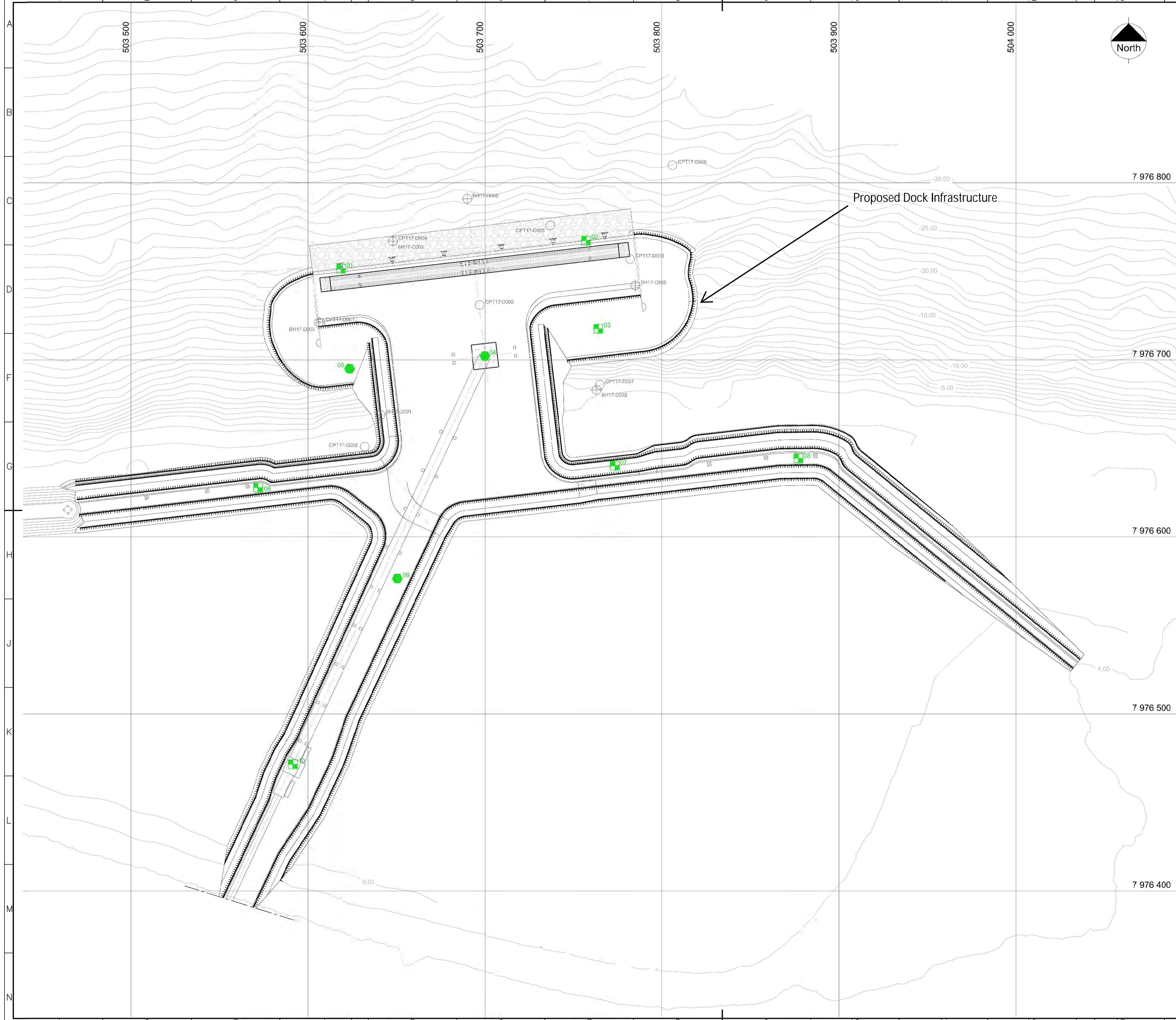
Cc: David Hohnstein (NWB)
Tim Sewell, William Bowden, Connor Devereaux, Andrew Vermeer (Baffinland)

Attachment 1

2018 Geotechnical Drilling Program Locations

Attachment 1.1

2018 Milne Inlet On-Ice Drilling Program



New Geotechnical Campaign					
N°	Easting	Northing	CPT depth below seabed	Vane Test	Sampling (sharky)
01	50361.967	7976751.459	20m	1 @ -0.50 below seabed 1 @ -1.50 below seabed	1 from seabed to -0.61 below seabed 1 from seabed to -0.61 below seabed
02	50375.714	7976757.392	20m	1 @ -0.50 below seabed 1 @ -1.50 below seabed	1 from seabed to -0.61 below seabed 1 from seabed to -0.61 below seabed
03	50376.408	7976717.604	5m	1 @ -0.50 below seabed	1 from seabed to -0.61 below seabed
04	50389.394	7976702.221	15m	-	From -0.50 to -1.11 below seabed
05	50382.350	7976635.000	5m	-	From -0.50 to -1.11 below seabed
06	50357.182	7976627.872	5m	1 @ -0.50 below seabed 1 @ -1.50 below seabed	1 from seabed to -0.61 below seabed 1 from seabed to -0.61 below seabed
07	50377.335	7976640.299	5m	1 @ -0.50 below seabed 1 @ -1.50 below seabed	1 from seabed to -0.61 below seabed 1 from seabed to -0.61 below seabed
08	50387.710	7976644.473	5m	1 @ -0.80 below seabed	From -0.50 to -1.11 below seabed
09	50365.051	7976576.499	5m	-	From -0.50 to -1.11 below seabed
10	50359.146	7976471.594	5m	1 @ -0.80 below seabed	From -0.50 to -1.11 below seabed

REMARK:
Position and number of tests could be adapted during the campaign in case of unexpected results

LEGEND:

Borehole (geotechnical investigations 2017)	CPT + Vane test + Sampling (new campaign)
CPT (geotechnical investigations 2017)	CPT + Sampling (new campaign)
Working point	

REFERENCES:
- General - General Layout: BIM-BD-GE-DE-DW-50001
- Port site - Ore Dock n°2 - 2017 geotechnical investigations BH and CPT locations: H352034-GEOSKT-229-292-0003

NOTES:
- Coordinate grid is UTM (NAD83) zone
- All elevations are in metres relative to Chart Datum (mCD)
- All dimensions are in metres unless stated otherwise

REVISION	DESCRIPTION	DATE
00	First issue	30-Nov-2017

SUB-CONTRACTOR DESIGN:

BESIX Engineering Department
Avenue des Communautés, 100 B - 1200
Brussels - Belgium

CONTRACTOR:

ENGINEER:

CLIENT:

PROJECT:
MARY RIVER EXPANSION STAGE 3
BAFFINLAND IRON MINES

DRAWING TITLE:
ADDITIONAL GEOTECHNICAL CAMPAIGN

DRAWN: FPI	CHECKED: MZE	APPROVED: HVM	AUTHORISED: JVST
SCALE: 1:1000	SIZE: A1	DATE: 30-Nov-2017	
BESIX DRAWING No: BIM-BD-GE-DE-DW-50751			REV: 00

Attachment 1.2

2018 Milne Inlet Tote Road Drilling Program

Bridge 1 (CH. 15.950) – Near Km 17 of Existing Tote Road

Bridge 2 (CH. 70.690) – Southwest of Km 75 of Existing Tote Road

Bridge 4 (CH. 102.592) – Near Km 97 of Existing Tote Road

BRIDGE CENTRELINE CO-ORDINATE LIST UTM 17 N

	Y	X
W.P. #1	514210.674	7965645.389
W.P. #2	514260.244	7965610.408



SCALE IN METER



BRIDGE CENTRELINE CO-ORDINATE LIST UTM 17 N

	Y	X
W.P. #1	529142.297	7916679.156
W.P. #2	529107.458	7916699.747



SCALE IN METER





BRIDGE CENTRELINE CO-ORDINATE LIST UTM 17 N

	Y	X
W.P. #1	555757.921	7915441.329
W.P. #2	555697.356	7915442.128

0 50 100 150
SCALE IN METER

CV/293 / Tom River

Attachment 2

Proposed Water Sources for 2018 Geotechnical Drilling Program

Table 1 – Proposed Water Source Locations for 2018 Geotechnical Drilling Program¹

Water Source	Approx. Tote Road Chainage
CV 128 River	Km 17
Km 32 Lake	Km 32
Katiktok Lake	Km 52 – 58
BG50 River	Km 62
CV217 River	Km 80
Muriel Lake	Km 78 – 80
David Lake	Km 87 - 89
CV233 (Tom River)	Km 97
Camp Lake	Km 100

¹Refer to Type A Water Licence 2AM-MRY1325, Amend. 1 – Refer to Part E, Item 25



May 11, 2018

Jonathan Mesher
Resource Management Officer
Indigenous and Northern Affairs Canada (INAC)
P.O. Box 100
Iqaluit, NU XOA 0H0

Re: 2018 Exploration Drilling Program – Mary River Project
Type B Water Licence 2BE-MRY1421
Commercial Lease No. Q13C301

Baffinland Iron Mines Corporation (Baffinland) will be commencing an exploration diamond drilling program to extend and upgrade the resources at Deposits 1, 2, & 3. The program is being managed by Baffinland's Exploration Department, and performed by Boart Longyear's coring division. The program is scheduled to commence on May 31, 2018, and end by October 2018. A total of twenty-four (24) drill holes are planned, with depths ranging from 175 to 400 metres (m) from surface. Drill holes will require water to support diamond drill coring techniques. Attachment 1 provides a map outlining the proposed drill hole collar locations and proposed water sources. UTM coordinates for the drill hole collars locations and water sources, presented in Attachment 1, are provided in Attachments 2 and 3, respectively.

The equipment to be utilized for the program includes two (2) LM 55 and three (3) LF 70 rock coring drill rigs. The diameter of the holes to be advanced is approximately 61.1 mm. Supporting equipment will include two A-star B2 helicopters for transporting drills, other supporting equipment/supplies and personnel between drill hole locations.

Under Part C, Item 2 of the Type B Water Licence 2BE-MRY1421 (Type B Water Licence), Baffinland is required to provide notification to the Nunavut Water Board (NWB) and the Inspector (INAC) of new water sources to be used for drilling activities that are not currently identified. As shown in Attachment 1, there are seven (7) new potential water sources that may be used to support the proposed drilling program. A table with the UTM coordinates for the new water sources is provided in Attachment 3.

The estimated water usage rate for the drilling program is approximately 1.3 m³ per linear metre drilled. Assuming 2,530 m, 2,000 m and 2,470 m drilled at Deposits 1, 2 and 3, respectively, the total water volume requirements for drilling operations at Deposits 1, 2 and 3 are estimated to be 3,300 m³, 2,300 m³ and 3,200 m³, respectively. Water use will be tracked using inline flowmeters or other metering methods to ensure compliance with the daily water withdraw limits for drilling activities (250 m³/day), stipulated in Part C, Item 1 of the Type B Water Licence.

Based upon visual assessment and knowledge from previous drilling programs in the area, Baffinland believes that the new water sources identified in Attachments 1 and 3 can sustain the required withdrawal volumes. Water sources prefixed with a 'WS' in Attachment 1 are ephemeral water bodies that are not

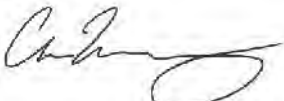
fish habitat and are fed by snow melt during freshet and precipitation events. As a result of altitude and the associated high rates of natural evaporation, these water sources experience significant fluctuations in volume throughout the year, with maximum volumes occurring immediately following freshet. As a result of natural evaporation and drilling water requirements, these water sources may experience fluctuations in volume during the drilling program. However, due to the absence of fish habitat at these water bodies, there are no anticipated potential adverse impacts from the decrease in volume of these water bodies.

The Mary River has been used as a water source in previous drilling programs at the Project and has sufficient flow volumes necessary to support the proposed water requirements for Deposits 1, 2 and 3. Pumping stations along the Mary River, prefixed with a 'PS' and shown in Attachment 1, will be utilized to support the program's drilling operations, as required. In accordance with the *Freshwater Intake End-of-Pipe Fish Screen Guideline* (DFO, 1995) and Part C, Item 5 of the Type B Water Licence, water intake lines will be equipped with fish screens to prevent the entrapment of fish during periods of withdrawal from identified water sources.

In accordance with Part F, Item 2, of the Type B Water Licence, drill waste will be disposed of in sumps consistent with Part F, Item 4 of Type B Water Licence. Environmental monitoring will be performed at drilling operations, including pre-, during, and post-inspections. Drill water runoff and siltation mitigation measures consistent with Baffinland's Environmental Protection Plan (EPP; BAF-PH1-830-P16-0008, Rev. 1) will be employed, as required.

Despite best planning efforts, it should be noted that unforeseen circumstances may preclude some changes in plans as the program proceeds. Baffinland will endeavor to inform the Inspector (INAC) and other relevant parties in such circumstances.

We trust that this information meets the notification requirements. Please do not hesitate to contact the undersigned, should you have any questions or comments.



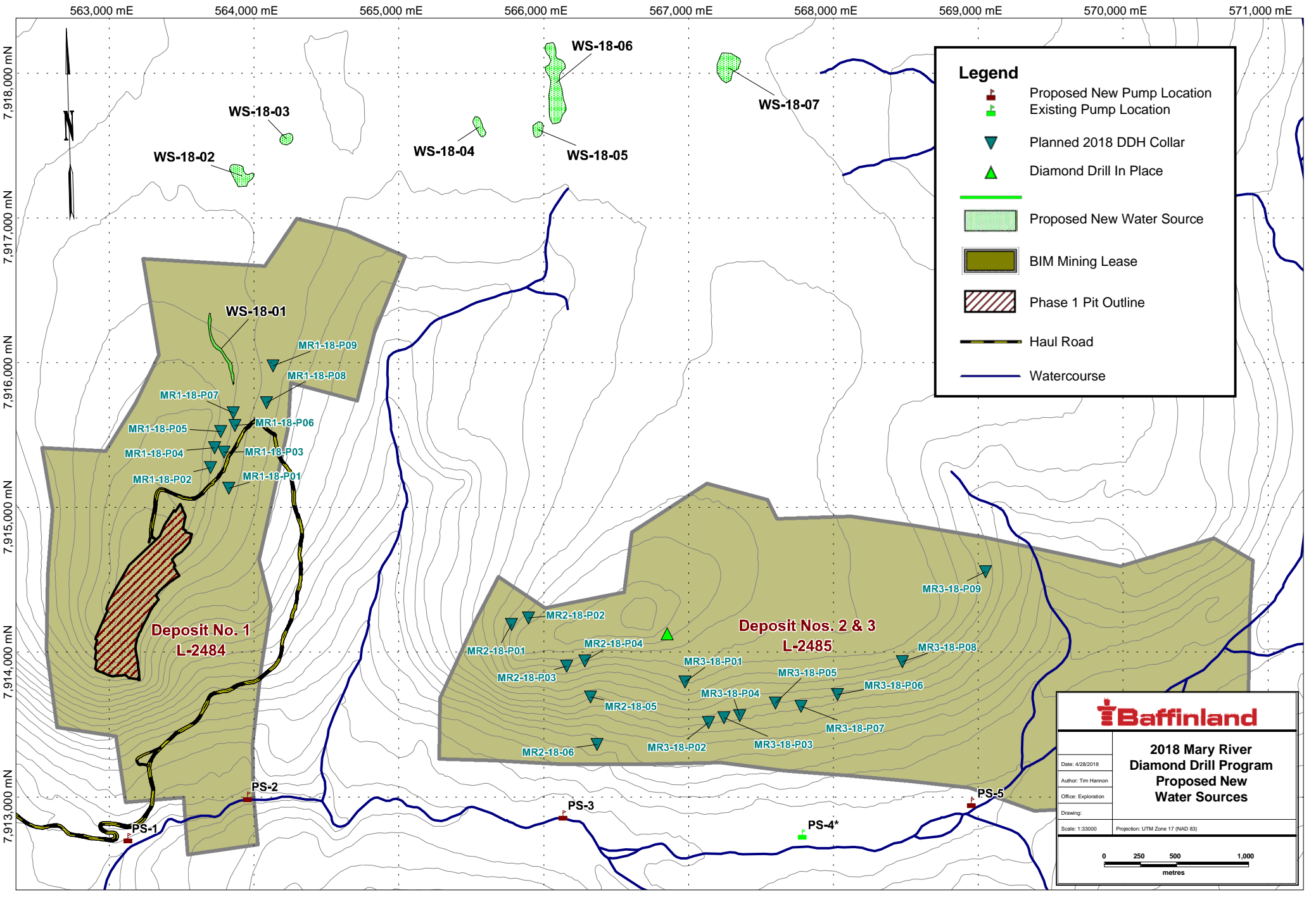
Christopher Murray
Environmental & Regulatory Compliance Manager

Attachments:

- Attachment 1 – 2018 Mary River Diamond Drilling Program
- Attachment 2 – UTM Coordinates of Proposed Drill Hole Locations
- Attachment 3 – UTM Coordinates of Proposed Water Sources

Cc: Timothy Ray Sewell, Megan Lord-Hoyle, William Bowden, Connor Devereaux, Andrew Vermeer, Dick Matthews, Thomas Iannelli (Baffinland)
Assol Kubeisinova, Karén Kharatyan (NWB)
Ian Parsons, Wajid Daouda (INAC)
Fai Ndofor (QIA)

Attachment 1 - 2018 Mary River Diamond Drilling Program



Legend

- Proposed New Pump Location
- Existing Pump Location
- Planned 2018 DDH Collar
- Diamond Drill In Place
- Proposed New Water Source
- BIM Mining Lease
- Phase 1 Pit Outline
- Haul Road
- Watercourse

**2018 Mary River
Diamond Drill Program
Proposed New
Water Sources**

Date: 4/28/2018	
Author: Tim Hannon	
Office: Exploration	
Drawing:	
Scale: 1:33000	Projection: UTM Zone 17 (NAD 83)

0 250 500 1,000
metres

Attachment 2 - UTM Coordinates of Proposed Drill Hole Locations

Table A-2 – Proposed Drill Hole Locations and Depth from Surface

Drill Hole Collar ID	Easting (m)	Northing (m)	Elevation (masl)	Depth from Surface (m)
Deposit No. 1				Total: 2,530 m
MR1-18-P01	563825	7915133	589	400
MR1-18-P02	563701	7915276	626	200
MR1-18-P03	563793	7915382	605	325
MR1-18-P04	563728	7915413	624	215
MR1-18-P05	563771	7915525	622	190
MR1-18-P06	563868	7915565	593	300
MR1-18-P07	563856	7915653	595	200
MR1-18-P08	564086	7915723	566	300
MR1-18-P09	564132	7915977	559	400
Deposit No. 2				Total: 2,000 m
MR2-18-P01	565778	7914192	571	350
MR2-18-P02	565894	7914235	590	350
MR2-18-P03	566158	7913902	570	325
MR2-18-P04	566284	7913940	580	325
MR2-18-P05	566324	7913691	477	325
MR2-18-P06	566369	7913364	376	325
Deposit No. 3				Total: 2,470m
MR3-18-P01	566976	7913794	547	325
MR3-18-P02	567138	7913514	440	230
MR3-18-P03	567244	7913547	449	240
MR3-18-P04	567354	7913561	450	225
MR3-18-P05	567599	7913648	464	175
MR3-18-P07	567772	7913486	420	325
MR3-18-P06	568186	7913636	420	325
MR3-18-P08	568561	7913869	480	325
MR3-18-P09	569049	7914556	500	300
				Grand Total: 7,000 m

Notes:

All coordinates in UTM, NAD 83, Zone 17.

Attachment 3 – UTM Coordinates of Proposed Water Sources

Table A-3-1 – Proposed New Water Sources

Water Source ID	Easting (m)	Northing (m)	Elevation (masl)
WS-18-01	563750	7916100	592
WS-18-02	563900	7917290	567
WS-18-03	564220	7917540	565
WS-18-04	565560	7917630	560
WS-18-05	565970	7917610	560
WS-18-06	566080	7917910	560
WS-18-07	567270	7918050	565

Notes:

All coordinates in UTM, NAD 83, Zone 17.

Table A-3-2 – Mary River Pumping Stations (PSs)

Pumping Station ID	Easting (m)	Northing (m)	Elevation (masl)
PS-1	563130	7912710	233
PS-2	564160	7913010	233
PS-3	565530	7912940	284
PS-4*	567785	7912735	313
PS-5	567785	7912735	313

Notes:

All coordinates in UTM, NAD 83, Zone 17.

*Pump already in place at location.



May 25, 2018

Jonathan Mesher
Resource Management Officer
Indigenous and Northern Affairs Canada (INAC)
Box 100
Iqaluit, NU X0A 0H0

**Re: 2018 Geotechnical Drilling Program – Additional Mine Site Infrastructure
Type 'B' Water Licence 2BE-MRY1421
Commercial Lease No. Q13C301**

Baffinland Iron Mines Corporation (Baffinland) plans to commence a geotechnical drilling program to evaluate the geotechnical conditions at the proposed locations (Attachment 1) for a proposed truck workshop and potential additional fuel storage facilities at the Mary River Mine Site (Mine Site). The drilling program is being managed by Hatch Ltd. and performed by Boart Longyear. The drilling program is scheduled to commence in early June 2018 and expected to be completed by late August 2018. The drilling program consists of two (2) boreholes in the vicinity of the proposed truck workshop, and ten (10) boreholes across two potential fuel storage locations. Five (5) of the boreholes, identified as BG18-TF-05, 07, 08, 09 & 10, will be within 30 metres of nearby water bodies. Proposed drill hole locations, including coordinates, are presented in Attachment 1.

This drilling program is expected to require minimal water usage and will be performed using a tracked drill rig (LS 250) capable of drilling using both sonic and rotary coring techniques. Other supporting vehicles include a flatbed for hauling water and other supplies and a skid steer for moving drill rods and other equipment/supplies.

To support drilling operations, water will be sourced from Camp Lake, a water source already identified under Baffinland's Type A Water Licence 2AM-MRY1325 Amend. 1 (Type A Water Licence). Baffinland plans to track water usage volumes by means of calibrated one cubic metre totes.

Environmental monitoring will be performed, including pre, during and post drilling inspections. Drill waste will be disposed of in natural depressions or sumps consistent with Part F, Item 4 of Baffinland's Type B Water Licence 2BE-MRY1421 (Type B Water Licence). Drill water runoff and siltation mitigation measures consistent with Baffinland's Environmental Protection Plan BAF-PH1-830-P16-0008 r1 will be employed as required.

Despite best planning, it should be noted that unforeseen circumstances may preclude some changes in plans as the program proceeds. Baffinland will endeavor to inform the Inspector and other relevant parties in such circumstances.

In accordance with the conditions of the Type B Water Licence, this letter and attachment provides Baffinland's notification for the drilling of a total twelve (12) boreholes, five (5) of which will be closer than 30 metres from the ordinary high water mark of nearby water bodies, and the identification of the water source to be used for the planned drilling activities.

We trust that this information meets the various notification requirements for geotechnical drilling at the Project. Please do not hesitate to contact the undersigned, should you have any questions or comments.

Regards,



Christopher Murray
Environmental & Regulatory Compliance Manager

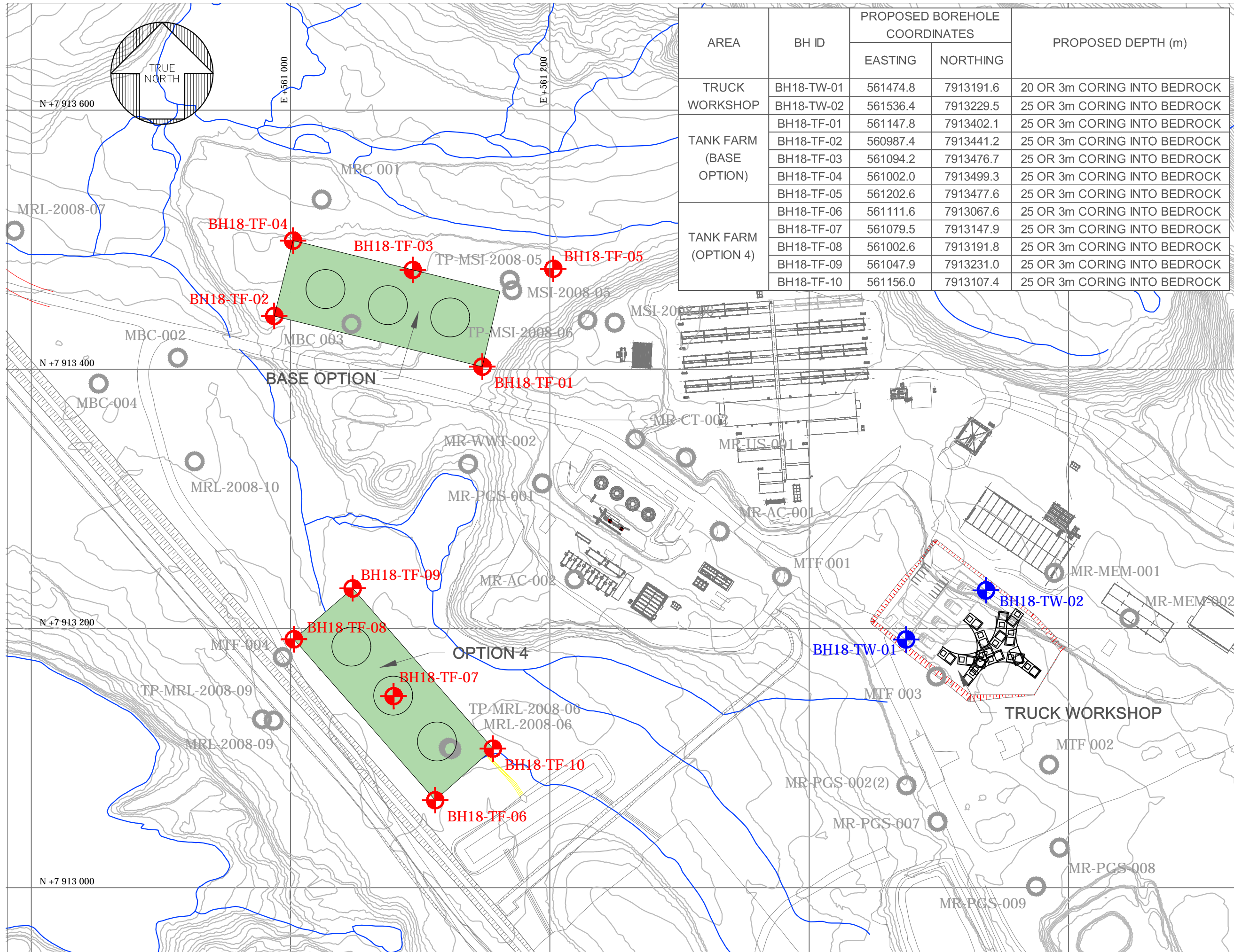
Attachments:

Attachment 1: Proposed Borehole Location Plan – Tank Farm and Truck Workshop




Cc: Timothy Ray Sewell, Megan Lord-Hoyle, William Bowden, Connor Devereaux, Steve Borcsok
Andrew Vermeer (Baffinland)
Assol Kubeisinova, Karén Kharatyan (NWB)
Ian Parsons, Wajid Daouda (INAC)
Fai Ndofor (QIA)

Attachment 1

Proposed Borehole Location Plan – Tank Farm and Truck Workshop



AREA	BH ID	PROPOSED BOREHOLE COORDINATES		PROPOSED DEPTH (m)
		EASTING	NORTHING	
TRUCK WORKSHOP	BH18-TW-01	561474.8	7913191.6	20 OR 3m CORING INTO BEDROCK
	BH18-TW-02	561536.4	7913229.5	25 OR 3m CORING INTO BEDROCK
TANK FARM (BASE OPTION)	BH18-TF-01	561147.8	7913402.1	25 OR 3m CORING INTO BEDROCK
	BH18-TF-02	560987.4	7913441.2	25 OR 3m CORING INTO BEDROCK
	BH18-TF-03	561094.2	7913476.7	25 OR 3m CORING INTO BEDROCK
	BH18-TF-04	561002.0	7913499.3	25 OR 3m CORING INTO BEDROCK
	BH18-TF-05	561202.6	7913477.6	25 OR 3m CORING INTO BEDROCK
TANK FARM (OPTION 4)	BH18-TF-06	561111.6	7913067.6	25 OR 3m CORING INTO BEDROCK
	BH18-TF-07	561079.5	7913147.9	25 OR 3m CORING INTO BEDROCK
	BH18-TF-08	561002.6	7913191.8	25 OR 3m CORING INTO BEDROCK
	BH18-TF-09	561047.9	7913231.0	25 OR 3m CORING INTO BEDROCK
	BH18-TF-10	561156.0	7913107.4	25 OR 3m CORING INTO BEDROCK

- LEGEND**
-  EXISTING BOREHOLE
 -  PROPOSED BOREHOLE FOR TANK FARM
 -  PROPOSED BOREHOLE FOR TRUCK WORKSHOP



HATCH

BAFFINLAND IRON MINES CORPORATION
MARY RIVER EXPANSION PROJECT

PROPOSED BOREHOLE LOCATION PLAN - TANK FARM AND TRUCK WORKSHOP

FIGURE 1

REV. A

APPENDIX D
2018 PHOTO JOURNAL

APPENDIX D.1.1

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – CPT-01



PHOTO 1 - Pre-Drilling Conditions at CPT-01, April 2018



PHOTO 2 - Post-Drilling Conditions at CPT-01, April 2018

APPENDIX D.1.2

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – CPT-01B



PHOTO 1 - Post-Drilling Conditions at CPT-01B, April 2018

APPENDIX D.1.3

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – CPT-02



PHOTO 1 - Drilling Conditions at CPT-02, April 2018

APPENDIX D.1.4

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – CPT-03



PHOTO 1 - Pre-Drilling Conditions at CPT-03, April 2018



PHOTO 2 - Drilling Conditions at CPT-03, April 2018



PHOTO 3 - Post-Drilling Conditions at CPT-03, April 2018

APPENDIX D.1.5

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – CPT-04



PHOTO 1 - Pre-Drilling Conditions at CPT-04, April 2018



PHOTO 2 - Post-Drilling Conditions at CPT-04, April 2018

APPENDIX D.1.6

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – CPT-05



PHOTO 1 - Pre-Drilling Conditions at CPT-05, April 2018



PHOTO 2 - Drilling Conditions at CPT-05, April 2018



PHOTO 3 - Post-Drilling Conditions at CPT-05, April 2018

APPENDIX D.1.7

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – CPT-06



PHOTO 1 - Pre-Drilling Conditions at CPT-06, April 2018



PHOTO 2 - Post-Drilling Conditions at CPT-06, April 2018

APPENDIX D.1.8

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – CPT-08



PHOTO 1 - Drilling Conditions at CPT-08, April 2018

APPENDIX D.1.9

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – CPT-10



PHOTO 1 - Pre-Drilling Conditions at CPT-10, April 2018



PHOTO 1 - Drilling Conditions at CPT-10, April 2018

APPENDIX D.2.1

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-004



PHOTO 1 - Pre-Drilling Conditions at BH18-004, April 2018



PHOTO 2 - Drilling Conditions at BH18-004, April 2018



PHOTO 3 - Post-Drilling Conditions at BH18-004, April 2018

APPENDIX D.2.2

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-M001



PHOTO 1 - Pre-Drilling Conditions at BH18-M001, April 2018



PHOTO 2 - Drilling Conditions at BH18-M001, April 2018



PHOTO 3 - Post-Drilling Conditions at BH18-M001, April 2018

APPENDIX D.2.3

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-M002



PHOTO 1 - Pre-Drilling Conditions at BH18-M002, April 2018

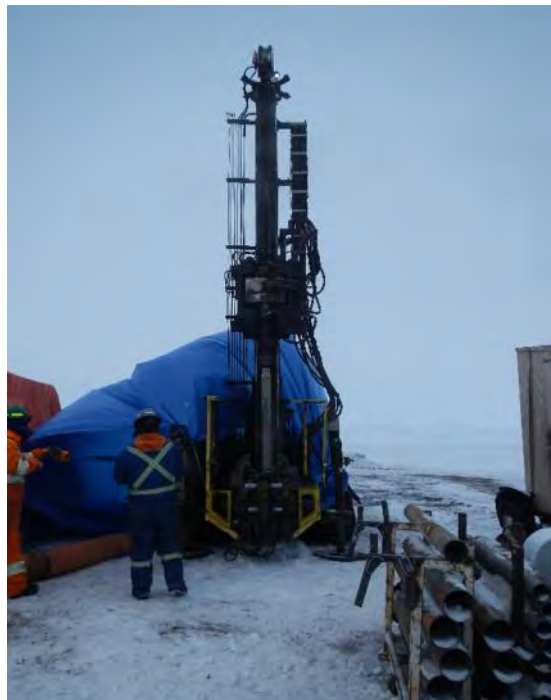


PHOTO 2 - Drilling Conditions at BH18-M002, April 2018



PHOTO 3 - Post-Drilling Conditions at BH18-M002, April 2018

APPENDIX D.2.4

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-M003



PHOTO 1 - Pre-Drilling Conditions at BH18-M003, April 2018

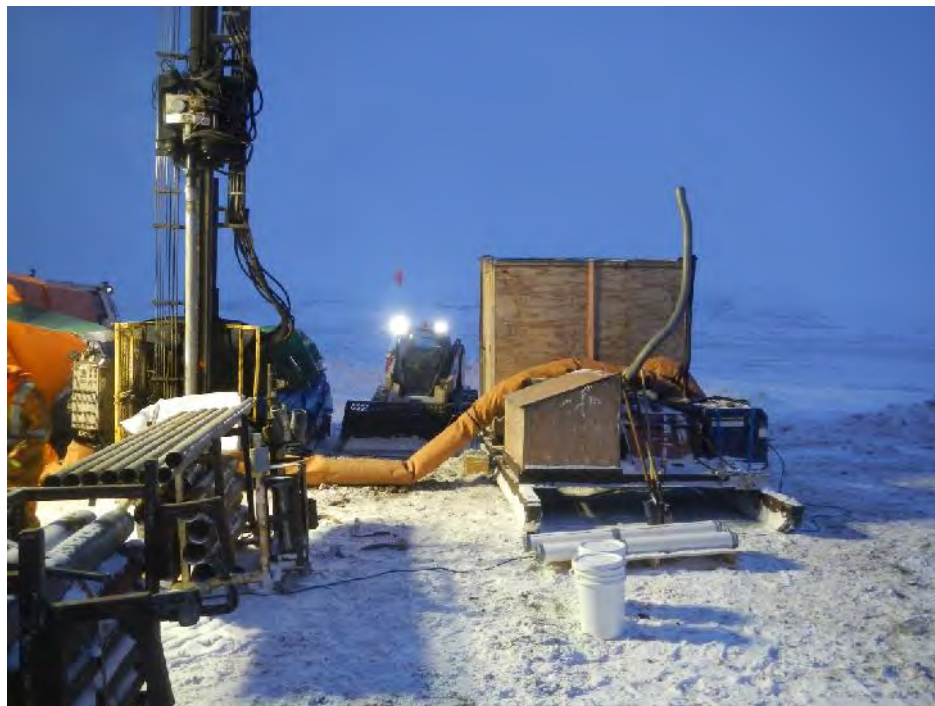


PHOTO 2 - Drilling Conditions at BH18-M003, April 2018



PHOTO 3 - Post-Drilling Conditions at BH18-M003, April 2018

APPENDIX D.3.1

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-BR15-1



PHOTO 1 - Pre-Drilling Conditions at BH18-BR15-1, April 2018

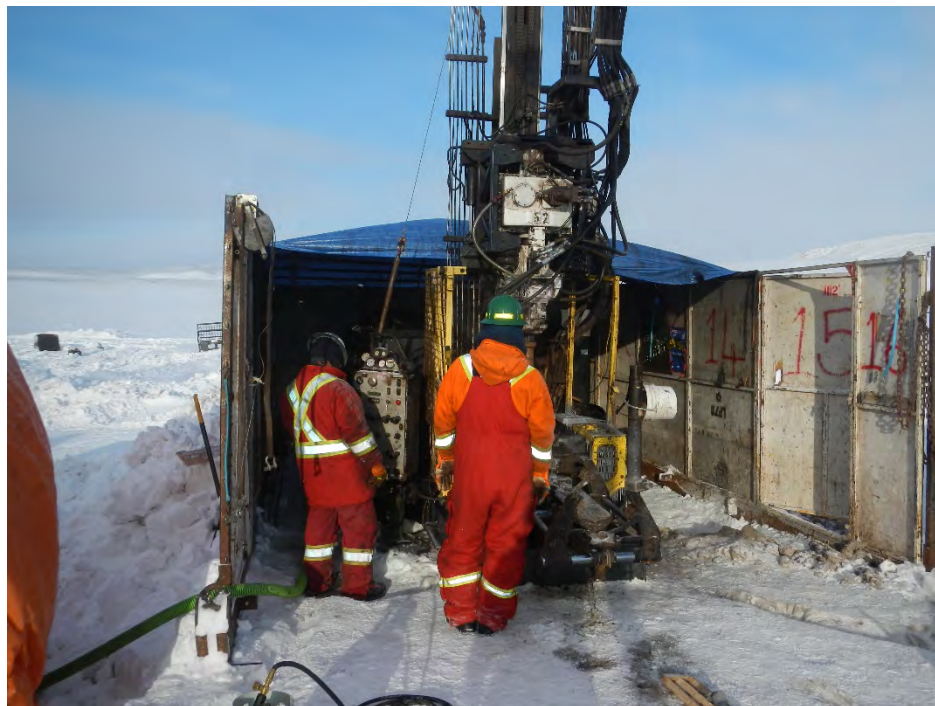


PHOTO 2 - Drilling Conditions at BH18-BR15-1, April 2018



PHOTO 3 - Post-Drilling Conditions at BH18-BR15-1, April 2018

APPENDIX D.3.2

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-BR15-2



PHOTO 1 - Pre-Drilling Conditions at BH18-BR15-2, April 2018

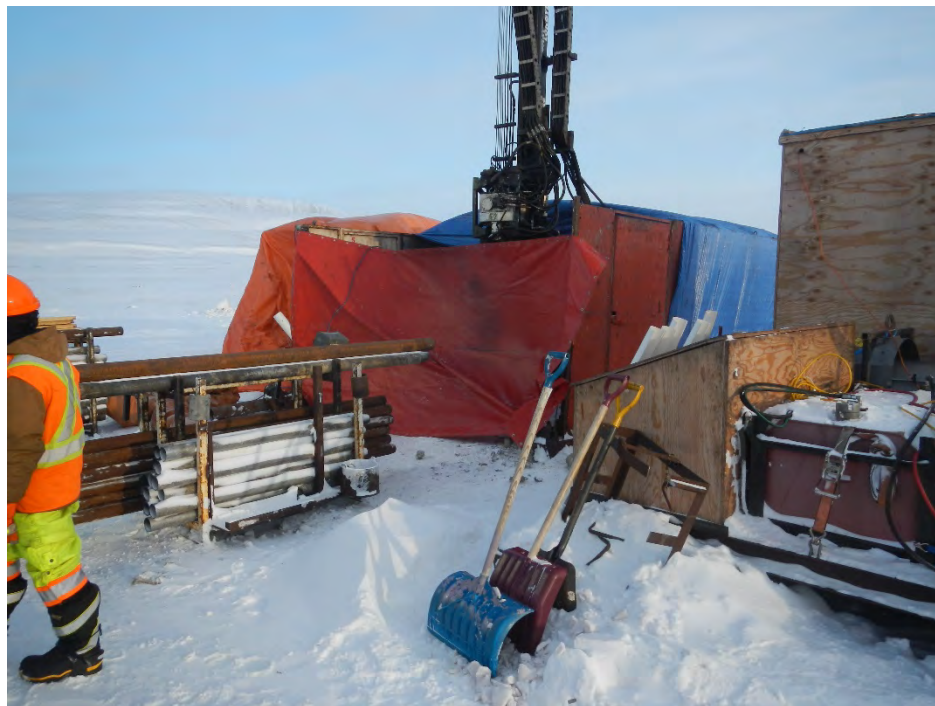


PHOTO 2 - Drilling Conditions at BH18-BR15-2, April 2018



PHOTO 3 - Post-Drilling Conditions at BH18-BR15-2, April 2018

APPENDIX D.3.3

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-BR102-1



PHOTO 1 - Pre-Drilling Conditions at BH18-BR102-1, April 2018

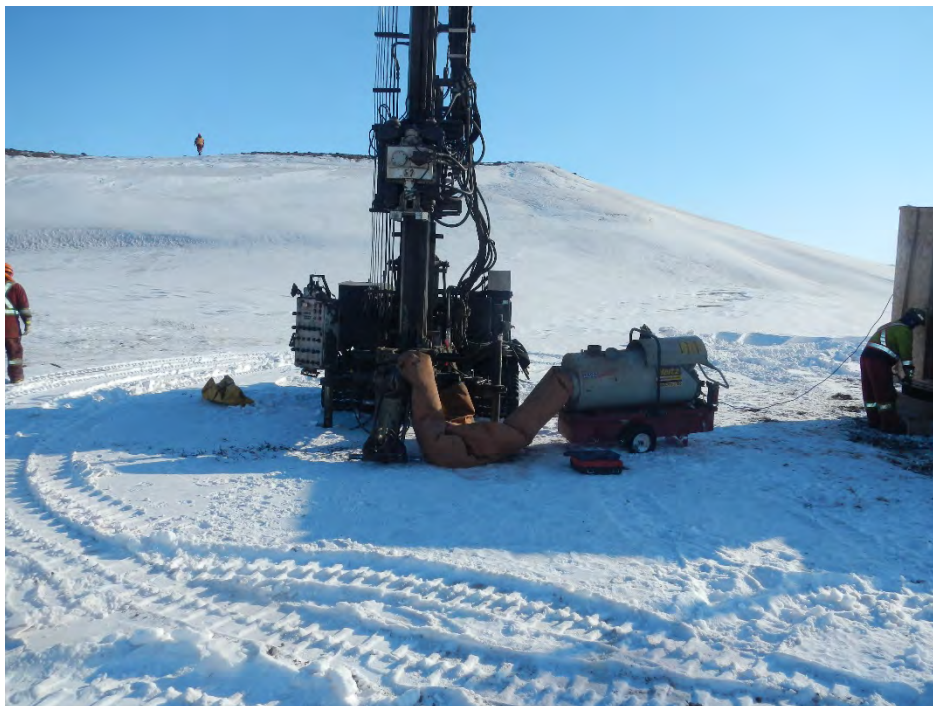


PHOTO 2 - Drilling Conditions at BH18-BR102-1, April 2018



PHOTO 3 - Post-Drilling Conditions at BH18-BR102-1, April 2018

APPENDIX D.3.4

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-BR102-2



PHOTO 1 - Pre-Drilling Conditions at BH18-BR102-2, April 2018



PHOTO 2 - Drilling Conditions at BH18-BR102-2, April 2018



PHOTO 3 - Post-Drilling Conditions at BH18-BR102-2, April 2018

APPENDIX D.3.5

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-BR70-1



PHOTO 1 - Pre-Drilling Conditions at BH18-BR70-1, April 2018



PHOTO 2 - Drilling Conditions at BH18-BR70-1, April 2018

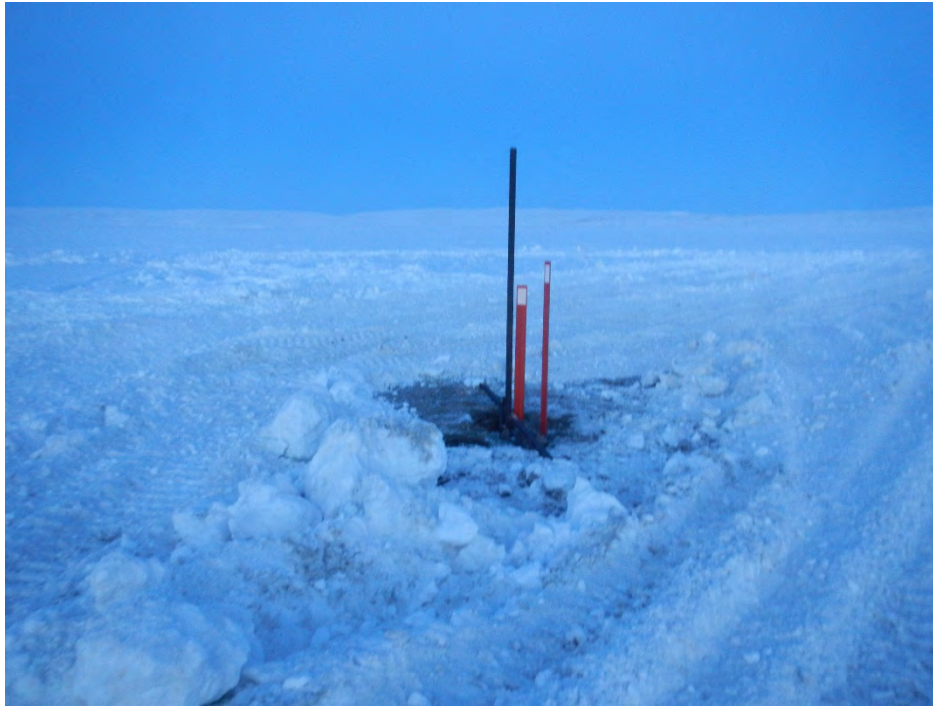


PHOTO 3 - Post-Drilling Conditions at BH18-BR70-1, April 2018

APPENDIX D.3.6

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-BR70-2



PHOTO 1 - Pre-Drilling Conditions at BH18-BR70-2, April 2018



PHOTO 2 - Drilling Conditions at BH18-BR70-2, April 2018



PHOTO 3 - Post-Drilling Conditions at BH18-BR70-2, April 2018

APPENDIX D.4.1

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-TF-01



PHOTO 1 - Pre-Drilling Conditions at BH18-TF-01, June 2018



PHOTO 2 - Drilling Conditions at BH18-TF-01, June 2018



PHOTO 3 - Post-Drilling Conditions at BH18-TF-01, June 2018

APPENDIX D.4.2

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-TF-02



PHOTO 1 - Pre-Drilling Conditions at BH18-TF-02, June 2018



PHOTO 2 - Drilling Conditions at BH18-TF-02, June 2018



PHOTO 3 - Post-Drilling Conditions at BH18-TF-02, June 2018

APPENDIX D.4.3

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-TF-03



PHOTO 1 - Pre-Drilling Conditions at BH18-TF-03, June 2018



PHOTO 2 - Drilling Conditions at BH18-TF-03, June 2018



PHOTO 3 - Post-Drilling Conditions at BH18-TF-03, June 2018

APPENDIX D.4.4

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-TF-04



PHOTO 1 - Pre-Drilling Conditions at BH18-TF-04, June 2018



PHOTO 2 - Drilling Conditions at BH18-TF-04, June 2018



PHOTO 3 - Post-Drilling Conditions at BH18-TF-04, June 2018

APPENDIX D.4.5

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-TF-05



PHOTO 1 - Pre-Drilling Conditions at BH18-TF-05, June 2018



PHOTO 2 - Drilling Conditions at BH18-TF-05, June 2018



PHOTO 3 - Post-Drilling Conditions at BH18-TF-05, June 2018

APPENDIX D.4.6

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-TF-7N



PHOTO 1 - Pre-Drilling Conditions at BH18-TF-7N, June 2018



PHOTO 2 - Drilling Conditions at BH18-TF-7N, June 2018



PHOTO 3 - Post-Drilling Conditions at BH18-TF-7N, June 2018

APPENDIX D.4.7

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-TF-8N



PHOTO 1 - Pre-Drilling Conditions at BH18-TF-8N, June 2018



PHOTO 2 - Drilling Conditions at BH18-TF-8N, June 2018



PHOTO 3 - Post-Drilling Conditions at BH18-TF-8N, June 2018

APPENDIX D.4.8

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-TW-01



PHOTO 1 - Pre-Drilling Conditions at BH18-TW-01, June 2018



PHOTO 2 - Drilling Conditions at BH18-TW-01, June 2018



PHOTO 3 - Post-Drilling Conditions at BH18-TW-01, June 2018

APPENDIX D.4.9

PHOTOGRAPHS

2018 GEOTECHNICAL LOCATION – BH18-TW-02



PHOTO 1 - Pre-Drilling Conditions at BH18-TW-02, June 2018



PHOTO 2 - Post-Drilling Conditions at BH18-TW-02, June 2018

APPENDIX D.5.1

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR3-18-239



PHOTO 1 - Pre-Drilling Conditions at MR3-18-239, June 2018



PHOTO 2 - Drilling Conditions at MR3-18-239, June 2018



PHOTO 3 - Post-Drilling Conditions at MR3-18-239, August 2018

APPENDIX D.5.2

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR3-18-240



PHOTO 1 - Pre-Drilling Conditions at MR3-18-240, June 2018



PHOTO 2 - Drilling Conditions at MR3-18-240, June 2018



PHOTO 3 - Post-Drilling Conditions at MR3-18-240, June 2018

APPENDIX D.5.3

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR3-18-241



PHOTO 1 - Pre-Drilling Conditions at MR3-18-241, June 2018



PHOTO 2 - Drilling Conditions at MR3-18-241, June 2018



PHOTO 3 - Post-Drilling Conditions at MR3-18-241, September 2018

APPENDIX D.5.4

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR3-18-244



PHOTO 1 - Pre-Drilling Conditions at MR3-18-244, July 2018



PHOTO 2 - Drilling Conditions at MR3-18-244, July 2018



PHOTO 3 - Post-Drilling Conditions at MR3-18-244, September 2018

APPENDIX D.5.5

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR3-18-243



PHOTO 1 - Pre-Drilling Conditions at MR3-18-243, May 2018



PHOTO 2 - Drilling Conditions at MR3-18-243, July 2018



PHOTO 3 - Post-Drilling Conditions at MR3-18-243, September 2018

APPENDIX D.5.6

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR2-18-242



PHOTO 1 - Pre-Drilling Conditions at MR2-18-242, June 2018



PHOTO 2 - Drilling Conditions at MR2-18-242, June 2018



PHOTO 3 - Post-Drilling Conditions at MR2-18-242, June 2018

APPENDIX D.5.7

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR3-18-246



PHOTO 1 - Pre-Drilling Conditions at MR3-18-246, May 2018



PHOTO 2 - Drilling Conditions at MR3-18-246, August 2018



PHOTO 3 - Post-Drilling Conditions at MR3-18-246, September 2018

APPENDIX D.5.8

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR2-18-245



PHOTO 1 - Pre-Drilling Conditions at MR2-18-245, July 2018



PHOTO 2 - Drilling Conditions at MR2-18-245, July 2018



PHOTO 3 - Post-Drilling Conditions at MR2-18-245, September 2018

APPENDIX D.5.9

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR3-18-248



PHOTO 1 - Pre-Drilling Conditions at MR3-18-248, May 2018



PHOTO 2 - Drilling Conditions at MR3-18-248, August 2018



PHOTO 3 - Post-Drilling Conditions at MR3-18-248, September 2018

APPENDIX D.5.10

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR1-18-249

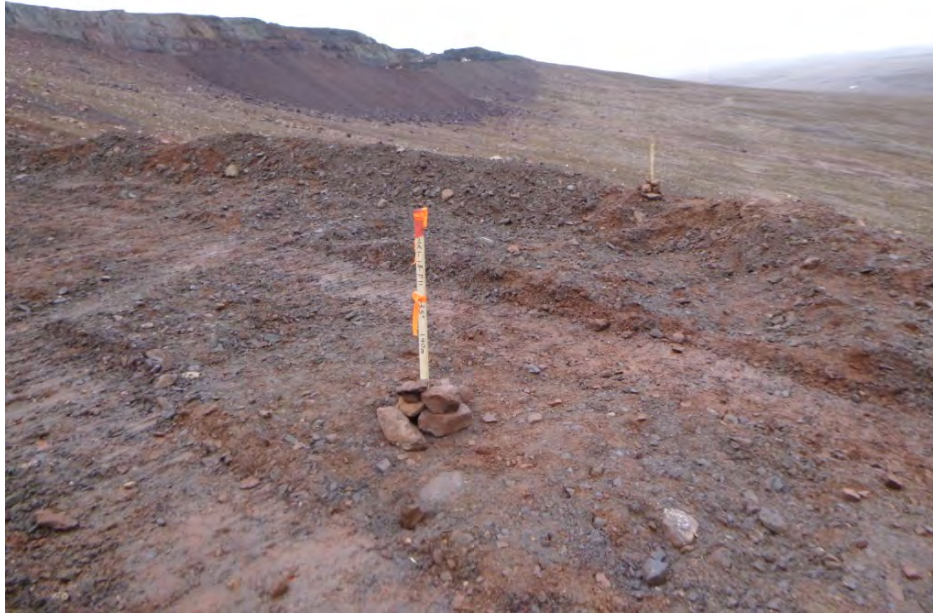


PHOTO 1 - Pre-Drilling Conditions at MR1-18-249, August 2018



PHOTO 2 - Drilling Conditions at MR1-18-249, August 2018



PHOTO 3 - Post-Drilling Conditions at MR1-18-249, August 2018

APPENDIX D.5.11

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR1-18-247



PHOTO 1 - Pre-Drilling Conditions at MR1-18-247, July 2018



PHOTO 2 - Drilling Conditions at MR1-18-247, August 2018



PHOTO 3 - Post-Drilling Conditions at MR1-18-247, August 2018

APPENDIX D.5.12

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR1-18-P05



PHOTO 1 - Pre-Drilling Conditions at MR1-18-P05, July 2018



PHOTO 2 - Drilling Conditions at MR1-18-P05, August 2018



PHOTO 3 - Post-Drilling Conditions at MR1-18-P05, September 2018

APPENDIX D.5.13

PHOTOGRAPHS

2018 EXPLORATION LOCATION – MR1-18-250



PHOTO 1 - Pre-Drilling Conditions at MR1-18-250, September 2018



PHOTO 2 - Drilling Conditions at MR1-18-250, September 2018



PHOTO 3 - Post-Drilling Conditions at MR1-18-250, September 2018

APPENDIX E
ENVIRONMENTAL MONITORING LOGS

APPENDIX E.1.1
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-01



PRE-DRILLING INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	Dayshift
Proposed hole ID:	CPT-01
Final hole ID:	CPT-01

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,619
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,976,751
Area: Milne Inlet	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 0 m	Target depth: 8 feet depth or more
Description of drillhole location:	On sea ice
Purpose of drillhole:	Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Chidiac
Drill contractor:	Conetech		
Drill #:	0		
Expected start of drilling:	01-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,619	N 7,976,751

Environment Assessment

Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	Ice Thickness
Environmental concerns?:	Hydraulic/Fuel leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes
Location of photos:	Email to K. Buttons

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	12:00 AM
Hole ID:	CPT-01

HOLE INFORMATION:

Collar location:	E	503,619
Location: Milne Port Section: Milne Inlet	(NAD 83)	N 7,976,751

DRILLING INFORMATION

Drill contractor:	Tretan	Drill Type:	Auger, Probe with rods, shear vane
Drill personnel:	Jamie McKay, Isaac Bacon, Max Ng		
Drill #:	0		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole?	If yes, what was lost?:	N/A
No		

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	N/A	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	N/A
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: Ice Thickness

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	N/A
Location of photos: Email to K. Buttons			

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Emile Chidiac
Date: 2018-04-01
Time: 12:00 AM
Hole ID: CPT-01

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,619
Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,976,751
Area: Milne Inlet
NTS: N/A
Description of drillhole location: On sea ice
Purpose of drillhole: Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Drill Contractor: Conetech
Drill #: 0
End Date of drilling: 2018-04-01

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: N/A

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No If yes, how many?: N/A

Has hole been properly marked? Yes

Any environmental concerns? No If yes, please describe below: N/A

Any additional work required? No If yes, please describe below: No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No

Location of photos: Email to K. Buttons

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	Boat Foreman signature:
Date:	Date: 2018-04-01

APPENDIX E.1.2
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-01B



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Emile Chidiac		
Date:	4/17/2018		
Time:	11:34 PM		
Proposed Hole ID:	CPT18-01B	Final hole ID:	CPT18-01B

PROPOSED HOLE INFORMATION:			
Location:	Milne Port	Collar location:	E 503,621
Project:	Mary River Expansion Study Stage 3	(NAD 83)	N 7,976,742
Area:	Ore Dock No. 2	Dip:	90
NTS:	N/A	Azimuth:	N/A
Elevation:	-15.7	Target depth:	1.55 m from mudline
Description of drillhole location:	Ore Dock No. 2		
Purpose of drillhole:	To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:			
Has site been approved by drill foreman?:	Yes	Foreman:	MANG
Drill contractor:	ConeTec		
Drill #:	N/A		
Expected start of drilling:	17-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,621 N	7,976,742

Environment Assessment			
Water source:	None		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	0
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	Hydraulic/ Fuel leaks

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	General Site
Location of photos:	0

COMMENTS:	
None	



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	4/17/2018
Time:	11:45 PM
Hole ID:	CPT18-01B

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	503,621
		(NAD 83)	N 7,976,742

DRILLING INFORMATION

Drill contractor:	ConeTec	Drill Type:	N/A
Drill personnel:	MANG/DMAC		
Drill #:	N/A		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: No
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: No
Assessment of effectiveness: N/A
Salt usage per day: N/A
Flow Meter Reading: N/A End of N/S 12:00 AM End of D/S 12:00 AM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No
Action plan (if required): N/A
Responsible party: N/A **Date to be completed:** N/A
Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	0	Photo of sediment control measures?	0
Location of photos:	0		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Emile Chidiac

Date: 4/17/2018

Time: 11:55 PM

Hole ID: CPT18-01B

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,621
Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,976,742
Area: Ore Dock No. 2
NTS: N/A
Description of drillhole location: Ore Dock No. 2
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017

DRILLING INFORMATION:

Drill Contractor: ConeTec
Drill #: N/A
End Date of drilling: 4/17/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	0	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up?	0
Location of photos:	0

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/17/2018

APPENDIX E.1.3
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-02



PRE-DRILLING INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	Dayshift
Proposed hole ID:	CPT-02
Final hole ID:	CPT-02

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,757
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,976,767
Area: Milne Inlet	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 0 m	Target depth: 4 feet depth or more
Description of drillhole location:	On sea ice
Purpose of drillhole:	Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Chidiac
Drill contractor:	Conetech		
Drill #:	0		
Expected start of drilling:	01-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,757	N 7,976,767

Environment Assessment

Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	Ice Thickness
Environmental concerns?:	Hydraulic/Fuel leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	No
Location of photos:	Email to K. Buttons

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	12:00 AM
Hole ID:	CPT-02

HOLE INFORMATION:

Location: Milne Port	Section: Milne Inlet	Collar location: E	503,757
		(NAD 83)	N 7,976,767

DRILLING INFORMATION

Drill contractor:	Tretan	Drill Type:	Auger, Probe
Drill personnel:	Jamie McKay, Isaac Bacon, Max Ng		
Drill #:	0		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A				
Assessment of effectiveness:	N/A				
Salt usage per day:	N/A				
Flow Meter Reading:	N/A	End of N/S	6:00 AM	End of D/S	6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	N/A	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	N/A
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: Ice Thickness

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes | Photo of sediment control measures? N/A
Location of photos: Email to K. Buttons

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Emile Chidiac
Date: 2018-04-01
Time: 12:00 AM
Hole ID: CPT-02

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,757
Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,976,767
Area: Milne Inlet
NTS: N/A
Description of drillhole location: On sea ice
Purpose of drillhole: Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Drill Contractor: Conetech
Drill #: 0
End Date of drilling: 2018-04-01

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	N/A	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	Yes	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: Email to K. Buttons

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	Boart Foreman signature:
Date:	Date: 2018-04-01

APPENDIX E.1.4
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-03



PRE-DRILLING INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac		
Date:	2018-04-01		
Time:	Dayshift		
Proposed hole ID:	CPT-03	Final hole ID:	CPT-03

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location:	E	503,764
Project: Mary River Expansion Study Stage 3	(NAD 83)	N	7,976,718
Area: Milne Inlet	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 0 m	Target depth:	4 feet depth or more	
Description of drillhole location:	On sea ice		
Purpose of drillhole:	Drill through ice for cone penetration testing on seabed		

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Chidiac
Drill contractor:	Conetech		
Drill #:	0		
Expected start of drilling:	01-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,764	N 7,976,718

Environment Assessment

Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	Ice Thickness
Environmental concerns?:	Hydraulic/Fuel leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes
Location of photos:	Email to K. Buttons

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	12:00 AM
Hole ID:	CPT-03

HOLE INFORMATION:

Location: Milne Port	Section: Milne Inlet	Collar location: E	503,764
		(NAD 83)	N 7,976,718

DRILLING INFORMATION

Drill contractor:	Tretan	Drill Type:	Auger, Probe
Drill personnel:	Jamie McKay, Isaac Bacon, Max Ng		
Drill #:	0		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A			
Assessment of effectiveness:	N/A			
Salt usage per day:	N/A			
Flow Meter Reading:	N/A	End of N/S	6:00 AM	End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	N/A	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	N/A
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: Ice Thickness

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? N/A
Location of photos: Email to K. Buttons

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Emile Chidiac
Date: 2018-04-01
Time: 12:00 AM
Hole ID: CPT-03

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,764
Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,976,718
Area: Milne Inlet
NTS: N/A
Description of drillhole location: On sea ice
Purpose of drillhole: Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Drill Contractor: Conetech
Drill #: 0
End Date of drilling: 2018-04-01

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	N/A	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	Yes	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: No
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up?	No
Location of photos:	Email to K. Buttons

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	Boart Foreman signature:
Date:	Date: 2018-04-01

APPENDIX E.1.5
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-04



PRE-DRILLING INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac		
Date:	2018-04-01		
Time:	Dayshift		
Proposed hole ID:	CPT-04	Final hole ID:	CPT-04

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location:	E	503,700
Project: Mary River Expansion Study Stage 3	(NAD 83)	N	7,976,702
Area: Milne Inlet	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 0 m	Target depth:	4 feet depth or more	
Description of drillhole location:	On sea ice		
Purpose of drillhole:	Drill through ice for cone penetration testing on seabed		

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Chidiac
Drill contractor:	Conetech		
Drill #:	0		
Expected start of drilling:	01-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,700	N 7,976,702

Environment Assessment

Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	Ice Thickness
Environmental concerns?:	Hydraulic/Fuel leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes
Location of photos:	Email to K. Buttons

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	12:00 AM
Hole ID:	CPT-04

HOLE INFORMATION:

Location: Milne Port	Section: Milne Inlet	Collar location: E	503,700
		(NAD 83)	N 7,976,702

DRILLING INFORMATION

Drill contractor: Tretan	Drill Type: Auger, Probe wi
Drill personnel: Jamie McKay, Isaac Bacon, Max Ng	
Drill #: 0	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: N/A
Assessment of effectiveness: N/A
Salt usage per day: N/A
Flow Meter Reading: N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)
No

Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	N/A	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	N/A
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: Ice Thickness

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	N/A
Location of photos:	Email to K. Buttons		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Emile Chidiac
Date: 2018-04-01
Time: 12:00 AM
Hole ID: CPT-04

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,700
Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,976,702
Area: Milne Inlet
NTS: N/A
Description of drillhole location: On sea ice
Purpose of drillhole: Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Drill Contractor: Conetech
Drill #: 0
End Date of drilling: 2018-04-01

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	N/A	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	Yes	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: Email to K. Buttons

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	Boart Foreman signature:
Date:	Date: 2018-04-01

APPENDIX E.1.6
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-05



PRE-DRILLING INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	Dayshift
Proposed hole ID:	CPT-05
Final hole ID:	CPT-05

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,624
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,976,695
Area: Milne Inlet	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 0 m	Target depth: 4 feet depth or more
Description of drillhole location:	On sea ice
Purpose of drillhole:	Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Chidiac
Drill contractor:	Conetech		
Drill #:	0		
Expected start of drilling:	01-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E 503,624	N 7,976,695	

Environment Assessment

Water source:	N/A
Pump Station #:	N/A
Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A (Photo required)
Manual drainage constructed?:	N/A (Photo required)
Silt fence(s) constructed?:	N/A (Photo required)
Silt Bag Used:	N/A (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	Ice Thickness
Environmental concerns?:	Hydraulic/Fuel leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes
Location of photos:	Email to K. Buttons

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	12:00 AM
Hole ID:	CPT-05

HOLE INFORMATION:

Location: Milne Port	Section: Milne Inlet	Collar location: E	503,624
		(NAD 83)	N 7,976,695

DRILLING INFORMATION

Drill contractor:	Tretan	Drill Type:	Auger, Probe
Drill personnel:	Jamie McKay, Isaac Bacon, Max Ng		
Drill #:	0		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A		
Assessment of effectiveness:	N/A		
Salt usage per day:	N/A		
Flow Meter Reading:	N/A	End of N/S 6:00 AM	End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)
No

Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	N/A	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	N/A
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: Ice Thickness

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Email to K. Buttons		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Emile Chidiac

Date: 2018-04-01

Time: 12:00 AM

Hole ID: CPT-05

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,624

Project: Mary River Expansion Study Stage 3 **(NAD 83)** N 7,976,695

Area: Milne Inlet

NTS: N/A

Description of drillhole location: On sea ice

Purpose of drillhole: Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Drill Contractor: Conetech

Drill #: 0

End Date of drilling: 2018-04-01

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: N/A

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No **If yes, how many?:** N/A

Has hole been properly marked? Yes

Any environmental concerns? No **If yes, please describe below:** N/A

Any additional work required? No **If yes, please describe below:** No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No

Location of photos: Email to K. Buttons

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:

Date:

Boat Foreman signature:

Date: 2018-04-01

APPENDIX E.1.7
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-06



PRE-DRILLING INSPECTION REPORT 2018

HATCH personnel: Emile Chidiac
Date: 2018-04-01
Time: Dayshift
Proposed hole ID: CPT-06 **Final hole ID:** CPT-06

PROPOSED HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,572
Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,976,628
Area: Milne Inlet **Dip:** 90
NTS: N/A **Azimuth:** N/A
Elevation: 0 m **Target depth:** 4 feet depth or more
Description of drillhole location: On sea ice
Purpose of drillhole: Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** Emile Chidiac
Drill contractor: Conetech
Drill #: 0
Expected start of drilling: 01-Apr-18
Is moving of drillhole required?: No
If yes, provide reason:

New Collar Location E 503,572 N 7,976,628

Environment Assessment

Water source: N/A
Pump Station #: N/A **Portable Tanks:** N/A
Natural depression/ drainage evident?: N/A (Photo required)
Manual drainage constructed?: N/A (Photo required)
Silt fence(s) constructed?: N/A (Photo required)
Silt Bag Used: N/A (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)
None
Is site safe for drilling?:
Yes
Safety concerns/issues:
Ice Thickness
Environmental concerns?:
Hydraulic/Fuel leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: Email to K. Buttons

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	12:00 AM
Hole ID:	CPT-06

HOLE INFORMATION:

Location: Milne Port	Section: Milne Inlet	Collar location: E	503,572
		(NAD 83)	N 7,976,628

DRILLING INFORMATION

Drill contractor:	Tretan	Drill Type:	Auger, Probe
Drill personnel:	Jamie McKay, Isaac Bacon, Max Ng		
Drill #:	0		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A				
Assessment of effectiveness:	N/A				
Salt usage per day:	N/A				
Flow Meter Reading:	N/A	End of N/S	6:00 AM	End of D/S	6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	N/A	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	N/A
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: Ice Thickness

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? N/A
Location of photos: Email to K. Buttons

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Emile Chidiac

Date: 2018-04-01

Time: 12:00 AM

Hole ID: CPT-06

HOLE INFORMATION:

Location: Milne Port	Collar location: E	503,572
Project: Mary River Expansion Study Stage 3	(NAD 83)	N 7,976,628
Area: Milne Inlet		
NTS: N/A		
Description of drillhole location: On sea ice		
Purpose of drillhole: Drill through ice for cone penetration testing on seabed		

DRILLING INFORMATION:

Drill Contractor: Conetech
Drill #: 0
End Date of drilling: 2018-04-01

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	N/A	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	Yes	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: No
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: Email to K. Buttons

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	Boat Foreman signature:
Date:	Date: 2018-04-01

APPENDIX E.1.8
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-07



PRE-DRILLING INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac		
Date:	2018-04-01		
Time:	Dayshift		
Proposed hole ID:	CPT-07	Final hole ID:	CPT-07

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location:	E	503,773
Project: Mary River Expansion Study Stage 3	(NAD 83)	N	7,976,640
Area: Milne Inlet	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 0 m	Target depth:	4 feet depth or more	
Description of drillhole location:	On sea ice		
Purpose of drillhole:	Drill through ice for cone penetration testing on seabed		

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Chidiac
Drill contractor:	Conetech		
Drill #:	0		
Expected start of drilling:	01-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,773	N 7,976,640

Environment Assessment

Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	Ice Thickness
Environmental concerns?:	Hydraulic/Fuel leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	No
Location of photos:	Email to K. Buttons

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	12:00 AM
Hole ID:	CPT-07

HOLE INFORMATION:

Location: Milne Port	Section: Milne Inlet	Collar location: E	503,773
		(NAD 83)	N 7,976,640

DRILLING INFORMATION

Drill contractor:	Tretan	Drill Type:	Auger, Probe
Drill personnel:	Jamie McKay, Isaac Bacon, Max Ng		
Drill #:	0		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A				
Assessment of effectiveness:	N/A				
Salt usage per day:	N/A				
Flow Meter Reading:	N/A	End of N/S	6:00 AM	End of D/S	6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	N/A	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	N/A
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: Ice Thickness

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	N/A
Location of photos:	Email to K. Buttons		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Emile Chidiac

Date: 2018-04-01

Time: 12:00 AM

Hole ID: CPT-07

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,773

Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,976,640

Area: Milne Inlet

NTS: N/A

Description of drillhole location: On sea ice

Purpose of drillhole: Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Drill Contractor: Conetech

Drill #: 0

End Date of drilling: 2018-04-01

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: N/A

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No If yes, how many?: N/A

Has hole been properly marked? Yes

Any environmental concerns? No If yes, please describe below: N/A

Any additional work required? No If yes, please describe below: No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No

Location of photos: Email to K. Buttons

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:

Boat Foreman signature:

Date:

Date: 2018-04-01

APPENDIX E.1.9
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-08



PRE-DRILLING INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac		
Date:	2018-04-01		
Time:	Dayshift		
Proposed hole ID:	CPT-08	Final hole ID:	CPT-08

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location:	E	503,970
Project: Mary River Expansion Study Stage 3	(NAD 83)	N	7,976,660
Area: Milne Inlet	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 0 m	Target depth:	4 feet depth or more	
Description of drillhole location:	On sea ice		
Purpose of drillhole:	Drill through ice for cone penetration testing on seabed		

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Chidiac
Drill contractor:	Conetech		
Drill #:	0		
Expected start of drilling:	01-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,970	N 7,976,660

Environment Assessment

Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	Ice Thickness
Environmental concerns?:	Hydraulic/Fuel leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	No
Location of photos:	Email to K. Buttons

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	12:00 AM
Hole ID:	CPT-08

HOLE INFORMATION:

Location: Milne Port	Section: Milne Inlet	Collar location: E	503,970
		(NAD 83)	N 7,976,660

DRILLING INFORMATION

Drill contractor:	Tretan	Drill Type:	Auger, Probe
Drill personnel:	Jamie McKay, Isaac Bacon, Max Ng		
Drill #:	0		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A			
Assessment of effectiveness:	N/A			
Salt usage per day:	N/A			
Flow Meter Reading:	N/A	End of N/S	6:00 AM	End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	N/A	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	N/A
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: Ice Thickness

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Email to K. Buttons		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Emile Chidiac

Date: 2018-04-01

Time: 12:00 AM

Hole ID: CPT-08

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,970
Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,976,660
Area: Milne Inlet
NTS: N/A
Description of drillhole location: On sea ice
Purpose of drillhole: Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Drill Contractor: Conetech
Drill #: 0
End Date of drilling: 2018-04-01

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: N/A

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No If yes, how many?: N/A

Has hole been properly marked? Yes

Any environmental concerns? No If yes, please describe below: N/A

Any additional work required? No If yes, please describe below: No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: Email to K. Buttons

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	Boart Foreman signature:
Date:	Date: 2018-04-01

APPENDIX E.1.10
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-09



PRE-DRILLING INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac		
Date:	2018-04-01		
Time:	Dayshift		
Proposed hole ID:	CPT-09	Final hole ID:	CPT-09

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location:	E	503,651
Project: Mary River Expansion Study Stage 3	(NAD 83)	N	7,976,576
Area: Milne Inlet	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 0 m	Target depth:	4 feet depth or more	
Description of drillhole location:	On sea ice		
Purpose of drillhole:	Drill through ice for cone penetration testing on seabed		

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Chidiac
Drill contractor:	Conetech		
Drill #:	0		
Expected start of drilling:	01-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,651	N 7,976,576

Environment Assessment

Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	Ice Thickness
Environmental concerns?:	Hydraulic/Fuel leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	No
Location of photos:	Email to K. Buttons

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	12:00 AM
Hole ID:	CPT-09

HOLE INFORMATION:

Location: Milne Port	Section: Milne Inlet	Collar location: E	503,651
		(NAD 83)	N 7,976,576

DRILLING INFORMATION

Drill contractor:	Tretan	Drill Type:	Auger, Probe
Drill personnel:	Jamie McKay, Isaac Bacon, Max Ng		
Drill #:	0		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A			
Assessment of effectiveness:	N/A			
Salt usage per day:	N/A			
Flow Meter Reading:	N/A	End of N/S	6:00 AM	End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	N/A	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	N/A
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: Ice Thickness

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No | Photo of sediment control measures? N/A
Location of photos: Email to K. Buttons

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Emile Chidiac

Date: 2018-04-01

Time: 12:00 AM

Hole ID: CPT-09

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,651
Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,976,576
Area: Milne Inlet
NTS: N/A
Description of drillhole location: On sea ice
Purpose of drillhole: Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Drill Contractor: Conetech
Drill #: 0
End Date of drilling: 2018-04-01

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: N/A

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No If yes, how many?: N/A

Has hole been properly marked? Yes

Any environmental concerns? No If yes, please describe below: N/A

Any additional work required? No If yes, please describe below: No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: Email to K. Buttons

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	Boart Foreman signature:
Date:	Date: 2018-04-01

APPENDIX E.1.11
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-10



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Emile Chidiac		
Date:	2018-04-01		
Time:	Dayshift		
Proposed hole ID:	CPT-10	Final hole ID:	CPT-10

PROPOSED HOLE INFORMATION:			
Location:	Milne Port	Collar location:	E 503,591
Project:	Mary River Expansion Study Stage 3	(NAD 83)	N 7,976,472
Area:	Milne Inlet	Dip:	90
NTS:	N/A	Azimuth:	N/A
Elevation:	0 m	Target depth:	4 feet depth or more
Description of drillhole location:	On sea ice		
Purpose of drillhole:	Drill through ice for cone penetration testing on seabed		

DRILLING INFORMATION:			
Has site been approved by drill foreman?:	Yes	Foreman:	Emile Chidiac
Drill contractor:	Conetech		
Drill #:	0		
Expected start of drilling:	01-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,591 N	7,976,472

Environment Assessment			
Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	Ice Thickness
Environmental concerns?:	Hydraulic/Fuel leaks

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	Yes
Location of photos:	Email to K. Buttons

COMMENTS:	
None	



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Emile Chidiac
Date:	2018-04-01
Time:	12:00 AM
Hole ID:	CPT-10

HOLE INFORMATION:

Location: Milne Port	Section: Milne Inlet	Collar location: E	503,591
		(NAD 83)	N 7,976,472

DRILLING INFORMATION

Drill contractor:	Tretan	Drill Type:	Auger, Prc
Drill personnel:	Jamie McKay, Isaac Bacon, Max Ng		
Drill #:	0		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: N/A
Assessment of effectiveness: N/A
Salt usage per day: N/A
Flow Meter Reading: N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)
No

Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	N/A	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	N/A
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: Ice Thickness

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	N/A
Location of photos: Email to K. Buttons			

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Emile Chidiac
Date: 2018-04-01
Time: 12:00 AM
Hole ID: CPT-10

HOLE INFORMATION:

Location: Milne Port
Project: Mary River Expansion Study Stage 3
Area: Milne Inlet
NTS: N/A
Description of drillhole location: On sea ice
Purpose of drillhole: Drill through ice for cone penetration testing on seabed

DRILLING INFORMATION:

Drill Contractor: Conetech
Drill #: 0
End Date of drilling: 2018-04-01

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	N/A	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	Yes	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: No
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: Email to K. Buttons

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	Boat Foreman signature:
Date:	Date: 2018-04-01

APPENDIX E.1.12
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-11



PRE-DRILLING INSPECTION REPORT 2018			
HATCH Personnel:	Emile Chidiac		
Date:	4/15/2018		
Time:	10:18 AM		
Proposed Hole ID:	CPT18-11	Final hole ID:	CPT18-11

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location:	E	503,970
Project: Mary River Expansion Study Stage 3	(NAD 83)	N	7,976,545
Area: Ore Dock No. 2	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 7.154 m	Target depth:	0.025 m from mudline	
Description of drillhole location:	Ore Dock No. 2		
Purpose of drillhole:	To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	IBAC
Drill contractor:	ConeTec		
Drill #:	N/A		
Expected start of drilling:	15-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,970	N 7,976,545

Environment Assessment

Water source:	None		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	0		
Is site safe for drilling?:	Yes		
Safety concerns/issues:	N/A		
Environmental concerns?:	Hydraulic/ Fuel leaks		

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	General Site
Location of photos:	N/A

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH Personnel:	Emile Chidiac
Date:	4/15/2018
Time:	10:30 AM
Hole ID:	CPT18-11

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	503,970
		(NAD 83)	N 7,976,545

DRILLING INFORMATION

Drill contractor: ConeTec	Drill Type: N/A
Drill personnel: IBAC/JMAC	
Drill #: N/A	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: No
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S N/A End of D/S N/A

Has wildlife been present?: (check log for previous wildlife activity)

Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	No
Location of photos:	N/A		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

Hatch Personnel: Emile Chidiac

Date: 4/15/2018

Time: 10:55 AM

Hole ID: CPT18-11

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,970
Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,976,545
Area: Ore Dock No. 2
NTS: N/A
Description of drillhole location: Ore Dock No. 2
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017

DRILLING INFORMATION:

Drill Contractor: ConeTec
Drill #: N/A
End Date of drilling: 4/15/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	N/A	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: N/A

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/15/2018

APPENDIX E.1.13
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION – CPT-12



PRE-DRILLING INSPECTION REPORT 2018	
HATCH Personnel:	Emile Chidiac
Date:	4/22/2018
Time:	9:00 AM
Proposed Hole ID:	CPT18-12
Final hole ID:	CPT18-12

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,972
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,976,671
Area: Ore Dock No. 2	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 7.08	Target depth: 0.725 m from mudline
Description of drillhole location: Ore Dock No. 2	
Purpose of drillhole:	To study sensitive fine lenses identified in tests from 2017

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	IBAC
Drill contractor:	ConeTec		
Drill #:	N/A		
Expected start of drilling:	22-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	-	N

Environment Assessment

Water source:	None		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	0
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	General Site
Location of photos:	N/A

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH Personnel:	Emile Chidiac
Date:	4/22/2018
Time:	9:30 AM
Hole ID:	CPT18-12

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	-
		(NAD 83)	N

DRILLING INFORMATION

Drill contractor: ConeTec	Drill Type: N/A
Drill personnel: IBAC/JMAC	
Drill #: N/A	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole?	If yes, what was lost?:	No
No		

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S N/A End of D/S N/A

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues:	N/A

Corrective action required?:	No
Action plan (if required):	N/A
Responsible party: N/A	Date to be completed: N/A
Photograph (only required to document problems and corrective actions): N/A	

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	No
Location of photos:	N/A		

COMMENTS:	None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

Hatch Personnel: Emile Chidiac

Date: 4/22/2018

Time: 10:00 AM

Hole ID: CPT18-12

HOLE INFORMATION:

Location: Milne Port	Collar location: E	-
Project: Mary River Expansion Study Stage 3	(NAD 83)	N
Area: Ore Dock No. 2		
NTS: N/A		
Description of drillhole location: Ore Dock No. 2		
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Drill Contractor: ConeTec

Drill #: N/A

End Date of drilling: 4/22/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	0	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up?	No
Location of photos:	N/A

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/22/2018

APPENDIX E.1.14
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-13



PRE-DRILLING INSPECTION REPORT 2018	
HATCH Personnel:	Emile Chidiac
Date:	4/22/2018
Time:	11:00 AM
Proposed Hole ID:	CPT18-13
Final hole ID:	CPT18-13

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,972
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,976,585
Area: Ore Dock No. 2	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 6.97 m	Target depth: 3.325 m from mudline
Description of drillhole location: Ore Dock No. 2	
Purpose of drillhole:	To study sensitive fine lenses identified in tests from 2017

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	IBAC
Drill contractor:	ConeTec		
Drill #:	N/A		
Expected start of drilling:	22-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	-	N

Environment Assessment

Water source:	None		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	0
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	General Site
Location of photos:	N/A

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH Personnel:	Emile Chidiac
Date:	4/22/2018
Time:	11:30 AM
Hole ID:	CPT18-13

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	-
		(NAD 83)	N

DRILLING INFORMATION

Drill contractor: ConeTec	Drill Type: N/A
Drill personnel: IBAC/JMAC	
Drill #: N/A	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: No
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S N/A End of D/S N/A

Has wildlife been present?: (check log for previous wildlife activity)

Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	No
Location of photos:	N/A		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

Hatch Personnel: Emile Chidiac

Date: 4/22/2018

Time: 12:00 PM

Hole ID: CPT18-13

HOLE INFORMATION:

Location: Milne Port	Collar location: E	-
Project: Mary River Expansion Study Stage 3	(NAD 83)	N
Area: Ore Dock No. 2		
NTS: N/A		
Description of drillhole location: Ore Dock No. 2		
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Drill Contractor: ConeTec
Drill #: N/A
End Date of drilling: 4/22/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	0	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: N/A

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/22/2018

APPENDIX E.1.15
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION – CPT-14



PRE-DRILLING INSPECTION REPORT 2018	
HATCH Personnel:	Emile Chidiac
Date:	4/22/2018
Time:	12:30 PM
Proposed Hole ID:	CPT18-14
Final hole ID:	CPT18-14

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,974
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,976,699
Area: Ore Dock No. 2	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 7.81 m	Target depth: 1.625 m from mudline
Description of drillhole location: Ore Dock No. 2	
Purpose of drillhole:	To study sensitive fine lenses identified in tests from 2017

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	IBAC
Drill contractor:	ConeTec		
Drill #:	N/A		
Expected start of drilling:	22-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	-	N

Environment Assessment

Water source:	None		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	0
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	General Site
Location of photos:	N/A

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH Personnel:	Emile Chidiac
Date:	4/22/2018
Time:	1:00 PM
Hole ID:	CPT18-14

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	-
		(NAD 83)	N

DRILLING INFORMATION

Drill contractor: ConeTec	Drill Type: N/A
Drill personnel: IBAC/JMAC	
Drill #: N/A	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: No
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S N/A End of D/S N/A

Has wildlife been present?: (check log for previous wildlife activity)

Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	No
Location of photos:	N/A		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

Hatch Personnel: Emile Chidiac

Date: 4/22/2018

Time: 1:30 PM

Hole ID: CPT18-14

HOLE INFORMATION:

Location: Milne Port	Collar location: E	-
Project: Mary River Expansion Study Stage 3	(NAD 83)	N
Area: Ore Dock No. 2		
NTS: N/A		
Description of drillhole location: Ore Dock No. 2		
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Drill Contractor: ConeTec
Drill #: N/A
End Date of drilling: 4/22/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	0	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up?	No
Location of photos:	N/A

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/22/2018

APPENDIX E.1.16
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-15



PRE-DRILLING INSPECTION REPORT 2018

HATCH Personnel: Emile Chidiac
Date: 4/22/2018
Time: 2:00 PM
Proposed Hole ID: CPT18-15 **Final hole ID:** CPT18-15

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,704
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,976,678
Area: Ore Dock No. 2	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 5.54 m	Target depth: 0.925 m from mudline
Description of drillhole location: Ore Dock No. 2	
Purpose of drillhole:	To study sensitive fine lenses identified in tests from 2017

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** IBAC
Drill contractor: ConeTec
Drill #: N/A
Expected start of drilling: 22-Apr-18
Is moving of drillhole required?: No
If yes, provide reason:

New Collar Location E - N -

Environment Assessment

Water source: None
Pump Station #: N/A **Portable Tanks:** N/A
Natural depression/ drainage evident?: No (Photo required)
Manual drainage constructed?: No (Photo required)
Silt fence(s) constructed?: No (Photo required)
Silt Bag Used: No (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)
0
Is site safe for drilling?:
Yes
Safety concerns/issues:
N/A
Environmental concerns?:
None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? General Site
Location of photos: N/A

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH Personnel:	Emile Chidiac
Date:	4/22/2018
Time:	2:30 PM
Hole ID:	CPT18-15

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	-
		(NAD 83)	N

DRILLING INFORMATION

Drill contractor: ConeTec	Drill Type: N/A
Drill personnel: IBAC/JMAC	
Drill #: N/A	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole?	If yes, what was lost?:	No
No		

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S N/A End of D/S N/A

Has wildlife been present?: (check log for previous wildlife activity)

Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues:	N/A

Corrective action required?:	No
Action plan (if required):	N/A
Responsible party: N/A	Date to be completed: N/A
Photograph (only required to document problems and corrective actions): N/A	

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	No
Location of photos:	N/A		

COMMENTS:	None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

Hatch Personnel: Emile Chidiac

Date: 4/22/2018

Time: 2:55 PM

Hole ID: CPT18-15

HOLE INFORMATION:

Location: Milne Port	Collar location: E	-
Project: Mary River Expansion Study Stage 3	(NAD 83)	N
Area: Ore Dock No. 2		
NTS: N/A		
Description of drillhole location: Ore Dock No. 2		
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Drill Contractor: ConeTec
Drill #: N/A
End Date of drilling: 4/22/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	N/A	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: N/A

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/22/2018

APPENDIX E.1.17
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-16



PRE-DRILLING INSPECTION REPORT 2018			
HATCH Personnel:	Emile Chidiac		
Date:	4/22/2018		
Time:	3:15 PM		
Proposed Hole ID:	CPT18-16	Final hole ID:	CPT18-16

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location:	E	503,695
Project: Mary River Expansion Study Stage 3	(NAD 83)	N	7,976,729
Area: Ore Dock No. 2	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 6.05 m	Target depth:	1.85 m from mudline	
Description of drillhole location:	Ore Dock No. 2		
Purpose of drillhole:	To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	IBAC
Drill contractor:	ConeTec		
Drill #:	N/A		
Expected start of drilling:	22-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			

New Collar Location	E	-	N	-
----------------------------	---	---	---	---

Environment Assessment

Water source:	None		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	0
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	General Site
Location of photos:	N/A

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH Personnel:	Emile Chidiac
Date:	4/22/2018
Time:	3:45 PM
Hole ID:	CPT18-16

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	-
		(NAD 83)	N

DRILLING INFORMATION

Drill contractor: ConeTec	Drill Type: N/A
Drill personnel: IBAC/JMAC	
Drill #: N/A	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: No
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S N/A End of D/S N/A

Has wildlife been present?: (check log for previous wildlife activity)

Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	No
Location of photos:	N/A		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

Hatch Personnel: Emile Chidiac

Date: 4/23/2018

Time: 4:10 PM

Hole ID: CPT18-16

HOLE INFORMATION:

Location: Milne Port	Collar location: E	-
Project: Mary River Expansion Study Stage 3	(NAD 83)	N
Area: Ore Dock No. 2		
NTS: N/A		
Description of drillhole location: Ore Dock No. 2		
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Drill Contractor: ConeTec

Drill #: N/A

End Date of drilling: 4/23/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	N/A	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up?	No
Location of photos:	N/A

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/23/2018

APPENDIX E.1.18
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-17



PRE-DRILLING INSPECTION REPORT 2018	
HATCH Personnel:	Emile Chidiac
Date:	4/22/2018
Time:	5:00 PM
Proposed Hole ID:	CPT18-17
Final hole ID:	CPT18-17

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E -
Project: Mary River Expansion Study Stage 3	(NAD 83) N -
Area: Ore Dock No. 2	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 5.70 m	Target depth: 0.800 m
Description of drillhole location: Ore Dock No. 2	
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017	

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	IBAC
Drill contractor:	ConeTec		
Drill #:	N/A		
Expected start of drilling:	22-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			

New Collar Location	E	-	N	-
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Environment Assessment

Water source:	None		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	0
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	General Site
Location of photos:	N/A

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH Personnel:	Emile Chidiac
Date:	4/22/2018
Time:	5:45 PM
Hole ID:	CPT18-17

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	-
		(NAD 83)	N

DRILLING INFORMATION

Drill contractor: ConeTec	Drill Type: N/A
Drill personnel: IBAC/JMAC	
Drill #: N/A	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole?	If yes, what was lost?:	No
No		

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S N/A End of D/S N/A

Has wildlife been present?: (check log for previous wildlife activity)

Yes

Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	No
Location of photos:	N/A		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

Hatch Personnel: Emile Chidiac

Date: 4/23/2018

Time: 6:30 PM

Hole ID: CPT18-17

HOLE INFORMATION:

Location: Milne Port	Collar location: E	-
Project: Mary River Expansion Study Stage 3	(NAD 83)	N
Area: Ore Dock No. 2		
NTS: N/A		
Description of drillhole location: Ore Dock No. 2		
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Drill Contractor: ConeTec
Drill #: N/A
End Date of drilling: 4/23/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	N/A	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: N/A

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/23/2018

APPENDIX E.1.19
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-18



PRE-DRILLING INSPECTION REPORT 2018	
HATCH Personnel:	Emile Chidiac
Date:	4/23/2018
Time:	9:15 AM
Proposed Hole ID:	CPT18-18
Final hole ID:	CPT18-18

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,684
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,976,778
Area: Ore Dock No. 2	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 5.75 m	Target depth: 2.150 m from mudline
Description of drillhole location: Ore Dock No. 2	
Purpose of drillhole:	To study sensitive fine lenses identified in tests from 2017

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	IBAC
Drill contractor:	ConeTec		
Drill #:	N/A		
Expected start of drilling:	23-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	-	N

Environment Assessment

Water source:	None		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	0
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	General Site
Location of photos:	N/A

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH Personnel:	Emile Chidiac
Date:	4/23/2018
Time:	9:45 AM
Hole ID:	CPT18-18

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	-
		(NAD 83)	N

DRILLING INFORMATION

Drill contractor: ConeTec	Drill Type: N/A
Drill personnel: IBAC/JMAC	
Drill #: N/A	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole?	If yes, what was lost?:	No
No		

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S N/A End of D/S N/A

Has wildlife been present?: (check log for previous wildlife activity)

Yes

Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	No
Location of photos:	N/A		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

Hatch Personnel: Emile Chidiac

Date: 4/23/2018

Time: 10:15 AM

Hole ID: CPT18-18

HOLE INFORMATION:

Location: Milne Port	Collar location: E	-
Project: Mary River Expansion Study Stage 3	(NAD 83)	N
Area: Ore Dock No. 2		
NTS: N/A		
Description of drillhole location: Ore Dock No. 2		
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Drill Contractor: ConeTec

Drill #: N/A

End Date of drilling: 4/23/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	N/A	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up?	No
Location of photos:	N/A

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/23/2018

APPENDIX E.1.20
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-19



PRE-DRILLING INSPECTION REPORT 2018	
HATCH Personnel:	Emile Chidiac
Date:	4/25/2018
Time:	9:15 AM
Proposed Hole ID:	CPT18-19
Final hole ID:	CPT18-19

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,569
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,976,705
Area: Ore Dock No. 2	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 4.15 m	Target depth: 1.100 m from mudline
Description of drillhole location: Ore Dock No. 2	
Purpose of drillhole:	To study sensitive fine lenses identified in tests from 2017

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	IBAC
Drill contractor:	ConeTec		
Drill #:	N/A		
Expected start of drilling:	25-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	-	N

Environment Assessment

Water source:	None		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	0
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	General Site
Location of photos:	N/A

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH Personnel:	Emile Chidiac
Date:	4/25/2018
Time:	9:45 AM
Hole ID:	CPT18-19

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	-
		(NAD 83)	N

DRILLING INFORMATION

Drill contractor: ConeTec	Drill Type: N/A
Drill personnel: IBAC/JMAC	
Drill #: N/A	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole?	If yes, what was lost?:	No
No		

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S N/A End of D/S N/A

Has wildlife been present?: (check log for previous wildlife activity)

Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues:	N/A

Corrective action required?:	No
Action plan (if required):	N/A
Responsible party: N/A	Date to be completed: N/A
Photograph (only required to document problems and corrective actions): N/A	

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	No
Location of photos:	N/A		

COMMENTS:	None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

Hatch Personnel: Emile Chidiac

Date: 4/25/2018

Time: 10:15 AM

Hole ID: CPT18-19

HOLE INFORMATION:

Location: Milne Port	Collar location: E	-
Project: Mary River Expansion Study Stage 3	(NAD 83)	N
Area: Ore Dock No. 2		
NTS: N/A		
Description of drillhole location: Ore Dock No. 2		
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Drill Contractor: ConeTec
Drill #: N/A
End Date of drilling: 4/25/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	N/A	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: N/A

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/25/2018

APPENDIX E.1.21
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-20



PRE-DRILLING INSPECTION REPORT 2018	
HATCH Personnel:	Emile Chidiac
Date:	4/25/2018
Time:	10:30 AM
Proposed Hole ID:	CPT18-20
Final hole ID:	CPT18-20

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,821
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,976,738
Area: Ore Dock No. 2	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 7.300 m	Target depth: 2.200 m from mudline
Description of drillhole location: Ore Dock No. 2	
Purpose of drillhole:	To study sensitive fine lenses identified in tests from 2017

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	IBAC
Drill contractor:	ConeTec		
Drill #:	N/A		
Expected start of drilling:	25-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	-	N

Environment Assessment

Water source:	None		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	0
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	General Site
Location of photos:	N/A

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH Personnel:	Emile Chidiac
Date:	4/25/2018
Time:	10:55 AM
Hole ID:	CPT18-20

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	-
		(NAD 83)	N

DRILLING INFORMATION

Drill contractor: ConeTec	Drill Type: N/A
Drill personnel: IBAC/JMAC	
Drill #: N/A	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole?	If yes, what was lost?:	No
No		

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S N/A End of D/S N/A

Has wildlife been present?: (check log for previous wildlife activity)

Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues:	N/A

Corrective action required?:	No
Action plan (if required):	N/A
Responsible party: N/A	Date to be completed: N/A
Photograph (only required to document problems and corrective actions): N/A	

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	No
Location of photos:	N/A		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

Hatch Personnel: Emile Chidiac

Date: 4/25/2018

Time: 11:15 AM

Hole ID: CPT18-20

HOLE INFORMATION:

Location: Milne Port	Collar location: E	-
Project: Mary River Expansion Study Stage 3	(NAD 83)	N
Area: Ore Dock No. 2		
NTS: N/A		
Description of drillhole location: Ore Dock No. 2		
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Drill Contractor: ConeTec
Drill #: N/A
End Date of drilling: 4/25/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	N/A	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? No
Location of photos: N/A

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/25/2018

APPENDIX E.1.22
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - CPT-21



PRE-DRILLING INSPECTION REPORT 2018	
HATCH Personnel:	Emile Chidiac
Date:	4/25/2018
Time:	11:30 AM
Proposed Hole ID:	CPT18-21
Final hole ID:	CPT18-21

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,831
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,976,671
Area: Ore Dock No. 2	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 7.154 m	Target depth: 0.200 m from mudline
Description of drillhole location: Ore Dock No. 2	
Purpose of drillhole:	To study sensitive fine lenses identified in tests from 2017

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	IBAC
Drill contractor:	ConeTec		
Drill #:	N/A		
Expected start of drilling:	25-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	-	N

Environment Assessment

Water source:	None		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	0
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	General Site
Location of photos:	N/A

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH Personnel:	Emile Chidiac
Date:	4/25/2018
Time:	12:00 PM
Hole ID:	CPT18-21

HOLE INFORMATION:

Location: Milne Port	Section: Ore Dock No. 2	Collar location: E	-
		(NAD 83)	N

DRILLING INFORMATION

Drill contractor: ConeTec	Drill Type: N/A
Drill personnel: IBAC/JMAC	
Drill #: N/A	

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: No
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S N/A End of D/S N/A

Has wildlife been present?: (check log for previous wildlife activity)

Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No
Action plan (if required): N/A
Responsible party: N/A **Date to be completed:** N/A
Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	No
Location of photos:	N/A		

COMMENTS:

None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

Hatch Personnel: Emile Chidiac

Date: 4/25/2018

Time: 12:25 PM

Hole ID: CPT18-21

HOLE INFORMATION:

Location: Milne Port	Collar location: E	-
Project: Mary River Expansion Study Stage 3	(NAD 83)	N
Area: Ore Dock No. 2		
NTS: N/A		
Description of drillhole location: Ore Dock No. 2		
Purpose of drillhole: To study sensitive fine lenses identified in tests from 2017		

DRILLING INFORMATION:

Drill Contractor: ConeTec

Drill #: N/A

End Date of drilling: 4/25/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	N/A	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: N/A
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up?	No
Location of photos:	N/A

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	ConeTec Foreman signature:
Date:	Date: 4/25/2018

APPENDIX E.2.1
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION – BH18-004



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Yasmin Fakli and Michael Yang		
Date:	4/1/2018		
Time:	8:00 AM		
Proposed hole ID:	BH18-004	Final hole ID:	BH18-004

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location:	E	503,504
Project: Mary River Expansion Study Stage 2	(NAD 83)	N	7,976,237
Area: In front of Milne Port Project office	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 0 m	Target depth:	80 m	
Description of drillhole location:	In parking lot		
Purpose of drillhole:	Geotechnical investigation of the pad area		

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Beauchamp, Dave Eastabrook	
Drill contractor:	Boart Longyear			
Drill #:	BL 100			
Expected start of drilling:	1-Apr-18			
Is moving of drillhole required?:	Yes			
If yes, provide reason:				
New Collar Location	E	503,499	N	7,975,260

Environment Assessment

Water source:	N/A			
Pump Station #:	N/A	Portable Tanks:	No	
Natural depression/ drainage evident?:	N/A	(Photo required)		
Manual drainage constructed?:	N/A	(Photo required)		
Silt fence(s) constructed?:	N/A	(Photo required)		
Silt Bag Used:	N/A	(Photo required)		

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None			
Is site safe for drilling?:	Yes			
Safety concerns/issues:	None			
Environmental concerns?:	None			

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes			
Location of photos:	Drilling Investigation 2018 Server Folder			

COMMENTS:

None				



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Yasmin Fakli and Michael Yang
Date:	4/2/2018
Time:	4:00 AM
Hole ID:	BH18-004

HOLE INFORMATION:

Collar location:	E	503,499
Location: Milne Port Section: In front of Milne Port P (NAD 83)	N	7,975,260

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Chan Yong, Ken Eddy, Reuban Gross, Jared Williams, Chris Ruddy		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Issues with radiator, radiator replacement

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A				
Assessment of effectiveness:	N/A				
Salt usage per day:	N/A				
Flow Meter Reading:	N/A	End of N/S	6:00 AM	End of D/S	6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

Yes - arctic foxes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	N/A - office

Safety concerns/issues: None

Corrective action required?:	No
Action plan (if required):	N/A
Responsible party:	N/A
Date to be completed:	N/A
Photograph (only required to document problems and corrective actions):	N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Drilling Investigation 2018 Server Folder		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018
BIM personnel: Yasmin Fakli and Michael Yang
Date: 4/3/2018
Time: 3:30 PM
Hole ID: BH18-004

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,499
Project: Mary River Expansion Study Stage 2 (NAD 83) N 7,975,260
Area: In front of Milne Port Project office
NTS: N/A
Description of drillhole location: In parking lot
Purpose of drillhole: Geotechnical investigation of the pad area

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 4/3/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	Yes	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: No
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
 Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	Boart Foreman signature: <i>Emil Beauchamp</i>
Date:	Date: 4/3/2018

APPENDIX E.2.2
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION – BH18-M001



PRE-DRILLING INSPECTION REPORT 2018	
HATCH personnel:	Phillip Snable, Micheal Yang and Warren Hoyle
Date:	3/5/2018
Time:	10:30 AM
Proposed hole ID:	BH18-M001
Final hole ID:	BH18-M001

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,423
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,974,892
Area: Milne Port	Dip: N/A
NTS: N/A	Azimuth: N/A
Elevation: 0 m	Target depth: 40.0 m
Description of drillhole location: 0	
Purpose of drillhole: Geotechnical investigation of the proposed tunnel stockpile	

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Beauchamp, Brent McAndrew
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	5-Mar-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,423	N 7,974,892

Environment Assessment

Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	No
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	
Hair, White Fox	
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	Hydraulic/ Fuel leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes
Location of photos:	Hatch Site Server

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Phillip Snable, Micheal Yang and Warren Hoyle
Date:	3/5/2018
Time:	7:30 PM
Hole ID:	BH18-M001

HOLE INFORMATION:

Location: Milne Port	Section: Milne Port	Collar location:	E	503,423
		(NAD 83)	N	7,974,892

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Ken Eddie, Dave Eastabrooke, Rueban Gross and Brandon Tarsoff		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Hatch Site Server		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Phillip Snable, Micheal Yang and Warren Hoyle

Date: 3/6/2018

Time: 11:00 AM

Hole ID: BH18-M001

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,423

Project: Mary River Expansion Study Stage 3 **(NAD 83)** N 7,974,892

Area: Milne Port

NTS: N/A

Description of drillhole location: 0

Purpose of drillhole: Geotechnical investigation of the proposed tunnel stockpile

DRILLING INFORMATION:

Drill Contractor: Boart Longyear

Drill #: BL 100

End Date of drilling: 3/6/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: No

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No **If yes, how many?:** N/A

Has hole been properly marked? Yes

Any environmental concerns? No **If yes, please describe below:** N/A

Any additional work required? No **If yes, please describe below:** No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes

Location of photos: Hatch Site Server

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:

Boart Foreman signature:

Date:

Date: 3/6/2018

APPENDIX E.2.3
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-M002



PRE-DRILLING INSPECTION REPORT 2018	
HATCH personnel:	Phillip Snable, Micheal Yang and Warren H
Date:	3/3/2018
Time:	2:30 PM
Proposed hole ID:	BH18-M002
Final hole ID:	BH18-M002

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,328
Project: Mary River Expansion Study Stage 3	(NAD 83) N 797,867
Area: Milne Port	Dip: N/A
NTS: N/A	Azimuth: N/A
Elevation: 0 m	Target depth: 40.0 m
Description of drillhole location: 0	
Purpose of drillhole: Geotechnical investigation of the proposed crusher building	

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Beauchamp, Brent McAndrew
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	3-Mar-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,328	N 7,974,867

Environment Assessment

Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	No
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	
Hair, White Fox	
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	Hydraulic leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes
Location of photos:	Hatch Site Server

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Phillip Snable, Micheal Yang and Warren Hoyle
Date:	3/4/2018
Time:	3:30 PM
Hole ID:	BH18-M002

HOLE INFORMATION:

Location: Milne Port	Section: Milne Port	Collar location: E	503,328
		(NAD 83)	N 7,974,867

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Ken Eddie, Dave Eastabrooke, Rueban Gross and Brandon Tarsoff		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)
Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Hatch Site Server		

COMMENTS: None

**POST-DRILL CLEAN UP INSPECTION REPORT 2018****BIM personnel:** Phillip Snable, Micheal Yang and Warren Hoyle**Date:** 3/5/2018**Time:** 4:00 PM**Hole ID:** BH18-M002**HOLE INFORMATION:****Location:** Milne Port **Collar location:** E 503,328**Project:** Mary River Expansion Study Stage 3 **(NAD 83)** N 7,974,867**Area:** Milne Port**NTS:** N/A**Description of drillhole location:** 0**Purpose of drillhole:** Geotechnical investigation of the proposed crusher building**DRILLING INFORMATION:****Drill Contractor:** Boart Longyear**Drill #:** BL 100**End Date of drilling:** 3/5/2018**ENVIRONMENT ASSESSMENT:****All materials and debris removed from site?** Yes**Casing left?:** No**Has Casing left been cut to ground level?** N/A**Any drill rods lost in the drillhole?** No **If yes, how many?:** N/A**Has hole been properly marked?** Yes**Any environmental concerns?** No **If yes, please describe below:** N/A**Any additional work required?** No **If yes, please describe below:** No**Corrective action:** N/A**PHOTOGRAPHIC RECORD:****Photo of drillhole location following demobilization and clean up?** Yes**Location of photos:** Hatch Site Server**COMMENTS:**

None

INSPECTION COMPLETED BY:**BIM signature:****Date:****Boart Foreman signature:****Date:** 3/5/2018

APPENDIX E.2.4
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-M003



PRE-DRILLING INSPECTION REPORT 2018	
HATCH personnel:	Phillip Snable, Michael Yang and Warren Hoyle
Date:	3/6/2018
Time:	10:30 AM
Proposed hole ID:	BH18-M003
Final hole ID:	BH18-M003

PROPOSED HOLE INFORMATION:

Location: Milne Port	Collar location: E 503,055
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,974,868
Area: Milne Port	Dip: 0
NTS: N/A	Azimuth: N/A
Elevation: 0 m	Target depth: 40.0 m
Description of drillhole location: 0	
Purpose of drillhole: Geotechnical investigation of the proposed stacker/reclaimer maintenance yard	

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Beauchamp, Brent McAndrew
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	7-Mar-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	503,055	N 7,974,868

Environment Assessment

Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	No
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	Hair, White Fox
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	Hydraulic/ Fuel leaks

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes
Location of photos:	Hatch Site Server

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Phillip Snable, Michael Yang and Warren Hoyle
Date:	3/7/2018
Time:	7:30 PM
Hole ID:	BH18-M003

HOLE INFORMATION:

Location: Milne Port	Section: Milne Port	Collar location:	E	503,055
		(NAD 83)	N	7,974,868

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Ken Eddie, Dave Eastabrooke, Rueban Gross and Brandon Tarsoff		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)
Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Hatch Site Server		

COMMENTS: None

**POST-DRILL CLEAN UP INSPECTION REPORT 2018**

BIM personnel: Phillip Snable, Michael Yang and Warren Hoyle
Date: 3/8/2018
Time: 11:00 AM
Hole ID: BH18-M003

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 503,055
Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,974,868
Area: Milne Port
NTS: N/A
Description of drillhole location: 0
Purpose of drillhole: Geotechnical investigation of the proposed stacker/reclaimer maintenance yard

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 3/8/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	Yes	
Any environmental concerns?	No	If yes, please describe below: N/A

Any additional work required?	No	If yes, please describe below: No
--------------------------------------	----	-----------------------------------

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up?	Yes	
Location of photos:	Hatch Site Server	

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:

Date:

Boart Foreman signature:

Date: 3/8/2018

APPENDIX E.3.1
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-BR15-1



PRE-DRILLING INSPECTION REPORT 2018	
HATCH personnel:	Phillip Snable and Michael Yang
Date:	3/9/2018
Time:	10:30 AM
Proposed hole ID:	BH18-BR15-1 Final hole ID: BH18-BR15-1

PROPOSED HOLE INFORMATION:	
Location: Milne Port	Collar location: E 555,758
Project: Mary River Expansion Study Stage 3	(NAD 83) N 7,915,441
Area: Kilometre 18, Bridge 15	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 0 m	Target depth: 40.0 m
Description of drillhole location: Bridge 15 (Kilometer 18)	
Purpose of drillhole: Geotechnical investigation of Bridge 15	

DRILLING INFORMATION:	
Has site been approved by drill foreman?:	Yes Foreman: Emile Beauchamp, Brent McAndrew
Drill contractor:	Boart Longyear
Drill #:	BL 100
Expected start of drilling:	13-Mar-18
Is moving of drillhole required?:	No
If yes, provide reason:	
New Collar Location	E 555,758 N 7,915,441

Environment Assessment	
Water source: Kilometer 32, water truck	
Pump Station #: N/A	Portable Tanks: Yes (3 x 1000L3)
Natural depression/ drainage evident?:	No (Photo required)
Manual drainage constructed?:	No (Photo required)
Silt fence(s) constructed?:	No (Photo required)
Silt Bag Used:	No (Photo required)

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	
Hair, White Fox and Wolf	
Is site safe for drilling?:	
Yes	
Safety concerns/issues:	
N/A	
Environmental concerns?:	
Hydraulic/ Fuel leaks	

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	Yes
Location of photos:	Hatch Site Server

COMMENTS:	
None	



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Phillip Snable and Michael Yang
Date:	3/12/2018
Time:	11:00 AM
Hole ID:	BH18-BR15-1

HOLE INFORMATION:

Location: Milne Port	Section: Kilometre 18, Bridge 15 (NAD 83)	Collar location: E	555,758
		N	7,915,441

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Ken Eddie, Dave Eastabrooke and Rueban Gross		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: No
Assessment of effectiveness: N/A
Salt usage per day: 20 KG/ day (40KG Total)
Flow Meter Reading: N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

Yes
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes, Survival Shack
PPE	Yes	Eye Wash (2)	Yes, Survival Shack
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes, Survival Shack
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues: N/A

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Hatch Site Server		

COMMENTS: Brine was disposed off more than 31 metres away from the river



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Phillip Snable and Michael Yang
 Date: 3/14/2018
 Time: 2 00 PM
 Hole ID: BH18-BR15-1

HOLE INFORMATION:

Location: Milne Port	Collar location: E	555,758
Project: Mary River Expansion Study Stage 3	(NAD 83)	N 7,915.441
Area: Kilometre 18, Bridge 15		
NTS: N/A		
Description of drillhole location: Bridge 15 (Kilometer 18)		
Purpose of drillhole: Geotechnical investigation of Bridge 15		

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
 Drill #: BL 100
 End Date of drilling: 3/14/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	Yes	

Any environmental concerns? No If yes, please describe below: N/A

Any additional work required? No If yes, please describe below: N/A

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up?	Yes
Location of photos	Hatch Site Server

COMMENTS:

Thermoster Installed at Borehole Location leaving a 33 foot piping in the ground

INSPECTION COMPLETED BY:

BIM signature:

Date:

Boart Foreman signature:

Date: 3/14/2018

APPENDIX E.3.2
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-BR15-2



PRE-DRILLING INSPECTION REPORT 2018	
HATCH personnel:	Phillip Snable, Michael Yang and Warren Hoyle
Date:	3/9/2018
Time:	11:30 AM
Proposed hole ID:	BH18-BR15-2 Final hole ID: BH18-BR15-2

PROPOSED HOLE INFORMATION:			
Location:	Milne Port	Collar location:	E 514,211
Project:	Mary River Expansion Study Stage 3	(NAD 83)	N 7,965,645
Area:	Kilometre 18, Bridge 15	Dip:	0
NTS:	N/A	Azimuth:	N/A
Elevation:	0 m	Target depth:	40.0 m
Description of drillhole location:	0		
Purpose of drillhole:	Geotechnical investigation of Bridge 15		

DRILLING INFORMATION:			
Has site been approved by drill foreman?:	Yes	Foreman:	Emile Beauchamp, Brent McAndrew
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	9-Mar-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	514,211 N	7,965,645

Environment Assessment			
Water source:	Yes		
Pump Station #:	N/A	Portable Tanks:	Yes
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	No	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	No	(Photo required)	

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	Hair, White Fox
Is site safe for drilling?:	Yes
Safety concerns/issues:	N/A
Environmental concerns?:	Hydraulic/ Fuel leaks

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	Yes
Location of photos:	Hatch Site Server

COMMENTS:	
None	



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Phillip Snable, Michael Yang and Warren Hoyle
Date:	3/11/2018
Time:	3:30 PM
Hole ID:	BH18-BR15-2

HOLE INFORMATION:

Collar location:	E	514,211
Location: Milne Port Section: Kilometre 18, Bridge 1:(NAD 83)	N	7,965,645

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Ken Eddie, Dave Eastabrooke and Rueban Gross		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole?	If yes, what was lost?:	N/A
No		

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Weather (high winds/ cold temperature)

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	No
Assessment of effectiveness:	N/A
Salt usage per day:	N/A
Flow Meter Reading:	N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

Yes	
Environmental Concerns:	None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	N/A
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	N/A
		Lined Berms	Yes
		Survival Shack	Yes

Safety concerns/issues:	N/A
--------------------------------	-----

Corrective action required?:	No		
Action plan (if required):	N/A		
Responsible party:	N/A	Date to be completed:	N/A
Photograph (only required to document problems and corrective actions): N/A			

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Hatch Site Server		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Phillip Snable, Michael Yang and Warren Hoyle
Date: 3/12/2018
Time: 10:00 AM
Hole ID: BH18-BR15-2

HOLE INFORMATION:

Location: Milne Port **Collar location:** E 514,211
Project: Mary River Expansion Study Stage 3 (NAD 83) N 7,965,645
Area: Kilometre 18, Bridge 15
NTS: N/A
Description of drillhole location: 0
Purpose of drillhole: Geotechnical investigation of Bridge 15

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 3/12/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: No

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No If yes, how many?: N/A

Has hole been properly marked? Yes

Any environmental concerns? No If yes, please describe below: N/A

Any additional work required? No If yes, please describe below: No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes

Location of photos: Hatch Site Server

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature: _____ **Boart Foreman signature:** _____
Date: _____ **Date:** 3/12/2018

APPENDIX E.3.3
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-BR102-1



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Yasmin Fakli and Michael Yang		
Date:	4/7/2018		
Time:	1:30 PM		
Proposed hole ID:	BH18-B102-1	Final hole ID:	BH18-B102-1

PROPOSED HOLE INFORMATION:

Location:	Near Km 97 Bridge	Collar location:	E	555,758
Project:	Mary River Expansion Study Stage 2	(NAD 83)	N	7,915,441
Area:	Near KM 97 Bridge	Dip:	90	
NTS:	N/A	Azimuth:	N/A	
Elevation:	0	Target depth:	40 m	
Description of drillhole location:	Proposed Bridge 102 abutment			
Purpose of drillhole:	Geotechnical investigation of the proposed railway alignment			

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Beauchamp	
Drill contractor:	Boart Longyear			
Drill #:	BL 100			
Expected start of drilling:	13-Apr-18			
Is moving of drillhole required?:	Yes			
If yes, provide reason:				
New Collar Location	E	555,763	N	7,915,435

Environment Assessment

Water source:	N/A			
Pump Station #:	N/A	Portable Tanks:	No	
Natural depression/ drainage evident?:	N/A	(Photo required)		
Manual drainage constructed?:	N/A	(Photo required)		
Silt fence(s) constructed?:	N/A	(Photo required)		
Silt Bag Used:	N/A	(Photo required)		

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None			
Is site safe for drilling?:	Yes			
Safety concerns/issues:	None			
Environmental concerns?:	None			

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes			
Location of photos:	Drilling Investigation 2018 Server Folder			

COMMENTS:

None				



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Yasmin Fakli and Michael Yang
Date:	4/7/2018
Time:	12:00pm
Hole ID:	BH18-B102-1

HOLE INFORMATION:

Location: Near Km 97	Section: Near KM 97 Bridge	Collar location: E	555,763
		(NAD 83)	N 7,915,435

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	0		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Attempted to redrill/continue drilling the hole. But stopped due to formation of ice in hole.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A
Assessment of effectiveness:	N/A
Salt usage per day:	30 bags (total).
Flow Meter Reading:	N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No.
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Drilling Investigation 2018 Server Folder		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Yasmin Fakli and Michael Yang
Date: 4/7/2018
Time: 4:50 PM
Hole ID: BH18-B102-1

HOLE INFORMATION:

Location: Near Km 97 Bridge **Collar location:** E 555,763
Project: Mary River Expansion Study Stage 2 (NAD 83) N 7,915,435
Area: Near KM 97 Bridge
NTS: N/A
Description of drillhole location: Proposed Bridge 102 abutment
Purpose of drillhole: Geotechnical investigation of the proposed railway alignment

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 4/7/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes
Casing left?: No
Has Casing left been cut to ground level? N/A
Any drill rods lost in the drillhole? No If yes, how many?: N/A
Has hole been properly marked? Yes
Any environmental concerns? No If yes, please describe below: N/A
Any additional work required? No If yes, please describe below: No
Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature: _____ **Boart Foreman signature:** *Eric Beaucy*
Date: _____ **Date:** 4/7/2018

APPENDIX E.3.4
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-BR102-2



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Yasmin Fakli and Michael Yang		
Date:	4/8/2018		
Time:	2:30 PM		
Proposed hole ID:	BH18-B102-2	Final hole ID:	BH18-B102-2

PROPOSED HOLE INFORMATION:

Location: Near Km 97 Bridge	Collar location:	E	555,697
Project: Mary River Expansion Study Stage 2	(NAD 83)	N	7,915,443
Area: Near KM 97 Bridge	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 0	Target depth:	40 m	
Description of drillhole location:	Proposed Bridge 102 abutment		
Purpose of drillhole:	Geotechnical investigation of the proposed railway alignment		

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Beauchamp
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	8-Apr-18		
Is moving of drillhole required?:	Yes		
If yes, provide reason:			
New Collar Location	E	555,674	N 7,915,409

Environment Assessment

Water source:	Water truck, camp lake		
Pump Station #:	N/A	Portable Tanks:	Yes
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Yasmin Fakli and Michael Yang
Date:	4/8/2018
Time:	10:30 PM
Hole ID:	BH18-B102-2

HOLE INFORMATION:

Location: Near Km 97	Section: Near KM 97 Bridge	Collar location: E	555,674
		(NAD 83)	N 7,915,409

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	0		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Attempted to redrill/continue drilling the hole. But stopped due to formation of ice in hole.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A
Assessment of effectiveness:	N/A
Salt usage per day:	30 bags total.
Flow Meter Reading:	N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No.
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Drilling Investigation 2018 Server Folder		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Yasmin Fakii and Michael Yang
Date: 4/10/2018
Time: 11:00AM
Hole ID: BH18-B102-2

HOLE INFORMATION:

Location: Near Km 97 Bridge **Collar location:** E 555,674
Project: Mary River Expansion Study Stage 2 (NAD 83) N 7,915,409
Area: Near KM 97 Bridge
NTS: N/A
Description of drillhole location: Proposed Bridge 102 abutment
Purpose of drillhole: Geotechnical investigation of the proposed railway alignment

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 4/10/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: No

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No **If yes, how many?:** N/A

Has hole been properly marked? Yes

Any environmental concerns? No **If yes, please describe below:** N/A

Any additional work required? No **If yes, please describe below:** No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature: **Boart Foreman signature:** *Eric Beauchamp*
Date: 4/10/2018

APPENDIX E.3.5
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-BR70-1



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Yasmin Fakli and Michael Yang		
Date:	4/12/2018		
Time:	2:00 PM		
Proposed hole ID:	BH18-B70-1	Final hole ID:	BH18-B70-1

PROPOSED HOLE INFORMATION:

Location: Deviation area	Collar location:	E	7,916,680
Project: Mary River Expansion Study Stage 2	(NAD 83)	N	529,143
Area: Deviation	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 0	Target depth:	40 m	
Description of drillhole location:	Proposed Bridge 70 abutment.		
Purpose of drillhole:	Geotechnical investigation of the proposed railway alignment		

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Beauchamp
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	13-Apr-18		
Is moving of drillhole required?:	Yes		
If yes, provide reason:			
New Collar Location	E	7,916,667	N 529,138

Environment Assessment

Water source:	Kilometer 32, water truck		
Pump Station #:	N/A	Portable Tanks:	Yes
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Yasmin Fakli and Michael Yang
Date:	4/13/2018
Time:	9:45 PM
Hole ID:	BH18-B70-1

HOLE INFORMATION:

Location: Deviation are	Section: Deviation	Collar location: E	7,916,667
		(NAD 83)	N 529,138

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	0		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Casing and drill rod frozen or stuck from rock flour on several occasions. About 2 days of delays.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A
Assessment of effectiveness:	N/A
Salt usage per day:	60 bags (total).
Flow Meter Reading:	N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No.
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Drilling Investigation 2018 Server Folder		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Yasmin Fakli and Michael Yang
Date: 4/16/2018
Time: 3:20 PM
Hole ID: BH18-B70-1

HOLE INFORMATION:

Location: Deviation area Collar location: E 7,916,667
Project: Mary River Expansion Study Stage 2 (NAD 83) N 529,138
Area: Deviation
NTS: N/A
Description of drillhole location: Proposed Bridge 70 abutment.
Purpose of drillhole: Geotechnical investigation of the proposed railway alignment

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 4/16/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes
Casing left?: No
Has Casing left been cut to ground level? N/A
Any drill rods lost in the drillhole? No If yes, how many?: N/A
Has hole been properly marked? Yes
Any environmental concerns? No If yes, please describe below: N/A
Any additional work required? No If yes, please describe below: No
Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

Installed PVC pipe and HSS tubing support for thermister installation.

INSPECTION COMPLETED BY:

BIM signature: Boart Foreman signature: [Signature]
Date: 4/16/2018

APPENDIX E.3.6
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-BR70-2



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Yasmin Fakli and Michael Yang		
Date:	4/17/2018		
Time:	11:00 AM		
Proposed hole ID:	BH18-B70-2	Final hole ID:	BH18-B70-2

PROPOSED HOLE INFORMATION:

Location: Deviation Area	Collar location: E	529,107
Project: Mary River Expansion Study Stage 2	(NAD 83)	N 7,916,700
Area: Deviation	Dip:	90
NTS: N/A	Azimuth:	N/A
Elevation: 0	Target depth:	40 m
Description of drillhole location:	Proposed Bridge 70 abutment.	
Purpose of drillhole:	Geotechnical investigation of the proposed railway alignment	

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Emile Beauchamp
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	17-Apr-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	-	N -

Environment Assessment

Water source:	PWS-4 (River)		
Pump Station #:	N/A	Portable Tanks:	Yes
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	Arctic fox tracks
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Yasmin Fakli and Michael Yang
Date:	4/17/2018
Time:	12:40 PM
Hole ID:	BH18-B70-2

HOLE INFORMATION:

Location: Deviation Ar	Section: Deviation	Collar location: E	-
		(NAD 83)	N

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	0		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: Two bolts.
Yes

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
N/A

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A
Assessment of effectiveness:	N/A
Salt usage per day:	40 bags total
Flow Meter Reading:	N/A End of N/S 6:00 AM End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No.
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	Yes

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Drilling Investigation 2018 Server Folder		

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Yasmin Fakli and Michael Yang
Date: 4/18/2018
Time: 1:30 PM
Hole ID: BH18-B70-2

HOLE INFORMATION:

Location: Deviation Area **Collar location:** E -
Project: Mary River Expansion Study Stage 2 **(NAD 83)** N -
Area: Deviation
NTS: N/A
Description of drillhole location: Proposed Bridge 70 abutment.
Purpose of drillhole: Geotechnical investigation of the proposed railway alignment

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 4/18/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: No

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? Yes **If yes, how many?:** N/A

Has hole been properly marked? Yes

Any environmental concerns? No **If yes, please describe below:** N/A

Any additional work required? No **If yes, please describe below:** No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

Installed PVC pipe and HSS tubing support for thermister installation.

INSPECTION COMPLETED BY:

BIM signature: _____ **Boart Foreman signature:** *[Signature]*
Date: 4/18/2018

APPENDIX E.4.1
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-TF-01



PRE-DRILLING INSPECTION REPORT 2018	
HATCH personnel:	Michael Yang
Date:	6/25/2018
Time:	6:30 AM
Proposed hole ID:	BH18-TF-01
Final hole ID:	BH18-TF-01

PROPOSED HOLE INFORMATION:	
Location: Mary River	Collar location: E 561,154
Project: Mary River Truck Workshop and Tank Farm	(NAD 83) N 7,913,396
Area: Area 51 laydown	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 188 m	Target depth: 25 m
Description of drillhole location:	Southeast corner of tank farm
Purpose of drillhole:	Geotechnical investigation for new tank farm

DRILLING INFORMATION:	
Has site been approved by drill foreman?:	Yes
Drill contractor:	Boart Longyear
Drill #:	BL 100
Expected start of drilling:	25-Jun-18
Is moving of drillhole required?:	No
If yes, provide reason:	
New Collar Location	E 561,154 N 7,913,396

Environment Assessment	
Water source:	N/A
Pump Station #:	N/A
Portable Tanks:	No
Natural depression/ drainage evident?:	N/A (Photo required)
Manual drainage constructed?:	N/A (Photo required)
Silt fence(s) constructed?:	N/A (Photo required)
Silt Bag Used:	N/A (Photo required)

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:	
None	



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Michael Yang
Date:	6/25/2018
Time:	12:00 PM
Hole ID:	BH18-TF-01

HOLE INFORMATION:

Location: Mary River	Section: Area 51 laydown	Collar location: E	561,154
		(NAD 83)	N 7,913,396

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Jared Williams, Adrian Patterson		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A		
Assessment of effectiveness:	N/A		
Salt usage per day:	N/A		
Flow Meter Reading:	N/A	End of N/S	N/A
		End of D/S	6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	N/A

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Drilling Investigation 2018 Server Folder		

COMMENTS:

None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Michael Yang
Date: 6/25/2018
Time: 2:45 PM
Hole ID: BH18-TF-01

HOLE INFORMATION:

Location: Mary River **Collar location:** E 561,154
Project: Mary River Truck Workshop and Tank Farm (NAD 83) N 7,913,396
Area: Area 51 laydown
NTS: N/A
Description of drillhole location: Southeast corner of tank farm
Purpose of drillhole: Geotechnical investigation for new tank farm

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 6/25/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes
Casing left?: No
Has Casing left been cut to ground level? N/A
Any drill rods lost in the drillhole? No **If yes, how many?:** N/A
Has hole been properly marked? Yes
Any environmental concerns? No **If yes, please describe below:** N/A

Any additional work required? No **If yes, please describe below:** No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature: **Boart Foreman signature:** *Boart M'Ar*
Date: 6/25/2018

APPENDIX E.4.2
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-TF-02



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Michael Yang		
Date:	6/24/2018		
Time:	6:30 AM		
Proposed hole ID:	BH18-TF-02	Final hole ID:	BH18-TF-02

PROPOSED HOLE INFORMATION:			
Location: Mary River	Collar location:	E	560,988
Project: Mary River Truck Workshop and Tank Farm	(NAD 83)	N	7,913,441
Area: Area 51 laydown	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 186 m	Target depth:	25 m	
Description of drillhole location:	Southwest corner of tank farm		
Purpose of drillhole:	Geotechnical investigation for new tank farm		

DRILLING INFORMATION:			
Has site been approved by drill foreman?:	Yes	Foreman:	Brent McAndrew, Kyle Everett
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	25-Jun-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	560,988 N	7,913,441

Environment Assessment			
Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	No
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:
None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Michael Yang
Date:	6/24/2018
Time:	12:00 PM
Hole ID:	BH18-TF-02

HOLE INFORMATION:

Location: Mary River	Section: Area 51 laydown	Collar location: E	560,988
		(NAD 83)	N 7,913,441

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Jared Williams, Adrian Patterson		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Replaced rod clamp

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A		
Assessment of effectiveness:	N/A		
Salt usage per day:	N/A		
Flow Meter Reading:	N/A	End of N/S	N/A
		End of D/S	6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	N/A

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Drilling Investigation 2018 Server Folder		

COMMENTS:

None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Michael Yang
Date: 6/24/2018
Time: 5:30 PM
Hole ID: BH18-TF-02

HOLE INFORMATION:

Location: Mary River **Collar location:** E 560,988
Project: Mary River Truck Workshop and Tank Farm (NAD 83) N 7,913,441
Area: Area 51 laydown
NTS: N/A
Description of drillhole location: Southwest corner of tank farm
Purpose of drillhole: Geotechnical investigation for new tank farm

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 6/24/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes
Casing left?: No
Has Casing left been cut to ground level? N/A
Any drill rods lost in the drillhole? No **If yes, how many?:** N/A
Has hole been properly marked? Yes
Any environmental concerns? No **If yes, please describe below:** N/A
Any additional work required? No **If yes, please describe below:** No
Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature: **Boart Foreman signature:** 
Date: **Date:** 6/24/2018

APPENDIX E.4.3
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-TF-03



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Michael Yang		
Date:	6/21/2018		
Time:	4:00 AM		
Proposed hole ID:	BH18-TF-03	Final hole ID:	BH18-TF-03

PROPOSED HOLE INFORMATION:			
Location: Mary River	Collar location:	E	561,094
Project: Mary River Truck Workshop and Tank Farm	(NAD 83)	N	7,913,477
Area: Area 51 laydown	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 188 m	Target depth:	25 m	
Description of drillhole location:	Center north corner of tank farm		
Purpose of drillhole:	Geotechnical investigation for new tank farm		

DRILLING INFORMATION:			
Has site been approved by drill foreman?:	Yes	Foreman:	Brent McAndrew, Kyle Everett
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	25-Jun-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	561,094 N	7,913,477

Environment Assessment			
Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	No
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:
None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Michael Yang
Date:	6/21/2018
Time:	12:00 PM
Hole ID:	BH18-TF-03

HOLE INFORMATION:

Location: Mary River	Section: Area 51 laydown	Collar location: E	561,094
		(NAD 83)	N 7,913,477

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Jared Williams, Adrian Patterson		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Replaced hydraulic servo unit

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A		
Assessment of effectiveness:	N/A		
Salt usage per day:	N/A		
Flow Meter Reading:	N/A	End of N/S	N/A
		End of D/S	6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	N/A

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos: Drilling Investigation 2018 Server Folder			

COMMENTS:

None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Michael Yang

Date: 6/22/2018

Time: 7:00 AM

Hole ID: BH18-TF-03

HOLE INFORMATION:

Location: Mary River **Collar location:** E 561,094
Project: Mary River Truck Workshop and Tank Farm (NAD 83) N 7,913,477
Area: Area 51 laydown
NTS: N/A

Description of drillhole location: Center north corner of tank farm

Purpose of drillhole: Geotechnical investigation for new tank farm

DRILLING INFORMATION:

Drill Contractor: Boart Longyear

Drill #: BL 100

End Date of drilling: 6/22/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: No

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No **If yes, how many?:** N/A

Has hole been properly marked? Yes

Any environmental concerns? No **If yes, please describe below:** N/A

Any additional work required? No **If yes, please describe below:** No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes

Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:

Boart Foreman signature:

Date:

Date: 6/22/2018

APPENDIX E.4.4
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-TF-04



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Michael Yang		
Date:	6/23/2018		
Time:	8:00 AM		
Proposed hole ID:	BH18-TF-04	Final hole ID:	BH18-TF-04

PROPOSED HOLE INFORMATION:			
Location: Mary River	Collar location:	E	561,002
Project: Mary River Truck Workshop and Tank Farm	(NAD 83)	N	7,913,499
Area: Area 51 laydown	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 187 m	Target depth:	25 m	
Description of drillhole location:	Northwest corner of tank farm		
Purpose of drillhole:	Geotechnical investigation for new tank farm		

DRILLING INFORMATION:			
Has site been approved by drill foreman?:	Yes	Foreman:	Brent McAndrew, Kyle Everett
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	23-Jun-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	561,002 N	7,913,499

Environment Assessment			
Water source:	N/A		
Pump Station #:	N/A	Portable Tanks:	No
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:
None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Michael Yang
Date:	6/23/2018
Time:	12:00 PM
Hole ID:	BH18-TF-04

HOLE INFORMATION:

Location: Mary River	Section: Area 51 laydown	Collar location: E	561,002
		(NAD 83)	N 7,913,499

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Jared Williams, Adrian Patterson		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Replaced fuel filters

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A		
Assessment of effectiveness:	N/A		
Salt usage per day:	N/A		
Flow Meter Reading:	N/A	End of N/S	N/A
		End of D/S	6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	N/A

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos: Drilling Investigation 2018 Server Folder			

COMMENTS:

None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Michael Yang

Date: 6/24/2018

Time: 7:00 AM

Hole ID: BH18-TF-04

HOLE INFORMATION:

Location: Mary River **Collar location:** E 561,002
Project: Mary River Truck Workshop and Tank Farm (NAD 83) N 7,913,499
Area: Area 51 laydown
NTS: N/A
Description of drillhole location: Northwest corner of tank farm
Purpose of drillhole: Geotechnical investigation for new tank farm

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 6/24/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	Yes	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
 Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:

Boart Foreman signature:

Date:

Date: 6/24/2018

APPENDIX E.4.5
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-TF-05



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Michael Yang		
Date:	6/18/2018		
Time:	10:00 AM		
Proposed hole ID:	BH18-TF-05	Final hole ID:	BH18-TF-05

PROPOSED HOLE INFORMATION:			
Location:	Mary River	Collar location:	E 561,203
Project:	Mary River Truck Workshop and Tank Farm	(NAD 83)	N 7,913,478
Area:	Area 51 laydown	Dip:	90
NTS:	N/A	Azimuth:	N/A
Elevation:	188 m	Target depth:	25 m
Description of drillhole location:	outside Northeast corner of tank farm		
Purpose of drillhole:	Geotechnical investigation for new tank farm		

DRILLING INFORMATION:			
Has site been approved by drill foreman?:	Yes	Foreman:	Brent McAndrew, Kyle Everett
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	18-Jun-18		
Is moving of drillhole required?:	No		
If yes, provide reason:			
New Collar Location	E	561,203 N	7,913,478

Environment Assessment			
Water source:	River		
Pump Station #:	N/A	Portable Tanks:	Yes - 3
Natural depression/ drainage evident?:	No	(Photo required)	
Manual drainage constructed?:	Yes	(Photo required)	
Silt fence(s) constructed?:	No	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:	
None	



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Michael Yang
Date:	6/19/2018
Time:	12:00 PM
Hole ID:	BH18-TF-05

HOLE INFORMATION:

Location: Mary River	Section: Area 51 laydown	Collar location:	E	561,203
		(NAD 83)	N	7,913,478

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Jared Williams, Adrian Patterson		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Drill drive head broken, drill rod and casing frozen in the hole

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	Yes
Assessment of effectiveness:	Yes
Salt usage per day:	150 kg
Flow Meter Reading:	N/A End of N/S N/A End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	N/A

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos: Drilling Investigation 2018 Server Folder			

COMMENTS:

None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Michael Yang
Date: 6/20/2018
Time: 3:20 AM
Hole ID: BH18-TF-05

HOLE INFORMATION:

Location: Mary River **Collar location:** E 561,203
Project: Mary River Truck Workshop and Tank Farm (NAD 83) N 7,913,478
Area: Area 51 laydown
NTS: N/A
Description of drillhole location: outside Northeast corner of tank farm
Purpose of drillhole: Geotechnical investigation for new tank farm

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 6/20/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	Yes	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: No
Corrective action:	N/A	

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
 Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	Boart Foreman signature:
Date:	Date: 6/20/2018 

APPENDIX E.4.6
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-TF-7N



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Michael Yang		
Date:	6/26/2018		
Time:	7:00 AM		
Proposed hole ID:	BH18-TF-7N	Final hole ID:	BH18-TF-7N

PROPOSED HOLE INFORMATION:			
Location: Mary River	Collar location:	E	561,080
Project: Mary River Expansion Study Stage 2	(NAD 83)	N	7,913,435
Area: Area 51 laydown	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 188 m	Target depth:	25 m	
Description of drillhole location:	South of tank farm		
Purpose of drillhole:	Geotechnical investigation for new tank farm		

DRILLING INFORMATION:			
Has site been approved by drill foreman?:	Yes	Foreman:	Brent McAndrew, Kyle Everett
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	18-Jun-18		
Is moving of drillhole required?:	Yes		
If yes, provide reason:			
New Collar Location	E	561,064 N	7,913,438

Environment Assessment			
Water source:	River		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:	
None	



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Michael Yang
Date:	6/26/2018
Time:	10:00 AM
Hole ID:	BH18-TF-7N

HOLE INFORMATION:

Location: Mary River	Section: Area 51 laydown	Collar location:	E	561,064
		(NAD 83)	N	7,913,438

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Jared Williams, Adrian Patterson		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: N/A
Assessment of effectiveness: N/A
Salt usage per day: N/A
Flow Meter Reading: N/A End of N/S N/A End of D/S 6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	N/A

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos: Drilling Investigation 2018 Server Folder			

COMMENTS:

None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Michael Yang

Date: 6/26/2018

Time: 12:00 PM

Hole ID: BH18-TF-7N

HOLE INFORMATION:

Location: Mary River **Collar location:** E 561,064
Project: Mary River Expansion Study Stage 2 (NAD 83) N 7,913,438
Area: Area 51 laydown
NTS: N/A
Description of drillhole location: South of tank farm
Purpose of drillhole: Geotechnical investigation for new tank farm

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 6/26/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: No

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No **If yes, how many?:** N/A

Has hole been properly marked? Yes

Any environmental concerns? No **If yes, please describe below:** N/A

Any additional work required? No **If yes, please describe below:** No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes

Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:

Date:

Boart Foreman signature:

Date: 6/26/2018

APPENDIX E.4.7
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-TF-8N



PRE-DRILLING INSPECTION REPORT 2018			
HATCH personnel:	Michael Yang		
Date:	6/26/2018		
Time:	2:00 PM		
Proposed hole ID:	BH18-TF-8N	Final hole ID:	BH18-TF-8N

PROPOSED HOLE INFORMATION:

Location: Mary River	Collar location:	E	561,163
Project: Mary River Expansion Study Stage 2	(NAD 83)	N	7,913,435
Area: Area 51 laydown	Dip:	90	
NTS: N/A	Azimuth:	N/A	
Elevation: 188 m	Target depth:	25 m	
Description of drillhole location:	East end of tank farm		
Purpose of drillhole:	Geotechnical investigation for new tank farm		

DRILLING INFORMATION:

Has site been approved by drill foreman?:	Yes	Foreman:	Brent McAndrew, Kyle Everett
Drill contractor:	Boart Longyear		
Drill #:	BL 100		
Expected start of drilling:	18-Jun-18		
Is moving of drillhole required?:	Yes		
If yes, provide reason:			
New Collar Location	E	561,166 N	7,913,449

Environment Assessment

Water source:	River		
Pump Station #:	N/A	Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A	(Photo required)	
Manual drainage constructed?:	N/A	(Photo required)	
Silt fence(s) constructed?:	N/A	(Photo required)	
Silt Bag Used:	N/A	(Photo required)	

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:

None



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Michael Yang
Date:	6/26/2018
Time:	12:00 PM
Hole ID:	BH18-TF-8N

HOLE INFORMATION:

Location: Mary River	Section: Area 51 laydown	Collar location: E	561,166
		(NAD 83)	N 7,913,449

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Jared Williams, Adrian Patterson		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A		
Assessment of effectiveness:	N/A		
Salt usage per day:	N/A		
Flow Meter Reading:	N/A	End of N/S	N/A
		End of D/S	6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	N/A

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos: Drilling Investigation 2018 Server Folder			

COMMENTS:

None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Michael Yang
Date: 6/27/2018
Time: 9:00 AM
Hole ID: BH18-TF-8N

HOLE INFORMATION:

Location: Mary River **Collar location:** E 561,166
Project: Mary River Expansion Study Stage 2 (NAD 83) N 7,913,449
Area: Area 51 laydown
NTS: N/A
Description of drillhole location: East end of tank farm
Purpose of drillhole: Geotechnical investigation for new tank farm

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: BL 100
End Date of drilling: 6/27/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site?	Yes	
Casing left?:	No	
Has Casing left been cut to ground level?	N/A	
Any drill rods lost in the drillhole?	No	If yes, how many?: N/A
Has hole been properly marked?	Yes	
Any environmental concerns?	No	If yes, please describe below: N/A
Any additional work required?	No	If yes, please describe below: No
Corrective action:	N/A	


PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
 Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:	Boart Foreman signature:
Date:	Date: 6/27/2018 

APPENDIX E.4.8
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-TW-01



PRE-DRILLING INSPECTION REPORT 2018	
HATCH personnel:	Michael Yang
Date:	6/16/2018
Time:	7:00 AM
Proposed hole ID:	BH18-TW-01
Final hole ID:	BH18-TW-01

PROPOSED HOLE INFORMATION:	
Location: Mary River	Collar location: E 561,477
Project: Mary River Truck Workshop and Tank Farm	(NAD 83) N 7,913,189
Area: Snow dump area	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 195 m	Target depth: 25 m
Description of drillhole location:	Southwest of truck workshop
Purpose of drillhole:	Geotechnical investigation for new truck workshop

DRILLING INFORMATION:	
Has site been approved by drill foreman?:	Yes
Drill contractor:	Boart Longyear
Drill #:	BL 100
Expected start of drilling:	18-Jun-18
Is moving of drillhole required?:	No
If yes, provide reason:	
New Collar Location	E 561,477 N 7,913,189

Environment Assessment	
Water source:	River
Pump Station #:	N/A
Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A (Photo required)
Manual drainage constructed?:	N/A (Photo required)
Silt fence(s) constructed?:	N/A (Photo required)
Silt Bag Used:	N/A (Photo required)

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:	
None	



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Michael Yang
Date:	6/16/2018
Time:	12:00 PM
Hole ID:	BH18-TW-01

HOLE INFORMATION:

Location: Mary River	Section: Snow dump area	Collar location: E	561,477
		(NAD 83)	N 7,913,189

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Jared Williams, Adrian Patterson		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A		
Assessment of effectiveness:	N/A		
Salt usage per day:	N/A		
Flow Meter Reading:	N/A	End of N/S	N/A
		End of D/S	6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	N/A

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	Yes	Photo of sediment control measures?	N/A
Location of photos:	Drilling Investigation 2018 Server Folder		

COMMENTS:

None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Michael Yang

Date: 6/17/2018

Time: 2:00 PM

Hole ID: BH18-TW-01

HOLE INFORMATION:

Location: Mary River **Collar location:** E 561,477

Project: Mary River Truck Workshop and Tank Farm (NAD 83) N 7,913,189

Area: Snow dump area

NTS: N/A

Description of drillhole location: Southwest of truck workshop

Purpose of drillhole: Geotechnical investigation for new truck workshop

DRILLING INFORMATION:

Drill Contractor: Boart Longyear

Drill #: BL 100

End Date of drilling: 6/17/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: No

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No **If yes, how many?:** N/A

Has hole been properly marked? Yes

Any environmental concerns? No **If yes, please describe below:** N/A

Any additional work required? No **If yes, please describe below:** No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes

Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:

Boart Foreman signature:

Date:

Date: 6/17/2018

APPENDIX E.4.9
ENVIRONMENTAL MONITORING LOGS
2018 GEOTECHNICAL LOCATION - BH18-TW-02



PRE-DRILLING INSPECTION REPORT 2018	
HATCH personnel:	Michael Yang
Date:	6/16/2018
Time:	7:00 AM
Proposed hole ID:	BH18-TW-02
Final hole ID:	BH18-TW-02

PROPOSED HOLE INFORMATION:	
Location: Mary River	Collar location: E 561,537
Project: Mary River Truck Workshop and Tank Farm	(NAD 83) N 7,913,229
Area: Snow dump area	Dip: 90
NTS: N/A	Azimuth: N/A
Elevation: 200	Target depth: 25 m
Description of drillhole location:	Northeast of truck workshop
Purpose of drillhole:	Geotechnical investigation for new truck workshop

DRILLING INFORMATION:	
Has site been approved by drill foreman?:	Yes
Drill contractor:	Boart Longyear
Drill #:	BL 100
Expected start of drilling:	18-Jun-18
Is moving of drillhole required?:	Yes
If yes, provide reason:	
New Collar Location	E 561,532 N 791,323

Environment Assessment	
Water source:	River
Pump Station #:	N/A
Portable Tanks:	N/A
Natural depression/ drainage evident?:	N/A (Photo required)
Manual drainage constructed?:	N/A (Photo required)
Silt fence(s) constructed?:	N/A (Photo required)
Silt Bag Used:	N/A (Photo required)

SITE ASSESSMENTS:	
Are wildlife present?: (if yes, record in log)	None
Is site safe for drilling?:	Yes
Safety concerns/issues:	None
Environmental concerns?:	None

PHOTOGRAPHIC RECORD:	
Photo of drillhole location prior to setup?	Yes
Location of photos:	Drilling Investigation 2018 Server Folder

COMMENTS:	
None	



DAILY DRILL INSPECTION REPORT 2018

HATCH personnel:	Michael Yang
Date:	6/16/2018
Time:	12:00 PM
Hole ID:	BH18-TW-02

HOLE INFORMATION:

Location: Mary River	Section: Snow dump area	Collar location: E	561,532
		(NAD 83)	N 791,323

DRILLING INFORMATION

Drill contractor:	Boart Longyear	Drill Type:	Mini Sonic
Drill personnel:	Jared Williams, Adrian Patterson		
Drill #:	BL 100		

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?: N/A
No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:	N/A		
Assessment of effectiveness:	N/A		
Salt usage per day:	N/A		
Flow Meter Reading:	N/A	End of N/S	N/A
		End of D/S	6:00 PM

Has wildlife been present?: (check log for previous wildlife activity)

No
Environmental Concerns: None

SAFETY ASSESSMENT:

Stable platform	Yes	Fall prevention system if platform is over 1.8m	N/A
First Aid kit	Yes	Fire Extinguisher(2)	Yes
PPE	Yes	Eye Wash (2)	Yes
(Safety glasses/steal toe boots/ear plugs/Hard Hats)		Spill Kits (2)	Yes
		Lined Berms	N/A
		Survival Shack	N/A

Safety concerns/issues: None

Corrective action required?: No

Action plan (if required): N/A

Responsible party: N/A **Date to be completed:** N/A

Photograph (only required to document problems and corrective actions): N/A

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?	No	Photo of sediment control measures?	N/A
Location of photos: Drilling Investigation 2018 Server Folder			

COMMENTS: None



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Michael Yang

Date: 6/17/2018

Time: 2:00 PM

Hole ID: BH18-TW-02

HOLE INFORMATION:

Location: Mary River **Collar location:** E 561,532

Project: Mary River Truck Workshop and Tank Farm **(NAD 83)** N 791,323

Area: Snow dump area

NTS: N/A

Description of drillhole location: Northeast of truck workshop

Purpose of drillhole: Geotechnical investigation for new truck workshop

DRILLING INFORMATION:

Drill Contractor: Boart Longyear

Drill #: BL 100

End Date of drilling: 6/17/2018

ENVIRONMENT ASSESSMENT:

All materials and debris removed from site? Yes

Casing left?: No

Has Casing left been cut to ground level? N/A

Any drill rods lost in the drillhole? No **If yes, how many?:** N/A

Has hole been properly marked? Yes

Any environmental concerns? No **If yes, please describe below:** N/A

Any additional work required? No **If yes, please describe below:** No

Corrective action: N/A

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes

Location of photos: Drilling Investigation 2018 Server Folder

COMMENTS:

None

INSPECTION COMPLETED BY:

BIM signature:

Boart Foreman signature:

Date:

Date: 6/17/2018

APPENDIX E.5.1
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR3-18-239



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: Cameron Scott
Date & Time: 2018/06/16 19:00
Proposed hole ID: MR3-18-P05
Final Hole ID: MR3-18-239

PROPOSED HOLE INFORMATION:

Deposit #: Deposit No. 3	Collar location: E 567597.09
Project: Mary River	(UTM NAD 83) N 79113639.078
Area: Baffin Island	Dip: -48
NTS: 37G/5	Azimuth: 350
Elevation: 452.954 meters	Target depth: 175 meters
Description of drillhole location: South side of deposit 3	
Purpose of drillhole: delineation	

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** Verdon Bigelow
Drill contractor: Boart Longyear
Drill #:
Expected start of drilling: 2018-06-16
Is moving of drillhole required?: No
If yes, provide reason:
New Collar Location E N

Environment Assessment

Water source: Mary River
Pump Station #: **Portable Tanks:** Yes
Natural depression/ drainage evident?: Yes (Photo required)
Manual drainage constructed?: No (Photo required)
Silt fence(s) constructed?: Yes (Photo required)
Silt Bag Used: No (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) No
Is site safe for drilling?: Yes
Safety concerns/issues:
No
Environmental concerns?:
No

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: 2018 Drill Hole Database

COMMENTS:

Drill LF-70 #7565. Drill dip changed to -55 due to drill limitations, depth may change.

INSPECTION COMPLETED BY:

Name: Cameron Scott **Signature:** Cameron Scott
Digitally signed by Cameron Scott
Date: 2018.06.17 07:28:59 -04'00'

Date: 2018-06-17



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/06/17 14:37
Hole ID: MR3-239

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567597.09
(UTM NAD 83 17W) N 79113639.078

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Vernon Bigelow

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day: 0
Flow Meter Reading: End of N/S: 0 End of D/S: 0
Has wildlife been present?: (check log for previous wildlife activity) Yes
Single fox
Environmental Concerns:
None

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:
None
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions): No

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Drilling has not started at this point in time. Sat Phone 6 at drill site.

INSPECTION COMPLETED BY:

Name: Anita Egvir Signature: Anita Egvir Digitally signed by Anita Egvir Date: 2018.06.17 17:46:35 -04'00'

Date: 6/17/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Cameron Scott
Date & Time: 2018/06/18 12:00
Hole ID: MR3-18-239

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567597.09
Location: Section: (UTM NAD 83 17W) N 7913639.078

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Kenee, Francis

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:
Drilling not started
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Waiting on water pumps

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: yes
Assessment of effectiveness: Good
Salt usage per day: n/a
Flow Meter Reading: End of N/S: End of D/S:
Has wildlife been present?: (check log for previous wildlife activity) Yes
One arctic fox yesterday
Environmental Concerns:
No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:
No
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Flow meter reading was 0.00L/m but crew turned it on 30 seconds later achieving 19.20L/m flow rate. Some lined berms around fuel tanks are partially/completely filled with rainwater.

INSPECTION COMPLETED BY:

Name: Cameron Scott Signature: Cameron Scott
Digitally signed by Cameron Scott
Date: 2018.06.18 13:05:08 -04'00'

Date: 6/18/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/06/19 11:58
Hole ID: MR3-18-293

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section:
Collar location: E 567597.09
(UTM NAD 83 17W) N 7913639.078

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: Kenee, Francis
Drill Type: LF /U
Drill #: 7565

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? No
If yes, what was lost?:
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Changed core barrel from 3m to 1.5 m, finished in the morning before I had arrived

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day: 25
Flow Meter Reading: End of N/S: 31141 End of D/S:
Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No
Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Just moving rods into place to drill when I arrived. Salt usage measurement is for both 239 and 240 drill. Salt usage measured at water pump; not sure of the unit of measurement for salt. Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Anita Egvir
Signature: Anita Egvir
Digitally signed by Anita Egvir
Date: 2018.06.19 15:43:19 -04'00'

Date: 6/19/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Cameron Scott
Date & Time: 2018/06/20 10:45
Hole ID: MR3-18-240

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567597.09
(UTM NAD 83 17W) N 7913639.078

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: Renee & Francis
Drill Type: LF /U
Drill #: 7565

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? No
If yes, what was lost?:
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Resolved water cooler issue, coils fixed, water pump 2 now running

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes (silt fence)
Assessment of effectiveness: Poor
Salt usage per day: 31 bags to this time
Flow Meter Reading: End of N/S: End of D/S:
Has wildlife been present?: (check log for previous wildlife activity)
No
Environmental Concerns:
Silt fences partially destroyed

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

No
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

-2m to go before drilling
-Rod was spinning
-Drill observed to not be running at 12:30pm during later check
-Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Cameron Scott
Signature: Cameron Scott
Digitally signed by Cameron Scott
Date: 2018.06.20 14:31:33 -04'00'

Date: 6/20/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Sean Doherty
Date & Time: 2018/06/21 11:43
Hole ID: MR3-18-239

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567597.09
Location: Section: (UTM NAD 83 17W) N 7913639.078

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Renee and Francis

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day: ~ 30 bags
Flow Meter Reading: End of N/S: 183658 End of D/S: 983068

Has wildlife been present?: (check log for previous wildlife activity) No

No

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Everything seems to be running great on drills
Silt fence is holding up well
High grade (granular hematite) in the box
Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Sean Doherty Signature: Sean Doherty
Digitally signed by Sean Doherty
Date: 2018.06.21 11:54:46 -04'00'

Date: 6/21/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/06/22 08:14
Hole ID: MR3-18-239

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567597.09
(UTM NAD 83 17W) N 7913639.078

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Kenee, Francis

DRILLING PROGRESS:

Night Shift Depth: 94 Day Shift Depth: Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day: 96 small bags (~4 big bags,
Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions): No

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Driller's will be consistent and keep the run blocks to 1.5 m.
Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Anita Egvir Signature: Anita Egvir Digitally signed by Anita Egvir Date: 2018.06.22 09:24:04 -04'00'

Date: 6/22/18

BIM personnel: Cameron Scott
 Date & Time: 2018/06/23 07:48
 Hole ID: MR3-18-239

HOLE INFORMATION:

 Deposit #: Deposit No. 3 Collar location: E 567597.09
 Location: Section: (UTM NAD 83 17W) N 79113639.078

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: Kenee, Francis

DRILLING PROGRESS:

Night Shift Depth: 103.5m Day Shift Depth: n/a Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Partial hole collapse around Specularite zone while changing the drill bit, currently reaming through collapsed area.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Good

Salt usage per day: 75 bags on night shift

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

1 Arctic Fox roaming between drills + pump

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

 0.00 L/m on both pumps (BROKEN)
 Yellow pump total: 695222 L (BROKEN)
 Blue pump: 262925 L (BROKEN)
 Core blocks corrected back 3m starting at 103.5m, previous depths were 3m too deep
 Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Cameron Scott

 Signature: Cameron Scott
 Digitally signed by Cameron Scott
 Date: 2018.06.23 09:03:15 -04'00'

BIM personnel: Sean Doherty
 Date & Time: 2018/06/24 08:26
 Hole ID: MR3-18-239

HOLE INFORMATION:

 Deposit #: Deposit No. 3 Collar location: E 567597.09
 Location: Section: (UTM NAD 83 17W) N 79113639.078

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: Kenee & Francis

DRILLING PROGRESS:

Night Shift Depth: 135m Day Shift Depth: N/A Current Lithology: 3 - Amphibol

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No delays but unsure if hole should continue based on what is currently in the box

ENVIRONMENT ASSESSMENT:

 Sediment control measures in place: Silt Fence
 Assessment of effectiveness: Fair
 Salt usage per day: 160 bags for both day and r
 Flow Meter Reading: End of N/S: 0 End of D/S: 0

Has wildlife been present?: (check log for previous wildlife activity) Yes

Arctic Fox hanging around the drill

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

 Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

 -Currently in an interval of amphibolite/ possibly chlorite schist so unsure if the hole should be continued or shut down.
 (Will re-evaluate once we look at the core on the tables)
 -Both pumps reading 0.00 L/m for flow rate due to broken flow valves
 Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

 Digitally signed by Sean Doherty
 Date: 2018.06.24 08:35:06 -04'00'



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/06/25 07:55
Hole ID: MR3-18-239

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567597.09
(UTM NAD 83 17W) N 79113639.078

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Kenee, Francis

DRILLING PROGRESS:

Night Shift Depth: 145.5 Day Shift Depth: 145.5 Current Lithology: 4 - Schist
Any rods/casing/tools lost in the drill hole? If yes, what was lost?:
Casing and core barrel stuck in hole; frozen
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Shutting down the drill and getting ready to move. Should be ready to move sometime tonight or tomorrow.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day: 140 bags (small)
Flow Meter Reading: End of N/S: End of D/S:
Has wildlife been present?: (check log for previous wildlife activity) Yes
Fox
Environmental Concerns:
No

SAFETY ASSESSMENT:

Table with 4 columns: Item, Yes, No, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

None
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Drill is getting ready to pack up and move. All rods are out. Core barrel and casing are stuck in the hole. Casing has frozen.

INSPECTION COMPLETED BY:

Name: Anita Egvir Signature: Anita Egvir Digitally signed by Anita Egvir Date: 2018.06.25 08:59:01 -04'00'

Date: 6/25/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Cameron Scott
Date & Time: 2018/06/26 07:55
Hole ID: MR3-18-239

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567597.09
Location: Section: (UTM NAD 83 17W) N 79113639.078

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: NO personnel on site

DRILLING PROGRESS:

Night Shift Depth: 145.5 (Final Depth) Day Shift Depth: 145.5 (Final Depth) Current Lithology:

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

N/A

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

N/A

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: 50 20kg bags on night shift

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

No

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

- Drill site partially disassembled and gear packed including Fire Aid kit, Extinguishers, Eye Wash, and Spill Kits.
- PPE N/A
- Drill shack disassembled
- This site was not using water
- Final Lithology unknown, no core or table present

INSPECTION COMPLETED BY:

Name: Cameron Scott

Signature: Cameron Scott

Digitally signed by Cameron Scott
Date: 2018.06.26 09:25:56 -04'00'

Date: 6/26/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Sean Doherty
Date & Time: 2018/06/27 13:47
Hole ID: MR3-18-239

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567597.09
(UTM NAD 83 17W) N 79113639.078

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: NO personnel on site
Drill Type: LF /U
Drill #: 7565

DRILLING PROGRESS:

Night Shift Depth: None
Day Shift Depth: 145.5 (Final Depth)
Current Lithology:
Any rods/casing/tools lost in the drill hole?
If yes, what was lost?:
No
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Fair
Salt usage per day: 52 bags
Flow Meter Reading: End of N/S: 103.94 End of D/S:
Has wildlife been present?: (check log for previous wildlife activity) No
Environmental Concerns:
None

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No
Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

- Drill site partially disassembled and gear packed including Fire Aid kit, Extinguishers, Eye Wash, and Spill Kits.
-PPE N/A
-Drill shack disassembled
-This site was not using water
-Final Lithology unknown, no core or table present

INSPECTION COMPLETED BY:

Name: Sean Doherty
Signature: Sean Doherty
Digitally signed by Sean Doherty
Date: 2018.06.27 13:49:53 -04'00'

Date: 6/27/18



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Cameron Scott
Date & Time: 2018/08/07 14:22
Hole ID: MR3-18-239

HOLE INFORMATION:

Deposit #: Deposit No. 3
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 567597.09
(UTM NAD 83 17W) N 79113639.078
Actual depth: 145.5m meters
Description of drillhole location: South side of deposit 3 ridge
Purpose of drillhole: Delineate deposit 3

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7565
End Date of drilling: 2018-06-25

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input checked="" type="radio"/>	<input type="radio"/>	
Casing left?:	<input type="radio"/>	<input checked="" type="radio"/>	
Has Casing left been cut to ground level?	<input type="radio"/>	<input type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Corrective action:			

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

-Has Casing left been cut to ground level? N/A (no Casing left)
-Anchor sticking out of ground ~1m
-See scan copy for foreman signature

INSPECTION COMPLETED BY:

BIM signature: Cameron Scott
Foreman signature:
Digitally signed by Cameron Scott
Date: 2018.08.07 16:48:04 -04'00'

Date: 2018-08-07

Date:

APPENDIX E.5.2
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR3-18-240



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: Cameron Scott
Date & Time: 2018/06/16 18:45
Proposed hole ID: MR3-18-PO4
Final Hole ID: MR3-18-240

PROPOSED HOLE INFORMATION:

Deposit #: Deposit No. 3	Collar location: E 567355.483
Project: Mary River	(UTM NAD 83) N 7913559.698
Area: Baffin Island	Dip: -40
NTS: 37G/5	Azimuth: 350
Elevation: 439.83 meters	Target depth: 225 meters
Description of drillhole location: South side of deposit 3	
Purpose of drillhole: Delineation	

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** Verdon Bigelow
Drill contractor: Boart Longyear
Drill #:
Expected start of drilling: 2018-06-16
Is moving of drillhole required?: No
If yes, provide reason:
New Collar Location E N

Environment Assessment

Water source: Mary River
Pump Station #: **Portable Tanks:** Yes
Natural depression/ drainage evident?: Yes (Photo required)
Manual drainage constructed?: No (Photo required)
Silt fence(s) constructed?: Yes (Photo required)
Silt Bag Used: No (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) No
Is site safe for drilling?: Yes
Safety concerns/issues:
No
Environmental concerns?:
No

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: 2018 Drill Hole Database

COMMENTS:

Drill PF-70 #7560. Drill dip changed to -55, depth may change.

INSPECTION COMPLETED BY:

Name: Cameron Scott	Signature: Cameron Scott	Digitally signed by Cameron Scott Date: 2018.06.17 07:19:25 -04'00'
-------------------------------	------------------------------------	--

Date: 2018-06-17



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Sean Doherty
Date & Time: 2018/06/18 13:30
Hole ID: MR3-18-240 / P04

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567355.483
Location: Section: (UTM NAD 83 17W) N 7913559.698

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: Troy & Lyle

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:
N/A
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Water pump issues

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt fence
Assessment of effectiveness: Good
Salt usage per day: N/A
Flow Meter Reading: End of N/S: End of D/S:
Has wildlife been present?: (check log for previous wildlife activity) No
N/A
Environmental Concerns:
none

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:
None
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions): No

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Flow meter reading from 0.0- 19.23 L/m.

INSPECTION COMPLETED BY:

Name: Sean Doherty Signature: Sean Doherty
Digitally signed by Sean Doherty
Date: 2018.06.18 13:38:43 -04'00'

Date: 6/18/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Cameron Scott
Date & Time: 2018/06/20 10:35
Hole ID: MR3-18-240

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567355.483
(UTM NAD 83 17W) N 7913559.698

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: Lyle & Troy

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Poor
Salt usage per day: 31 20kg bags at time
Flow Meter Reading: End of N/S: End of D/S:
Has wildlife been present?: (check log for previous wildlife activity)
No
Environmental Concerns:
Silt fence collapsed

SAFETY ASSESSMENT:

Table with 4 columns: Item, Yes, No, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

No
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

-Silt fence torn from posts
-23m drilled
-Flow rate:562883 Gal OR 60.3 L/m between MR3-18-240 and MR3-18-239
-Salt usage split between MR3-18-2340and MR3-18-239

INSPECTION COMPLETED BY:

Name: Cameron Scott Signature: Cameron Scott Digitally signed by Cameron Scott Date: 2018.06.20 14:19:45 -04'00'

Date: 6/20/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Sean Doherty
Date & Time: 2018/06/21 11:59
Hole ID: MR3-18-240

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567355.483
(UTM NAD 83 17W) N 7913559.698

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: veraon and i roy
Drill Type: LF /U
Drill #: 7560

DRILLING PROGRESS:

Any rods/casing/tools lost in the drill hole? No
If yes, what was lost?:
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Changing of the Drill bit but no delays

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Fair
Salt usage per day: 30 bags
Flow Meter Reading: End of N/S: 183658 End of D/S: 983068
Has wildlife been present?: (check log for previous wildlife activity) No
No
Environmental Concerns:
None

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Silt fence is holding strong, will reevaluate in the following days
Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Sean Doherty
Signature: Sean Doherty
Digitally signed by Sean Doherty
Date: 2018.06.21 13:03:35 -04'00'

Date: 6/21/18

BIM personnel: Anita Egvir
 Date & Time: 2018/06/22 07:55
 Hole ID: MR3-18-240

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567355.483
 Location: Section: (UTM NAD 83 17W) N 7913559.698

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: JUSTIN, CHRISTIAN

DRILLING PROGRESS:

Night Shift Depth: 82m Day Shift Depth: Current Lithology: 6 - Metasedi

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Changing water swivel fitting (quick 5-10 min change).

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: 96 small bags (~4 big ones,

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

Silt Fence continues to collapse due to water. Silt fence however was able to hold back the silt. Secondary containment needed for fuel at halfway point between drills.

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Silt fence collapsed last night, but held silt back. Built a secondary fence further downhill to as a response to collapse. Filter system might help prevent any future collapses. Secondary containment will be sent to drills for fuel at halfway point between 239 and 240 drills. Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Anita Egvir

Signature:

Anita Egvir

Digitally signed by
 Anita Egvir
 Date: 2018.06.22
 09:02:54 -04'00'

BIM personnel: Cameron Scott
 Date & Time: 2018/06/23 08:00
 Hole ID: MR3-18-240

HOLE INFORMATION:

 Deposit #: Deposit No. 3 Collar location: E 567597.09
 Location: Section: (UTM NAD 83 17W) N 7913639.078

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: JUSTIN, CHRISTIAN

DRILLING PROGRESS:

Night Shift Depth: 142m Day Shift Depth: n/a Current Lithology: 7 - High Grade

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Good

Salt usage per day: 75 20kg bags on night shift

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Arctic fox roaming between drills and pump

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

 Loss of recovery around 90m, roughly 30cm
 Alternating Spec+High Grade through the night shift
 Blue Pump: 0.00L/m, Total: 262925L (BROKEN)
 Yellow Pump: 0.00L/m, Total: 6955222L (BROKEN)
 Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Cameron Scott

 Signature: Cameron Scott
 Digitally signed by Cameron Scott
 Date: 2018.06.23 09:36:03 -04'00'

Date: 6/23/18

BIM personnel: Sean Doherty
 Date & Time: 2018/06/24 08:38
 Hole ID: MR3-18-240

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567597.09
 Location: Section: (UTM NAD 83 17W) N 7913639.078

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: JUSTIN & CHRISTIAN

DRILLING PROGRESS:

Night Shift Depth: 155.5m Day Shift Depth: N/A Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Currently pulling rods and changing the bit

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
 Assessment of effectiveness: Fair
 Salt usage per day: 160 bags for both night and
 Flow Meter Reading: End of N/S: 0 End of D/S: 0

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

- After rod count it was discovered that the hole is 3m off
- 14 Rods for the rod count
- Changing drill bit when inspection occurred
- Both flow meters are reading 0.00 L/m and are broken
- Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.06.24 08:44:45 -04'00'

BIM personnel: Anita Egvir
 Date & Time: 2018/06/25 08:55
 Hole ID: MR3-18-240

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567355.483
 Location: Section: (UTM NAD 83 17W) N 7913559.698

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: JUSTIN, CHRISTIAN

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 155.5m Current Lithology:
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:
 Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
 Hole froze yesterday night. They will yard it and start up the drill soon.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
 Assessment of effectiveness: Good
 Salt usage per day: 140 bags (small)
 Flow Meter Reading: End of N/S: End of D/S:
 Has wildlife been present?: (check log for previous wildlife activity) Yes
 Fox
 Environmental Concerns:
 No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No
 Corrective action required?: No
 Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

First silt fence collapsed due to water, however worked well in holding back silt. Secondary fence that was built due to silt fence collapses held and was effective in holding back silt. Stayed upright as drill helper had reinforced original secondary fence. Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Anita Egvir Signature: Anita Egvir
 Digitally signed by Anita Egvir
 Date: 2018.06.25 09:19:28 -04'00'

BIM personnel: Cameron Scott
 Date & Time: 2018/06/26 07:40
 Hole ID: MR3-18-240

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567355.483
 Location: Section: (UTM NAD 83 17W) N 7913559.698

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: JUSTIN & CHRISTIAN

DRILLING PROGRESS:

Night Shift Depth: 197m Day Shift Depth: n/a Arrived at shift ch Current Lithology: 8 - High Grac
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:
 No
 Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
 None stated when asked but hesitant response. Called for hydraulic filter due to hydraulic leak at 7:30am. Drill was op

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
 Assessment of effectiveness: Good
 Salt usage per day: 50 20kg bags on night shift
 Flow Meter Reading: End of N/S: End of D/S:
 Has wildlife been present?: (check log for previous wildlife activity) No
 No
 Environmental Concerns:
 No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No
 Corrective action required?: No
 Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

-Only 20cm of core on the table at inspection, thus lithology may vary.
 -New analog meter on blue water pump
 -Blue pump: 0.027 M³/min
 -Yellow pump: 0.00L/min OR Total2: 695222L
 Flow meter not working but should be ~50L/m per drill according to data when the meter was working.

INSPECTION COMPLETED BY:

Name: Cameron Scott Signature: Cameron Scott
 Digitally signed by Cameron Scott
 Date: 2018.06.26 09:15:51 -04'00'

BIM personnel: Sean Doherty
 Date & Time: 2018/06/27 13:12
 Hole ID: MR3-18-240

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567597.09
 Location: Section: (UTM NAD 83 17W) N 7913639.078

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: JUSTIN & CHRISTIAN

DRILLING PROGRESS:

Night Shift Depth: 227m Day Shift Depth: N/A Current Lithology: 4 - Schist
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
 Assessment of effectiveness: Fair
 Salt usage per day: 52 bags
 Flow Meter Reading: End of N/S: 103.94 End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

-Drill not running, just circulating water until deviflex demo
 -Flow meter not working but should be ~50 L/m per drill according to data when meter was working

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.06.27 13:23:59 -04'00'



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Cameron Scott
Date & Time: 2018/08/07 14:30
Hole ID: MR3-18-240

HOLE INFORMATION:

Deposit #: Deposit No. 3
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 567355.483
(UTM NAD 83 17W) N 7913559.698
Actual depth: 226 meters
Description of drillhole location: South side of deposit 3 ridge
Purpose of drillhole: Delineate deposit 3

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7560
End Date of drilling: 2018-06-27

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input checked="" type="radio"/>	<input type="radio"/>	
Casing left?:	<input checked="" type="radio"/>	<input type="radio"/>	
Has Casing left been cut to ground level?	<input type="radio"/>	<input checked="" type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:

Corrective action:

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

-Anchor and casing sticking out of ground ~1m
-See scan copy for foreman signature

INSPECTION COMPLETED BY:

BIM signature: Cameron Scott
Foreman signature:
Digitally signed by Cameron Scott
Date: 2018.08.07 17:07:09 -04'00'

Date: 2018-08-07

Date:

APPENDIX E.5.3
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR3-18-241



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: *MASSOUD ROBATIAN*
Date & Time: *June 29, 2018*
Proposed hole ID: *MR3-18-P07*
Final Hole ID: *MR3-18-241*

PROPOSED HOLE INFORMATION:

Deposit #: *3*
Project: *Mary River*
Area: *Baffin Island*
NTS: *37G/5*
Elevation: *454* meters
Collar location: *E 567776*
(UTM NAD 83) *N 7913614*
Dip: *-50*
Azimuth: *170*
Target depth: *275* meters
Description of drillhole location: *south side of deposit 3*
Purpose of drillhole: *delineation*

DRILLING INFORMATION:

Has site been approved by drill foreman?: *Yes* Foreman: *Leon Reid / Robert L'Heureux*
Drill contractor: *Boart Longyear*
Drill #: *75065*
Expected start of drilling: *June 29, 2018*
Is moving of drillhole required?: *NO*
If yes, provide reason:
New Collar Location *E N*

Environment Assessment

Water source: *Mary River*
Pump Station #: *1* Portable Tanks: *yes*
Natural depression/ drainage evident?: *yes* *yes* (Photo required)
Manual drainage constructed?: *no* *no* (Photo required)
Silt fence(s) constructed?: *NO will be constructed* *yes* (Photo required)
Silt Bag Used: *NO will be used* *yes* (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) *NO*
Is site safe for drilling?: *yes*
Safety concerns/issues: *NO*
Environmental concerns?: *NO*

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? *yes*
Location of photos: *2018 Drill Hole Database*

COMMENTS:

INSPECTION COMPLETED BY:

Name: *MASSOUD ROBATIAN* Signature: *M. Robatian*

Date: *June 29, 2018*

BIM personnel: Justin, Max, Jason, Massoud
 Date & Time: Jun 30, 2018 2:00 PM
 Hole ID: MR3-18-241

HOLE INFORMATION:

Deposit #: 3 Collar location: E 567775
 Location: south of Dipos Section 3 (UTM NAD 83 17W) N 7913 614

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: L70 Drill #: 7565
 Drill personnel: Robert Petile, Cyril Noseworthy

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: Schist (weakly magnetic)
 Any rods/casing/tools lost in the drill hole? NO If yes, what was lost?: at 22.5m
 Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Assessment of effectiveness: There is some sediment passing & silt fence
 Salt usage per day: Flow Meter Reading: End of N/S: End of D/S:
 Has wildlife been present?: (check log for previous wildlife activity) NO
 Environmental Concerns: yes - Two tidy tanks without berms

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues: Two tidy tanks without berms

Corrective action required?:
 Action plan (if required):
 Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

Hole at 25m depth

INSPECTION COMPLETED BY:

Name: Justin Hoyle Signature: Justin Hoyle

Date: June 30, 2018

BIM personnel: Justin, Max, Jason, Massoud
 Date & Time: Jun 30, 2018 2:00 PM
 Hole ID: MR3-18-241

HOLE INFORMATION:

Deposit #: 3
 Location: 50th of Deposit Section: 3
 Collar location: E 567775
 (UTM NAD 83 17W) N 7913614

DRILLING INFORMATION

Drill contractor: Boart Longyear
 Drill Type: DL70
 Drill #: 7565
 Drill personnel: Robert petite, Cyril nose worthy

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: Schist (weakly magnetic)
 Any rods/casing/tools lost in the drill hole? NO If yes, what was lost?: at 22.5m

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes
 Assessment of effectiveness: There is some sediment passing at silt fence
 Salt usage per day:
 Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) NO

Environmental Concerns: yes - Two tidy tanks without berms

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)	<input checked="" type="radio"/>	<input type="radio"/>	Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues: Two tidy tanks without berms

Corrective action required?:
 Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
 Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

Hole at 25m depth

INSPECTION COMPLETED BY:

Name: Justin Hoyle Signature: Justin Hoyle

Date: June 30, 2018

BIM personnel: Max Sandering
 Date & Time: July 1st 2018
 Hole ID: MR3-18-241

HOLE INFORMATION:

Deposit #: 3
 Location: S of dep 3 Section: Collar location: E 567775
 (UTM NAD 83 17W) N 7913614

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF70 Drill #: 7565
 Drill personnel: Robert petite, Cyril Noseworthy

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: Schist (low mag)
 Any rods/casing/tools lost in the drill hole? If yes, what was lost?: 28.5m

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Stuck in hole → no time estimate (days → week?) think wall rock may have fallen in hole?

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:
 Assessment of effectiveness: sediment passing by silk fence
 Salt usage per day:
 Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns: Tidy tank w/ berm

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
First Aid kit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fire Extinguisher(2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PPE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Eye Wash (2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Spill Kits (2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			Lined Berms	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			Survival Shack	<input checked="" type="checkbox"/>	<input type="checkbox"/>

one tank no w.d. to photo

Safety concerns/issues:

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Photo of sediment control measures?
 Location of photos: 2018 Drilling Database

COMMENTS:

Hole @ 28.5 m; hole halted

INSPECTION COMPLETED BY:

Name: Max Sandering Signature: *[Signature]*

Date: July 1st 2018

BIM personnel: Justin Hoyle
 Date & Time: July 2, 2018 7:45 AM
 Hole ID: MR 3-18-241

HOLE INFORMATION:

Deposit #: 3
 Location: South of Deposit 3 Section: 3
 Collar location: E 567775
 (UTM NAD 83 17W) N 7913614

DRILLING INFORMATION

Drill contractor: Boart Longyear
 Drill personnel: Robert Petite, Cyril Noseworthy
 Drill Type: LF 70
 Drill #: 7565

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: schist at 54m
 Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes
 Assessment of effectiveness: moderately effective - could
 Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns: 1 Tidy tank not in berm

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues: None

Corrective action required?:
 Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
 Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle
 Signature: Justin Hoyle

Date: July 2, 2018

BIM personnel: Jason Willson
 Date & Time: July 3, 2018 7:30 AM
 Hole ID: MB3-18-241

HOLE INFORMATION:

Deposit #: Depos + 3
 Location: Section: Collar location: E 567775
 (UTM NAD 83 17W) N 7913614

DRILLING INFORMATION

Drill contractor: Boart Longyear
 Drill personnel: Robert Peitric, Cyril W. Worthy
 Drill Type: LF - 70 Drill #: 7565

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: Barred Iron formation
 Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:
 Assessment of effectiveness:
 Salt usage per day:
 Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?:
 Action plan (if required):

Responsible party: Date to be completed:


Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Photo of sediment control measures?
 Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature: 
 Date: July 3, 2018

BIM personnel: *Max Sandering*
 Date & Time: *July 4th 2018, 10:30am*
 Hole ID: *NR3-18-041*

HOLE INFORMATION:

Deposit #: *3*
 Location: *South of Deposit #13* Section: Collar location: *E 567775*
 (UTM NAD 83 17W) N *7913614*

DRILLING INFORMATION

Drill contractor: *Boart Longyear* Drill Type: *LF70* Drill #: *7565*
 Drill personnel: *Robert Petite, Cyril Noseworthy*

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: *BIF @ 126m*
 Any rods/casing/tools lost in the drill hole? If yes, what was lost?:
No
 Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: *yes*
 Assessment of effectiveness:
 Salt usage per day:
 Flow Meter Reading: End of N/S: End of D/S:
 Has wildlife been present?: (check log for previous wildlife activity) *None*

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

1 Spill kit not in place

Safety concerns/issues: *None*
 Corrective action required?: *No*
 Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Photo of sediment control measures?
 Location of photos: *2018 Drilling Database*

COMMENTS:

INSPECTION COMPLETED BY:

Name: *Maximilian Sandering* Signature: *[Signature]*

Date: *July 4 2018*

BIM personnel: Justin Hayle
 Date & Time: July 5, 2018 8:00 AM
 Hole ID: MR3-19-241

HOLE INFORMATION:

Deposit #: 3
 Location: South of Deposit 3 Section: Collar location: E 567775
 (UTM NAD 83 17W) N 7913614

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF70 Drill #: 7565
 Drill personnel: Robert Petite, Cyril Noseworthy

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: Greyw Quartzite @ 197m
 Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes
 Assessment of effectiveness: Moderate
 Salt usage per day:
 Flow Meter Reading: End of N/S: End of D/S:
 Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns: There is one tidy tank that is not in a berm

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m Fire	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues: None

Corrective action required?:
 Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hayle Signature: Justin Hayle

Date: July 5, 2018



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: July 6, 2018 8:00 am
Hole ID: MR3-18-741

HOLE INFORMATION:

Deposit #: three
Location: South of Deposit #3 Section: Collar location: E 567775
(UTM NAD 83 17W) N 7913614

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LFD Drill #: 7565
Drill personnel: Robert Petite, Cyril Noseworthy

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: Gwk @ 202.5 m
Any rods/casing/tools lost in the drill hole? If yes, what was lost?:
/grit

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Water pump broke, received by the hole while water

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes
Assessment of effectiveness: moderate
Salt usage per day:
Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

No berm under fuel tank (1)

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

none

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature: [Signature]

Date: July 6, 2018



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/09/07 10:48
Hole ID: MR3-18-241

HOLE INFORMATION:

Deposit #: Deposit No. 3
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 567775.9
(UTM NAD 83 17W) N 7913612.6
Actual depth: 202.5 meters
Description of drillhole location: Southside of deposit 3
Purpose of drillhole: Delineation

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7565
End Date of drilling: 2018-07-06

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input checked="" type="radio"/>	<input type="radio"/>	
Casing left?:	<input type="radio"/>	<input checked="" type="radio"/>	
Has Casing left been cut to ground level?	<input type="radio"/>	<input checked="" type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input type="radio"/>	<input type="radio"/>	If yes, please describe below:
Corrective action:			

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Casing removed from site.

INSPECTION COMPLETED BY:

BIM signature:  Foreman signature:

Date: 2018-09-07

Date:

APPENDIX E.5.4
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR3-18-244



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: MASSOUD ROBATIAN
Date & Time: 2018/07/07 11:12
Proposed hole ID: MR3-18-P03
Final Hole ID: MR3-18-244

PROPOSED HOLE INFORMATION:

Deposit #: Deposit No. 3	Collar location: E 567244
Project: Mary River	(UTM NAD 83) N 791352
Area: Baffin Island	Dip: -40
NTS: 37G/5	Azimuth: 350
Elevation: 466.0 meters	Target depth: 240 meters
Description of drillhole location: South side of Deposit 3	
Purpose of drillhole: Delineation	

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** Robert L'Heureux
Drill contractor: Boart Longyear
Drill #: 7508
Expected start of drilling: 2018-07-13
Is moving of drillhole required?: No
If yes, provide reason:
New Collar Location E N

Environment Assessment

Water source: Mary River
Pump Station #: **Portable Tanks:**
Natural depression/ drainage evident?: Yes (Photo required)
Manual drainage constructed?: No (Photo required)
Silt fence(s) constructed?: No (Photo required)
Silt Bag Used: No (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) No
Is site safe for drilling?: Yes
Safety concerns/issues:
None
Environmental concerns?:
No

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: 2018 Drill Hole Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: MASSOUD ROBATIAN **Signature:** *Massoud Robatian*

Date: 2018-07-07



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/07/14 07:00
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
Location: South of D Section: (UTM NAD 83 17W) N 79113520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: Jean-Paul Truchon, Garrett Wiigan

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Drill was broken down- were still sinking casing

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:25:02 -04'00'

Date: 7/14/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/07/15 10:30
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: Jean-Paul Truchon, Garrett Wiigan

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 18 m Current Lithology: 6 - Metasedi

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Water issues, and hard drilling in overburden.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day: NA

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 7/15/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/07/16 11:00
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: South side Section:
Collar location: E 567244
(UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: Jean-Paul Truchon, Garrett Viigan
Drill Type: LM 55
Drill #: 7508

DRILLING PROGRESS:

Night Shift Depth:
Day Shift Depth: 36 m
Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole?
If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

Table with 6 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:09:02 -04'00'

Date: 7/16/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: MASSOUD ROBATIAN
Date & Time: July 17, 2018 at 10:29 AM
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: 3
Location: South of Deposit 3
Section:
Collar location: E 567244
(UTM NAD 83 17W) N 9713520

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: NA
Drill Type: LM55
Drill #: 7508

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: Ultramafic
Any rods/casing/tools lost in the drill hole? If yes, what was lost?: Greywacke at 36m

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Drill not turning - No drill crew present

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes
Assessment of effectiveness: Effective
Salt usage per day:
Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues: No

Corrective action required?:
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No
Photo of sediment control measures? No
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: MASSOUD ROBATIAN
Signature: M. Robatian

Date: July 17, 2018



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: MASSOUD ROBATIAN
Date & Time: July 18, 2018 at 1:50 PM
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: 3
Location: South of Deposit 3
Section: Section:
Collar location: E 567244
(UTM NAD 83 17W) N 9713520

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill Type: LM55
Drill #: 7508
Drill personnel: NA

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology:
Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Drill not running

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes
Assessment of effectiveness: Effective

Salt usage per day:
Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues: No

Corrective action required?:
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: MASSOUD ROBATIAN
Signature: M. Robatian

Date: July 18, 2018

BIM personnel: Cameron Scott
 Date & Time: 2018/07/26 14:45
 Hole ID: MR3-18-244

HOLE INFORMATION:

 Deposit #: Deposit No. 3 Collar location: E 567244.0
 Location: South of ri Section: (UTM NAD 83 17W) N 791352.0

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
 Drill personnel: KOD, NICK

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 36m Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Preparing drill to operate again after 1 week sitting. Mechanic present.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Good

Salt usage per day: None

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input type="radio"/>	<input checked="" type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Awaiting spill kit, currently have absorbent sheets

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

 Pump #1 currently flushing the lines in preparation.
 Blue Flow Meter (Pump #1): 318.2 M³
 Yellow Flow Meter (Pump #1): Total1: 164447 GL (Pump not running)

INSPECTION COMPLETED BY:

Name: Cameron Scott

 Signature: Cameron Scott
 Digitally signed by Cameron Scott
 Date: 2018.07.26 15:22:10 -04'00'

BIM personnel: Sean Doherty
 Date & Time: 2018/07/27 11:55
 Hole ID: MR3-18-244

HOLE INFORMATION:

 Deposit #: Deposit No. 3 Collar location: E 567244.0
 Location: Section: (UTM NAD 83 17W) N 791352.0

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
 Drill personnel: KOD & NICK

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 36m Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Drill currently not running, drillers called mechanic due to drill being "bogged down".

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Good

Salt usage per day: 0 bags overnight, 21 bags to

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Ravens

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

 Blue Flow Meter (Pump #1): 375.1M³

Yellow Flow Meter (Pump #1): Total1: 164447 GL (Pump not running)

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

 Digitally signed by Sean Doherty
 Date: 2018.07.27 12:03:09 -04'00'

Date: 7/27/18

BIM personnel: Anita Egvir
 Date & Time: 2018/07/29 15:20
 Hole ID: MR3-18-244

HOLE INFORMATION:

 Deposit #: Deposit No. 3 Collar location: E 567244
 Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
 Drill personnel: NICK, KOD

DRILLING PROGRESS:

Night Shift Depth: 45 Day Shift Depth: Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Mechanical issues; motor is not working and not too sure when it will start again.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: N/A End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox

Environmental Concerns:

Water flow meter is not working, stopped at 4:58 am last night. Secondary silt fence holding back silt, allowing clear water to flow. However, silt is still building up to high levels and is close to spilling over.

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Third silt fence should be built before silt amount overwhelms secondary silt fence. Motor is not working, and drillers are unsure when the motor will be working again.

INSPECTION COMPLETED BY:

Name: Anita Egvir

Signature:

Anita Egvir

 Digitally signed by
 Anita Egvir
 Date: 2018.07.29
 17:46:36 -04'00'

Date: 7/29/18

BIM personnel: Cameron Scott
 Date & Time: 2018/07/30 12:15
 Hole ID: MR3-18-244

HOLE INFORMATION:

 Deposit #: Deposit No. 3 Collar location: E 567244
 Location: South of ri Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
 Drill personnel: KOD, NICK

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 52.5m Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Coring slowly due to mechanical issue

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: 2 Silt Fences

Assessment of effectiveness: Fair

Salt usage per day: 6 20kk bags

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

1 Fox

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

 -Notified to place 3rd silt fence
 -Salt only being added at the drill, none at Pump #1
 Blue Pump: 458m³ (BROKEN ANALOG METER)
 Yellow Pump: 164763 GL (NOT BEING USED)
 - 16% Calcium in drill water tub

INSPECTION COMPLETED BY:

Name: Cameron Scott

 Signature: Cameron Scott
 Digitally signed by Cameron Scott
 Date: 2018.07.30 13:44:43 -04'00'

BIM personnel: Sean Doherty
 Date & Time: 2018/07/31 08:55
 Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
 Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
 Drill personnel: KUOD & NICK

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 69m Current Lithology: 10 - Silicate I

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Drill running

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: 13.5 20 kg bags

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Blocks are all off by 3m after rod count. Previous blocks need to be moved back 3m

Salinity: 12

Salt only being added at the drill, none at Pump #1

Blue Pump: 458m³ (BROKEN ANALOG METER)

Yellow Pump: 164763 GL (NOT BEING USED)

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.07.31 09:05:46 -04'00'



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/08/01 09:00
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567244
(UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: NICK, KOD

DRILLING PROGRESS:

Night Shift Depth: N/A Day Shift Depth: N/A Current Lithology:
Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Changing filters, doing maintenance on drill; no drilling has occurred

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day:
Flow Meter Reading: End of N/S: End of D/S:
Has wildlife been present?: (check log for previous wildlife activity) No
Environmental Concerns:
No

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Flow meter is still not working, waiting on a replacement.

INSPECTION COMPLETED BY:

Name: Anita Egvir Signature: Anita Egvir Digitally signed by Anita Egvir Date: 2018.08.01 18:09:43 -04'00'

Date: 8/1/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Sean Doherty
Date & Time: 2018/08/02 13:03
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: NICK, KOD

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 121m Current Lithology: 6 - Metasedi

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Good

Salt usage per day: 2 every Tub

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Flow Meter not working all salt being added at the drill

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
Date: 2018.08.02 13:06:36 -04'00'

Date: 8/2/18

BIM personnel: Cameron Scott
 Date & Time: 2018/08/03 11:45
 Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244.0
 Location: South side Section: (UTM NAD 83 17W) N 7913520.0

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
 Drill personnel: Troy, Christian

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 153.5m Current Lithology: 8 - High Grac

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

1m blocking error fixed (changed 152m block to 153.5m)

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fences

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Pump #1- Blue pump analog meter broke last night
 - Yellow pump Total1: 171156GL
 Salt roughly 6 20kg bags

INSPECTION COMPLETED BY:

Name: Cameron Scott

Signature:  Digitally signed by Cameron Scott
 Date: 2018.08.03 13:58:32 -04'00'

BIM personnel: Anita Egvir
 Date & Time: 2018/08/06 13:26
 Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
 Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
 Drill personnel: NICK, KOD

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 186.5 Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Rod frozen in hole; trying to recirculate water to unfreeze hole. Hopefully will have defrosted by tomorrow morning

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Good

Salt usage per day: 20 bags

Flow Meter Reading: End of N/S: 25.9 m³ End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Drilling has stopped due to frozen rod in drill hole. Hot water is being recirculated into the hole to defrost it. As well, blocking error has been corrected for further depths.

INSPECTION COMPLETED BY:

Name: Anita Egvir

Signature:

Anita Egvir

Digitally signed by
 Anita Egvir
 Date: 2018.08.06
 15:53:01 -04'00'

BIM personnel: Cameron Scott
 Date & Time: 2018/08/07 14:15
 Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
 Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
 Drill personnel: KOD, NICK

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 187m Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Attempting to reclaim hole after freezing by thawing and switching to NQ from HQ

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Good

Salt usage per day: 20 20kg CaCl bags

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

2 foxes

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

-Attempting to thaw hole all day
 -Pump#1: 101.7m^3

INSPECTION COMPLETED BY:

Name: Cameron Scott

Signature: Cameron Scott

Digitally signed by
 Cameron Scott
 Date: 2018.08.07
 16:40:41 -04'00'

BIM personnel: Sean Doherty
 Date & Time: 2018/08/08 12:52
 Hole ID: MR3-18-244

HOLE INFORMATION:

 Deposit #: Deposit No. 3 Collar location: E 567244
 Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
 Drill personnel: KOD & NICK

DRILLING PROGRESS:

 Night Shift Depth: Day Shift Depth: 90m of hose Current Lithology:
 Any rods/casing/tools lost in the drill hole? If yes, what was lost?:
 Hose lost down the hole
 Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
 Currently drilling out the hose lost down the hole (~ 90 m so far)

ENVIRONMENT ASSESSMENT:

 Sediment control measures in place: Silt Fence
 Assessment of effectiveness: Fair
 Salt usage per day: ~10 bags so far (2-4 bags p
 Flow Meter Reading: End of N/S: End of D/S:
 Has wildlife been present?: (check log for previous wildlife activity) Yes
 Fox
 Environmental Concerns:
 None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):
Responsible party:
Date to be completed:
Photograph (only required to document problems and corrective actions):
PHOTOGRAPHIC RECORD:

 Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

 - Drilling out hose lost in the hole
 - ~90m of hose drilled out so far approximately 200m to go

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

 Digitally signed by Sean Doherty
 Date: 2018.08.08 12:57:45 -04'00'

BIM personnel: Massoud Robatian, Justin Hoyle
 Date & Time: 2018/08/09 15:10
 Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
 Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
 Drill personnel: KODDIE OUIVER, NICOLAS CARTER

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

All day- rods frozen, drillers are currently trying to free the rods

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Arctic fox

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
 Date: 2018.08.29 10:27:12 -04'00'



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/08/10 08:00
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: KODDIE OUIVER, NICOLAS CARTER

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

stuck in hole

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Reducing to NQ

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes. wind knocked some over

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: Yes

Action plan (if required): Drill team going to fix silt fence

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:10:39 -04'00'

Date: 8/10/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/11 08:00
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: KODDIE OUIVER, NICOLAS CARTER

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: NA Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Drilling from HQ bit

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/11/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/08/12 07:15
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567244
(UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: KODDIE OUIVER, NICOLAS CARTER

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

All day, still drilling down with NQ rods

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle Date: 2018.08.29 10:27:48 -04'00'

Date: 8/12/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/08/13 00:00
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: KODDIE OUIVER, NICOLAS CARTER

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Reaming Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

All day, still drilling down with NQ rods

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:11:28 -04'00'

Date: 8/13/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/14 08:30
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: KODDIE OLIVER (D) NICHOLAS CARTER (HA)

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: ~195 m Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Pump Maintenance (Screen?), Stick up at ~195 m (Re-drill)

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/14/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/08/15 07:30
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567244
(UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: KODDIE OUIVER, NICOLAS CARTER

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 8 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

losing core down hole, drill offline

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox; gotten into trash and survival shack food

Environmental Concerns:

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:12:02 -04'00'

Date: 8/15/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/16 10:30
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: CURTIS PICNE, CYRIL NOSEWORTHY

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: ~215 m Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Hole previously frozen, when arrived for inspection hole was turning

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/16/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/08/17 15:51
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: Curtis Picne, Cyril Noseworthy

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: ~215 m Current Lithology: 7 - High Grade

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Drill stopped, electrical problems.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:12:48 -04'00'

Date: 8/17/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/08/18 00:00
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567244
Location: Section: (UTM NAD 83 17W) N 7913520

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7508
Drill personnel: CURTIS PICNE, CYRIL NOSEWORTHY

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:

Assessment of effectiveness:

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input type="radio"/>	<input type="radio"/>
PPE	<input type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input type="radio"/>	<input type="radio"/>
			Lined Berms	<input type="radio"/>	<input type="radio"/>
			Survival Shack	<input type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

Inspection not conducted due to weather.

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:28:36 -04'00'

Date: 8/18/18



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/09/07 10:16
Hole ID: MR3-18-244

HOLE INFORMATION:

Deposit #: Deposit No. 3
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 567244
(UTM NAD 83 17W) N 7913520
Actual depth: 213 meters
Description of drillhole location: Southside of deposit 3
Purpose of drillhole: Delineation

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7508
End Date of drilling: 2018-07-18

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input type="radio"/>	<input checked="" type="radio"/>	
Casing left?:	<input checked="" type="radio"/>	<input type="radio"/>	
Has Casing left been cut to ground level?	<input type="radio"/>	<input checked="" type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input checked="" type="radio"/>	<input type="radio"/>	If yes, please describe below:
Silt fence needs to be taken down			
Any additional work required?	<input checked="" type="radio"/>	<input type="radio"/>	If yes, please describe below:
Silt fence and sandbags need to be taken down and moved elsewhere			
Corrective action:			

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Drill left up for the winter, to be used next season. All rods are out of the hole. Silt fence is still up and needs to be taken down.

INSPECTION COMPLETED BY:

BIM signature:  Digitally signed by Anita Egvir
Date: 2018.09.07 14:32:35 -04'00'

Foreman signature:

Date: 2018-09-07

Date:

APPENDIX E.5.5
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR3-18-243



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: MASSOUD ROBATIAN

Date & Time: 2018/07/07 14:16

Proposed hole ID: MR3-18-P02

Final Hole ID: MR3-18-243

PROPOSED HOLE INFORMATION:

Deposit #: Deposit No. 3	Collar location: E 567137
Project: Mary River	(UTM NAD 83) N 7913539
Area: Baffin Island	Dip: -45
NTS: 37G/5	Azimuth: 350
Elevation: 472.0 meters	Target depth: 230 meters
Description of drillhole location: South side of Deposit 3	
Purpose of drillhole: delineation	

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** Robert L'Heureux
Drill contractor: Boart Longyear
Drill #: 7506
Expected start of drilling: 2018-07-13
Is moving of drillhole required?: No
If yes, provide reason:
New Collar Location E N

Environment Assessment

Water source: Mary River
Pump Station #: **Portable Tanks:**
Natural depression/ drainage evident?: Yes (Photo required)
Manual drainage constructed?: Yes (Photo required)
Silt fence(s) constructed?: Yes (Photo required)
Silt Bag Used: Yes (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) No
Is site safe for drilling?: Yes
Safety concerns/issues:
No
Environmental concerns?:
No

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: 2018 Drill Hole Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: MASSOUD ROBATIAN **Signature:** *Massoud Robatian*

Date: 2018-07-07



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/07/14 07:15
Hole ID: MR3-18-243

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567137
(UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: ROBERT PETITE, CYRIL NOSEWORTHY
Drill Type: LF /U
Drill #: 7565

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology:
Any rods/casing/tools lost in the drill hole? If yes, what was lost?:
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
still running casing

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes. needs sand baas
Assessment of effectiveness: Fair
Salt usage per day:
Flow Meter Reading: End of N/S: End of D/S:
Has wildlife been present?: (check log for previous wildlife activity)
Ermine
Environmental Concerns:
None

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None
Corrective action required?:
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle
Signature: Justin Hoyle
Digitally signed by Justin Hoyle
Date: 2018.08.29 10:23:40 -04'00'

Date: 7/14/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/07/15 10:30
Hole ID: MR3-18-243

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E
Location: Section: (UTM NAD 83 17W) N

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: ROBERT PETITE, CYRIL NOSEWORTHY

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 14.5 m Current Lithology: 2 - Overburd

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Water issues, and hard drilling in overburden.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions): Yes

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 7/15/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/07/16 11:00
Hole ID: MR3-18-243

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Southern Section:
Collar location: E 567137
(UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill Type: LF /U
Drill #: 7565
Drill personnel:

DRILLING PROGRESS:

Night Shift Depth:
Day Shift Depth: 44 m
Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole?
If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Poor

Salt usage per day:

Flow Meter Reading:
End of N/S:
End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

Silt fence not functioning

SAFETY ASSESSMENT:

Table with 4 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:15:07 -04'00'

Date: 7/16/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: MASSOUD ROBATIAN
Date & Time: July 17, 2018 at 9:58 AM
Hole ID: MR3-18-243

HOLE INFORMATION:

Deposit #: 3
Location: South of Deposit 3
Section: Collar location: E 567137
(UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: Robert Petite, Cyril Noseworthy
Drill Type: LF 70
Drill #: 7565

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: specularite at 85m
Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:

Assessment of effectiveness:

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="checkbox"/>	<input type="checkbox"/>
First Aid kit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fire	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PPE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Extinguisher(2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Eye Wash (2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			Spill Kits (2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			Lined Berms	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			Survival Shack	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Safety concerns/issues: None

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No
Photo of sediment control measures? No
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: MASSOUD ROBATIAN
Signature: *M. Robatian*

Date: July 17, 2018



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: MASSOUD ROBATIAN
Date & Time: July 18, 2018 at 1:53 PM
Hole ID: MR3-18-243

HOLE INFORMATION:

Deposit #: 3
Location: South of Deposit 3
Section:
Collar location: E 567137
(UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: Robert Petite, Cyril Noseworthy
Drill Type: LF 70
Drill #: 7565

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: Enriched BIF
Any rods/casing/tools lost in the drill hole? If yes, what was lost?: 144.5m

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes
Assessment of effectiveness: Moderate

Salt usage per day:
Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues: None

Corrective action required?:
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Location of photos: 2018 Drilling Database
Photo of sediment control measures? Yes

COMMENTS:

INSPECTION COMPLETED BY:

Name: MASSOUD ROBATIAN
Signature: M Robatian

Date: July 18, 2018

BIM personnel: Anita Egvir
 Date & Time: 2018/07/19 14:16
 Hole ID: MR3-18-243

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
 Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: ROBERT, Cyril

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 159.5 m Current Lithology:
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:
 Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
 Problem with water pump, fixed in the morning. Bit was changed yesterday.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
 Assessment of effectiveness: Good
 Salt usage per day: 10 bags
 Flow Meter Reading: End of N/S: End of D/S:
 Has wildlife been present?: (check log for previous wildlife activity) Yes
 Fox
 Environmental Concerns:
 No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:
 No

Corrective action required?: No
 Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

Block error fixed. Driller's have been noting on blocks left in core boxes the start of day and night shifts. Bit change occurred last night, with problems with the water pump fixed during the morning. Possible secondary silt fence might be needed at drill in case of any overflow, however singular silt fence that is in place is working well.

INSPECTION COMPLETED BY:

Name: Anita Egvir Signature: Anita Egvir
 Digitally signed by Anita Egvir
 Date: 2018.07.19 16:58:33 -04'00'

BIM personnel: Cameron Scott
 Date & Time: 2018/07/20 14:30
 Hole ID: MR3-18-243

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
 Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: ROBERT, Cyril

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 159.5m Current Lithology:
 Any rods/casing/tools lost in the drill hole? Yes If yes, what was lost?:
 Rods and Hose
 Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
 Hose became unlatched in the hole with rods. Should be resolved by end of day.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt fence
 Assessment of effectiveness: Good
 Salt usage per day: 20 20gk bags
 Flow Meter Reading: End of N/S: End of D/S:
 Has wildlife been present?: (check log for previous wildlife activity) No
 Environmental Concerns:
 No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No
 Corrective action required?: No
 Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):


PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

Flow Meter- 759m³
 No core available to see

INSPECTION COMPLETED BY:

Name: Cameron Scott Signature:  Digitally signed by Cameron
 Date: 2018.07.20 15:36:38 -04'00'



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Sean Doherty
Date & Time: 2018/07/22 08:44
Hole ID: MR3-18-243

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: CURTIS, Cyril

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 159.5m Current Lithology:
Any rods/casing/tools lost in the drill hole? Yes If yes, what was lost?:
Hoses and rods
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Currently reaming out the holes to get the hoses and fittings. currently 63m down the hole. Hoping to be finished by th

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day: 1 bag every 15 minutes / no
Flow Meter Reading: End of N/S: End of D/S:
Has wildlife been present?: (check log for previous wildlife activity) Yes
Arctic Fox
Environmental Concerns:
None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Total Flow Meter pump 1.= 164308 analog flow meter reading= 202.74
starting to pull out pieces of hose

INSPECTION COMPLETED BY:

Name: Sean Doherty Signature: Sean Doherty
Digitally signed by Sean Doherty
Date: 2018.07.22 08:53:52 -04'00'

Date: 7/22/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/07/23 11:51
Hole ID: MR3-18-243

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567137
(UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Cyril, Curtis

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology:
Any rods/casing/tools lost in the drill hole? Yes If yes, what was lost?:
Rods, hosing
Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
Shut down due to rods and hosing freezing in hole.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt fence
Assessment of effectiveness: Good
Salt usage per day: 6 bags
Flow Meter Reading: End of N/S: 296 Galleons/meter End of D/S:
Has wildlife been present?: (check log for previous wildlife activity) Yes
Fox
Environmental Concerns:
None

SAFETY ASSESSMENT:

Table with 6 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

None
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Rods froze in hole; hole stopped and may be re-drilled at a later date.

INSPECTION COMPLETED BY:

Name: Anita Egvir Signature: Anita Egvir Digitally signed by Anita Egvir Date: 2018.07.23 14:07:28 -04'00'

Date: 7/23/18



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/09/07 10:28
Hole ID: MR3-18-243

HOLE INFORMATION:

Deposit #: Deposit No. 3
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 567135.9
(UTM NAD 83 17W) N 7913537.2
Actual depth: 161.5 meters
Description of drillhole location: Rocky cliffside, 2/3 up deposit 3; southside of deposit 3
Purpose of drillhole: Further examination of deposit 3

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7565
End Date of drilling: 2018-07-23

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input type="radio"/>	<input checked="" type="radio"/>	
Casing left?:	<input checked="" type="radio"/>	<input type="radio"/>	
Has Casing left been cut to ground level?	<input type="radio"/>	<input checked="" type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input checked="" type="radio"/>	<input type="radio"/>	If yes, please describe below:
Bags need to be taken away from area			
Corrective action:			

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Cribbing and rods left for next drill season

INSPECTION COMPLETED BY:

BIM signature:  Foreman signature:

Date: 2018-09-07

Date:

APPENDIX E.5.6
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR2-18-242



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: MASSOUD ROBATIAN
Date & Time: 2018/07/03 14:54
Proposed hole ID: MR2-18-P01
Final Hole ID: MR2-18-242

PROPOSED HOLE INFORMATION:

Deposit #:		Collar location:	E 566066
Project: Mary River		(UTM NAD 83)	N 7913720
Area: Baffin Island		Dip: -50	
NTS: 37G/5		Azimuth: 330	
Elevation: 508.6	meters	Target depth: 350	meters
Description of drillhole location: Half way up Widow Maker			
Purpose of drillhole: Exploration			

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** Robert L'Heureux
Drill contractor: Boart Longyear
Drill #: 7560
Expected start of drilling: 2018-07-06
Is moving of drillhole required?: No
If yes, provide reason:

New Collar Location E N

Environment Assessment

Water source: Mary River		
Pump Station #:	Portable Tanks: Yes	
Natural depression/ drainage evident?:	Yes	(Photo required)
Manual drainage constructed?:	No	(Photo required)
Silt fence(s) constructed?:	No	(Photo required)
Silt Bag Used:	No	(Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) No
Is site safe for drilling?: Yes
Safety concerns/issues:
No
Environmental concerns?:
No

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: 2018 Drill Hole Database

COMMENTS:

INSPECTION COMPLETED BY:

Name:	Signature:
MASSOUD ROBATIAN	<i>Massoud Robatian</i>

Date: 2018-07-03



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/07/06 08:30
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E 566066
Location: Widow Ma Section: (UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: JUSTIN COLLINS, CHRISTIN KOWSEIL

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Still setting up site (No active drilling), currently installing waterline

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: NA

Assessment of effectiveness: Poor

Salt usage per day: 0 Kg

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

- NA (still setting up)

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

still setting up site

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

Still setting up drill site.

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 7/6/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/07/07 07:45
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2
Location: Widow Ma Section:
Collar location: E 566066
(UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: JUSTIN COLLINS, CHRISTIN KOWSEIL
Drill Type: LF /U
Drill #: 7560

DRILLING PROGRESS:

Night Shift Depth:
Day Shift Depth:
Current Lithology: 1 - Casing

Any rods/casing/tools lost in the drill hole?
If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Still setting up site, no active drilling

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: No

Assessment of effectiveness: Poor

Salt usage per day: 300 Kg

Flow Meter Reading:
End of N/S:
End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling?
Photo of sediment control measures?

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:18:55 -04'00'

Date: 7/7/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/07/08 07:30
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E 566066
Location: Widow Ma Section: (UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: JUSTIN COLLINS, CHRISTIN KOWSEIL

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Still setting up site, no active drilling

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: No

Assessment of effectiveness: Poor

Salt usage per day: 1480 Kg

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

Need to implement silt fence

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Drillers not wearing gloves

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:11:31 -04'00'

Date: 7/8/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/07/09 07:30
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2
Location: Widow Ma Section:
Collar location: E 566066
(UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: JUSTIN COLLINS, CHRISTIN KOWSEIL
Drill Type: LF /U
Drill #: 7560

DRILLING PROGRESS:

Night Shift Depth:
Day Shift Depth:
Current Lithology: 9 - Banded Ir
Any rods/casing/tools lost in the drill hole? No
If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Casing slipped, pump issues, low fuel, possibly pulling rods (Bad weather day)

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes
Assessment of effectiveness: Good
Salt usage per day: 0 Kg
Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:
None

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Poor weather day, no pump photos (helicopter shut down)

INSPECTION COMPLETED BY:

Name: Jason Willson
Signature:

Date: 7/9/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/07/10 00:00
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2
Location: Widow Ma Section:
Collar location: E 566066
(UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: JUSTIN COLLINS, CHRISTIN KOWSEIL
Drill Type: LF /U
Drill #: 7560

DRILLING PROGRESS:

Night Shift Depth:
Day Shift Depth:
Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

N/A

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Weather delay on July 9th

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day: 1140 Kg

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Still setting up drill site.

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:23:56 -04'00'

Date: 7/10/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/07/11 07:15
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2
Location: Widow Ma Section:
Collar location: E 566066
(UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: JUSTIN COLLINS, CHRISTIN ROWSELL
Drill Type: LF /U
Drill #: 7560

DRILLING PROGRESS:

Night Shift Depth:
Day Shift Depth:
Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole?
If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Still setting up site, no active drilling

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

Table with 6 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

Drillers not wearing gloves

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:12:26 -04'00'

Date: 7/11/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/07/12 08:30
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2
Location: Section: Collar location: E 566066
(UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: JUSTIN COLLINS, CHRISTIN KOWELL

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 156m Current Lithology: 9 - Banded Ir
Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes
Assessment of effectiveness: Fair
Salt usage per day:
Flow Meter Reading: End of N/S: End of D/S:
Has wildlife been present?: (check log for previous wildlife activity) No
1 fox in the distance
Environmental Concerns:
1 berm required for fuel tank

SAFETY ASSESSMENT:

Table with 4 columns: Item, Yes, No, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions): Yes

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Collar location GPS = 17W E 0566065 W 7913722 +/- 5 m

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 7/12/18

BIM personnel: Max Sandering Taylor
 Date & Time: 2018/07/13 00:00
 Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E 566066
 Location: Widow Ma Section: (UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: JUSTIN COLLINS, CHRISTIN KOWSEIL

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 190.5 Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

N/A

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: ~189641 L End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Drillers not wearing gloves

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
 Digitally signed by Maximilian Sandering Taylor
 Date: 2018.08.29 11:26:39 -04'00'



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/07/15 08:30
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E 566066
Location: Section: (UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: JUSTIN COLLINS, CHRISTIN KOWELL

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 190.5m Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Water Pump?

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions): Yes

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

At 190.5m, pulling rods

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 7/15/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/07/16 11:00
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E 566066
Location: Widow Ma Section: (UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: JUSTIN COLLINS, CHRISTIN KOWELL

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 201 m Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions): Yes

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:31:15 -04'00'

Date: 7/16/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/07/17 06:45
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E 566066
Location: Widow Ma Section: (UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: JUSTIN COLLINS, CHRISTIN KOWELL

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 210 m Current Lithology: 9 - Banded Ir
Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes
Assessment of effectiveness: Fair
Salt usage per day:
Flow Meter Reading: End of N/S: 1105 m3 End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:
One tidy tank not in berm

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:
None

Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions): Yes

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle Signature: Justin Hoyle Digitally signed by Justin Hoyle
Date: 2018.08.29 10:13:19 -04'00'

Date: 7/17/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: MASSOUD ROBATIAN
Date & Time: July 18, 2018, at 2:30 PM
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: 2 Collar location: E 566066
Location: Widem Make Section: (UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF70 Drill #: 7560
Drill personnel: Justin Collins, Christina Rowse

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: BIF at 261m
Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Moderate

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues: None

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: MASSOUD ROBATIAN Signature: M. Robatian

Date: July 18, 2018



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/07/19 14:00
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2
Location: Section: Collar location: E 566066
(UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: JUSTIN, Garrett

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 309m Current Lithology: 9 - Banded Ir
Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day: 20 bags at drill
Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

No

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Anita Egvir Signature: Anita Egvir Digitally signed by Anita Egvir Date: 2018.07.19 16:51:04 -04'00'

Date: 7/19/18

BIM personnel: Cameron Scott
 Date & Time: 2018/07/20 14:15
 Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E 566066
 Location: Section: (UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: JUSTIN, Garrett

DRILLING PROGRESS:

Night Shift Depth: Hole froze Day Shift Depth: No drilling Current Lithology: 9 - Banded Ir
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Hole froze on night shift, currently attempting to thaw with hot water. Should be up and running tonight or tomorrow.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt fence
 Assessment of effectiveness: Fair
 Salt usage per day: 2 pallets of 20kg bags
 Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

Salt inputted directly at drill
 Water Gauge- Total1: 725133 GL

INSPECTION COMPLETED BY:

Name: Cameron Scott

Signature:

Cameron

Digitally signed by
 Cameron
 Date: 2018.07.20
 15:22:01 -04'00'

BIM personnel: Sean Doherty
 Date & Time: 2018/07/22 08:29
 Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E 566066
 Location: Section: (UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: JUSTIN , Garrett

DRILLING PROGRESS:

Night Shift Depth: hole was frozen Day Shift Depth: 316.5 Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

None

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: 0 & pump / 15 bags at drill p

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

15 bags of salt added at drill
 0 bags of salt added at pump
 5 bags of salt added to prevent freeze up
 Flow Gauge Total= 792323 Flow Rate= 26.95

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.07.22 08:41:31 -04'00'



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/07/23 12:05
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2
Location: Section: Collar location: E 566066
(UTM NAD 83 17W) N 7913720

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: JUSTIN, Garrett

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 364.5m Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Good

Salt usage per day: 15 small bags

Flow Meter Reading: End of N/S: 24.54 gallons/meter End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

Table with 4 columns: Item, Yes, No, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

First silt fence holding back lots of water; silt is being held back however, and the secondary silt fence is holding well.

INSPECTION COMPLETED BY:

Name: Anita Egvir

Signature:

Anita Egvir

Digitally signed by Anita Egvir Date: 2018.07.23 14:14:20 -04'00'

Date: 7/23/18



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/09/07 09:25
Hole ID: MR2-18-242

HOLE INFORMATION:

Deposit #: Deposit No. 2
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 566066.3
(UTM NAD 83 17W) N 7913720.8
Actual depth: 391 meters
Description of drillhole location: Mostly flat area at deposit 2 area, on side of mountain
Purpose of drillhole: To study the gravity/magnetic anomaly at w.m. target

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7560
End Date of drilling: 2018-07-24

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input checked="" type="radio"/>	<input type="radio"/>	
Casing left?:	<input checked="" type="radio"/>	<input type="radio"/>	
Has Casing left been cut to ground level?	<input type="radio"/>	<input checked="" type="radio"/>	
Any drill rods lost in the drillhole?	<input checked="" type="radio"/>	<input type="radio"/>	If yes, how many?: 130
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Corrective action:			

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

BIM signature:  Anita Egvir
Digitally signed by Anita Egvir
Date: 2018.09.07 13:38:13 -04'00'
Foreman signature:

Date: 2018-09-07

Date:

APPENDIX E.5.7
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR3-18-246



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: MASSOUD ROBATIAN

Date & Time: 2018/07/07 14:16

Proposed hole ID: MR3-18-P02

Final Hole ID: MR3-18-243 and MR3-18-246

PROPOSED HOLE INFORMATION:

Deposit #: Deposit No. 3

Project: Mary River

Area: Baffin Island

NTS: 37G/5

Elevation: 472.0 meters

Description of drillhole location: South side of Deposit 3

Purpose of drillhole: delineation

Collar location: E 567137
(UTM NAD 83) N 7913539

Dip: -45

Azimuth: 350

Target depth: 230 meters

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes

Foreman: Robert L'Heureux

Drill contractor: Boart Longyear

Drill #: 7506

Expected start of drilling: 2018-07-13

Is moving of drillhole required?: No

If yes, provide reason:

New Collar Location E N

Environment Assessment

Water source: Mary River

Pump Station #: **Portable Tanks:**

Natural depression/ drainage evident?: Yes (Photo required)

Manual drainage constructed?: Yes (Photo required)

Silt fence(s) constructed?: Yes (Photo required)

Silt Bag Used: Yes (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) No

Is site safe for drilling?: Yes

Safety concerns/issues:

No

Environmental concerns?:

No

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes

Location of photos: 2018 Drill Hole Database

COMMENTS:

INSPECTION COMPLETED BY:

Name:

MASSOUD ROBATIAN

Signature:

Massoud Robatian

Date: 2018-07-07

BIM personnel: Sean Doherty
 Date & Time: 2018/08/02 13:17
 Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
 Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: Jean FRANCIOS & Christian

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 33m Current Lithology: 9 - Banded Ir
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fences
 Assessment of effectiveness: Good
 Salt usage per day: 2 bags per tub (10 bags total)
 Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

-Hole in same location as 243 just using a different dip (-5)
 -Salt being added at the drill
 -Silt fences are in great shape

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.08.02 13:25:16 -04'00'

BIM personnel: Cameron Scott
 Date & Time: 2018/08/03 11:30
 Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
 Location: South of d Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: Troy, Christian

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 72m (until rod count) Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Will do a rod count to fix blocking and boxing errors

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Poor

Salt usage per day: ~6 bags 20kg

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

- NO BOX 23 (will fix duplicate boxing error)
- Blocking error will be fixed after rod count
- Silt fence improvements made
- Troy's first day as driller

INSPECTION COMPLETED BY:

Name: Cameron Scott

Signature: Cameron Scott

Digitally signed by
 Cameron Scott
 Date: 2018.08.03
 14:12:45 -04'00'

BIM personnel: Anita Egvir
 Date & Time: 2018/08/06 13:34
 Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
 Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel:

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 130.5 Current Lithology: 7 - High Grac
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt fence

Assessment of effectiveness: Poor

Salt usage per day: 11 bags

Flow Meter Reading: End of N/S: 25.9 m³ End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox

Environmental Concerns:

Silt fence fell over (probably due to one of the posts breaking); should be fixed by tomorrow.

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Silt fence collapsed and will be fixed.

INSPECTION COMPLETED BY:

Name: Anita Egvir

Signature:

Anita Egvir

Digitally signed by
 Anita Egvir
 Date: 2018.08.06
 16:06:33 -04'00'



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Cameron Scott
Date & Time: 2018/08/07 14:00
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567137
(UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Troy

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 138m Current Lithology: 7 - High Grade

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

-Delayed by fog -Doing a rod count -MECHANICAL BREAKDOWN (changing alternator)

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fences

Assessment of effectiveness: Poor

Salt usage per day: 0

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

No

Environmental Concerns:

No

SAFETY ASSESSMENT:

Table with 4 columns: Item, Yes, No, Yes, No. Rows include: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher(2), Eye Wash (2), Spill Kits (2), Lined Berms, Survival Shack.

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

-Rod count fixed 1.5m too deep blocking error at 138m
Pump#1: 101.7m^3

INSPECTION COMPLETED BY:

Name: Cameron Scott

Signature: Cameron Scott
Digitally signed by Cameron Scott
Date: 2018.08.07 16:35:16 -04'00'

Date: 8/7/18

BIM personnel: Sean Doherty
 Date & Time: 2018/08/08 12:42
 Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
 Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: Troy & Granam

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 189m Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Slight issues with hoist cable at the start of the shift but was quickly fixed

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: 2 bags per tub ~12 bags a c

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

3 foxes

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

- Currently the only drill putting core in the box
- Current lithology is chlorite schist but above that is still high grade
- Drill might be shut down relatively soon
- Pump 1 : 179m³

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.08.08 12:58:14 -04'00'



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Massoud Robatian, Justin Hoyle
Date & Time: 2018/08/09 15:00
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Roy Michano, Bradley Butt

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 7 - High Grade

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Rods frozen in hole, drillers are currently drilling through the core barrel with NQ rods

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Arctic fox

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:29:24 -04'00'

Date: 8/9/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/08/10 00:00
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567137
(UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Roy Michano, Bradley Butt

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 7 - High Grade

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Rods frozen in hole, drillers are currently drilling through the core barrel with NQ rods

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

No

Environmental Concerns:

None

SAFETY ASSESSMENT:

Table with 6 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:03:06 -04'00'

Date: 8/10/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/11 07:30
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Roy Michano, Bradley Butt

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: NA Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Drillers are almost through drilling the core barrel with NQ rods

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/11/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/08/12 07:00
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567137
(UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Troy Michano, Christian Kowseil

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

None

Environmental Concerns:

None

SAFETY ASSESSMENT:

Table with 6 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle Date: 2018.08.29 10:30:13 -04'00'

Date: 8/12/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/08/13 00:00
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567137
(UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Troy Michano, Christian Kowseil

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 7 - High Grade

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

None

Environmental Concerns:

None

SAFETY ASSESSMENT:

Table with 6 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:03:48 -04'00'

Date: 8/13/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/14 08:50
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Roy Michano (D), Bradley Butt (HA)

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 202.5 m Current Lithology: 7 - High Grade

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Switched out tower, going back into hole with rods.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

None

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Could improve on house keeping, put empty fluids container in containment.

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/14/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/08/15 07:30
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 567137
(UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: Roy Michano (L), Bradley Butt (HA)
Drill Type: LF /U
Drill #: 7565

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

None

Environmental Concerns:

None

SAFETY ASSESSMENT:

Table with 6 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Could improve on house keeping, put empty fluids container in containment.

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 11:04:25 -04'00'

Date: 8/15/18

BIM personnel: Max Sandering
 Date & Time: 2018/08/16 10:30
 Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
 Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: Troy Michano, Christian Kowseil, James Blake

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 225 Current Lithology: 7 - High Grade

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Fixing drill while inspection took place, no estimate of delay.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

None

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Could improve on house keeping, put empty fluids container in containment.

INSPECTION COMPLETED BY:

Name: Max sandering

Signature: Maximilian Sandering Taylor
 Digitally signed by Maximilian Sandering Taylor
 Date: 2018.08.29 11:04:58 -04'00'

BIM personnel: Max Sandering
 Date & Time: 2018/08/17 15:50
 Hole ID: MR3-18-246

HOLE INFORMATION:

 Deposit #: Deposit No. 3 Collar location: E 567137
 Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: Troy Michano, Christian Kowseil, James Blake

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 225 m Current Lithology: 7 - High Grade

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Hydraulic motor problem (Cracked fitting?), no time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

None

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:
INSPECTION COMPLETED BY:

Name: Max Sandering

 Signature: Maximilian Sandering Taylor
 Digitally signed by Maximilian Sandering Taylor
 Date: 2018.08.29 11:05:25 -04'00'

Date: 8/17/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/08/18 00:00
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel:

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:

Assessment of effectiveness:

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input type="radio"/>	<input type="radio"/>
PPE	<input type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input type="radio"/>	<input type="radio"/>
			Lined Berms	<input type="radio"/>	<input type="radio"/>
			Survival Shack	<input type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

Inspection not conducted due to weather.

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:31:31 -04'00'

Date: 8/18/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/08/19 00:00
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel:

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:

Assessment of effectiveness:

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input type="radio"/>	<input type="radio"/>
PPE	<input type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input type="radio"/>	<input type="radio"/>
			Lined Berms	<input type="radio"/>	<input type="radio"/>
			Survival Shack	<input type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

Inspection not conducted due to weather.

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:32:11 -04'00'

Date: 8/19/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle, Massoud Robatian, Max Sanderin
Date & Time: 2018/08/20 10:00
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 567137
Location: Section: (UTM NAD 83 17W) N 7913539

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: CHRISTIN KOWSEIL, JAMES BLAKE

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 270 m Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

We conducted the down-hole survey

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:32:38 -04'00'

Date: 8/20/18



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/09/07 10:28
Hole ID: MR3-18-246

HOLE INFORMATION:

Deposit #: Deposit No. 3
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 567135.9
(UTM NAD 83 17W) N 7913537.2
Actual depth: 161.5 meters
Description of drillhole location: Rocky cliffside, 2/3 up deposit 3; southside of deposit 3
Purpose of drillhole: Redrilling hole MR3-18-243 at a steeper angle, due to hole being lost

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7565
End Date of drilling: 2018-08-02

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input type="radio"/>	<input checked="" type="radio"/>	
Casing left?:	<input checked="" type="radio"/>	<input type="radio"/>	
Has Casing left been cut to ground level?	<input type="radio"/>	<input checked="" type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input checked="" type="radio"/>	<input type="radio"/>	If yes, please describe below:
Bags need to be taken away from area			
Corrective action:			

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Cribbing and rods left for next drill season

INSPECTION COMPLETED BY:

BIM signature: Anita Egvir
Digitally signed by Anita Egvir
Date: 2018.09.07 14:12:35 -04'00'
Foreman signature:

Date: 2018-09-07

Date:

APPENDIX E.5.8
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR2-18-245



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: Anita Egyir
Date & Time: 2018/07/29 14:56
Proposed hole ID: MR2-18-P03
Final Hole ID: MR2-18-245

PROPOSED HOLE INFORMATION:

Deposit #: Deposit No. 2	Collar location: E 565894
Project: Mary River	(UTM NAD 83) N 7914235
Area: Baffin Island	Dip: -45
NTS: 37G/5	Azimuth: 167.5
Elevation: _____ meters	Target depth: 400 _____ meters

Description of drillhole location: Halfway up mtn, mostly flat area
Purpose of drillhole: Investigate parallel anomaly

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** Verdon Bigelow
Drill contractor: Boart Longyear
Drill #: 7508
Expected start of drilling: 2018-07-30
Is moving of drillhole required?: No
If yes, provide reason:
New Collar Location E N

Environment Assessment

Water source: Mary River
Pump Station #: _____ **Portable Tanks:** Yes
Natural depression/ drainage evident?: Yes (Photo required)
Manual drainage constructed?: No (Photo required)
Silt fence(s) constructed?: Yes (Photo required)
Silt Bag Used: Yes (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) No
Is site safe for drilling?: Yes
Safety concerns/issues:
No
Environmental concerns?:
No

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: 2018 Drill Hole Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Anita Egyir **Signature:** Anita Egyir
Digitally signed by Anita Egyir
Date: 2018.07.29 17:24:37 -04'00'

Date: 2018-07-29

BIM personnel: Cameron Scott
 Date & Time: 2018/07/30 13:45
 Hole ID: MR2-18-245

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E 565894
 Location: Bottom, sc Section: (UTM NAD 83 17W) N 7914235

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: CHRIS, TROY

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 10.5m Current Lithology: 2 - Overburd
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Finishing casing & reaming, soon to start coring

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: 2 Silt Fences

Assessment of effectiveness: Poor

Salt usage per day: 2 20kg Bags

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

No

Environmental Concerns:

Some fuel tanks and lined berms are sitting on timbers rendering lined berms ineffective

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

-Will place 3rd silt fence and repair current 2
 -Hydrometer buoyancy: 25
 Pump#2: Total1- 928248GL

INSPECTION COMPLETED BY:

Name: Cameron Scott

Signature: Cameron Scott

Digitally signed by Cameron Scott
 Date: 2018.07.30 13:53:22 -04'00'

BIM personnel: Sean Doherty
 Date & Time: 2018/07/31 09:14
 Hole ID: MR2-18-245

HOLE INFORMATION:

 Deposit #: Deposit No. 2 Collar location: E 565894
 Location: Section: (UTM NAD 83 17W) N 7914235

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: CHRIS & TROY

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 25.5 m Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Slow drilling due to Blocky rubbly ground

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: 2.5 bags per tub

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

1 Fox

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

 -Pump 2 flow meter reading= 96089
 -Casing @ 13m
 Currently drilling through difficult blocky ground

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

 Digitally signed by Sean Doherty
 Date: 2018.07.31 09:22:05 -04'00'

BIM personnel: Anita Egvir
 Date & Time: 2018/08/01 08:40
 Hole ID: MR2-18-245

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E
 Location: Section: (UTM NAD 83 17W) N

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: Chris and Troy

DRILLING PROGRESS:

Night Shift Depth: 53 Day Shift Depth: 56 Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Water ran out, so pump was down. Problem is now fixed

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt fence

Assessment of effectiveness: Good

Salt usage per day: 4 bags

Flow Meter Reading: End of N/S: 27.09 al/m End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Drilling will recommence now that the water shortage has been corrected.

INSPECTION COMPLETED BY:

Name: Anita Egvir

Signature:

Anita Egvir

Digitally signed by
 Anita Egvir
 Date: 2018.08.01
 10:58:38 -04'00'

Date: 8/1/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Sean Doherty
Date & Time: 2018/08/02 13:08
Hole ID: MR2-18-245

HOLE INFORMATION:

Deposit #: Deposit No. 2
Location: Section: Collar location: E 565894
(UTM NAD 83 17W) N 7914235

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: CHRIS & TROY

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 86.5m Current Lithology: 9 - Banded Ir
Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day: 2-2.5 bags per tub
Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes
1 Arctic Fox

Environmental Concerns:
None

SAFETY ASSESSMENT:

Table with 6 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:
None

Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

-Silt fences are holding well
-Salt being added only at the drill

INSPECTION COMPLETED BY:

Name: Sean Doherty Signature: Sean Doherty Digitally signed by Sean Doherty Date: 2018.08.02 13:15:17 -04'00'

Date: 8/2/18

BIM personnel: Cameron Scott
 Date & Time: 2018/08/03 12:35
 Hole ID: MR2-18-245

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E 565894
 Location: South of h Section: (UTM NAD 83 17W) N 2914235

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: CHRIS, DAKOTA

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 102.5m Current Lithology: 9 - Banded Ir
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt fences
 Assessment of effectiveness: Good
 Salt usage per day: 6 20kg bags of CaCl
 Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

No

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

-Box naming fixed from Box 29 onwards (changed from MR2-18-P02 -> MR2-18-245)

INSPECTION COMPLETED BY:

Name: Cameron Scott Signature: Cameron Scott
 Digitally signed by Cameron Scott
 Date: 2018.08.03 14:22:27 -04'00'

BIM personnel: Anita
 Date & Time: 2018/08/06 14:05
 Hole ID: MR2-18-245

HOLE INFORMATION:

 Deposit #: Deposit No. 2 Collar location: E 565894
 Location: Section: (UTM NAD 83 17W) N 7914235

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: CRISTOP, LAKOTA

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 175.5m Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Delay in the morning due to a delay in water (problem has been fixed by the time of the drill inspection)

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Poor

Salt usage per day: 20 bags

Flow Meter Reading: End of N/S: N/A End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox

Environmental Concerns:

Flow meter is not working, will be replaced for tomorrow. Secondary silt fence was poorly constructed and must be fixed.

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Secondary silt fence was poorly constructed with no sandbags being used; silt fence will be fixed if weather permits tomorrow.

INSPECTION COMPLETED BY:

Name: Anita Egyir

Signature:

Anita Egyir

 Digitally signed by
 Anita Egyir
 Date: 2018.08.06
 15:39:08 -04'00'

Date: 8/6/18

BIM personnel: Cameron Scott
 Date & Time: 2018/08/07 13:30
 Hole ID: MR2-18-245

HOLE INFORMATION:

Deposit #: Deposit No. 2 Collar location: E 565894
 Location: Section: (UTM NAD 83 17W) N 7914235

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: CHRIS, DAKOTA

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 189.5m Current Lithology: 9 - Banded Ir

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

-Changing drill bit currently, caused partial hole collapse which will likely cause delays

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Good

Salt usage per day: 12 bags of 20kg CaCl

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

No

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

-Depth corrected before 189.5m (minus 7m) using rod count
 -Pump#2 Total1: 5340.1 GL (flow meter replaced today)/ 48.52 GL/min

INSPECTION COMPLETED BY:

Name: Cameron Scott

Signature: Cameron Scott
 Digitally signed by Cameron Scott
 Date: 2018.08.07 16:30:14 -04'00'



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/09/07 09:47
Hole ID: MR2-18-245

HOLE INFORMATION:

Deposit #: Deposit No. 2
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 566095.3
(UTM NAD 83 17W) N 7913433.7
Actual depth: 191 meters
Description of drillhole location: Mostly flat, closer to bottom of deposit 2
Purpose of drillhole: Study the gravity/magnetic anomaly in w.m.

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7560
End Date of drilling: 2018-08-08

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input checked="" type="radio"/>	<input type="radio"/>	
Casing left?:	<input checked="" type="radio"/>	<input type="radio"/>	
Has Casing left been cut to ground level?	<input type="radio"/>	<input checked="" type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:

Corrective action:

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

BIM signature:  Anita Egvir
Digitally signed by Anita Egvir
Date: 2018.09.07 13:49:07 -04'00'
Foreman signature:

Date: 2018-09-07

Date:

APPENDIX E.5.9
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR3-18-248



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: Massoud Robatian
Date & Time: 2018/08/11 11:30
Proposed hole ID: MR3-18-p01
Final Hole ID: MR3-18-248

PROPOSED HOLE INFORMATION:

Deposit #: Deposit No. 3	Collar location: E 566976
Project: Mary River	(UTM NAD 83) N 7913790
Area: Baffin Island	Dip: -45
NTS: 37G/5	Azimuth: 215
Elevation: 540.12 meters	Target depth: 325 meters

Description of drillhole location: NW end of deposit No. 3
Purpose of drillhole: Explore and define the extents and continuity for the geologic model

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** Robert L'heureax
Drill contractor: Boart Longyear
Drill #: 7560
Expected start of drilling: 2018-08-13
Is moving of drillhole required?: No
If yes, provide reason:
New Collar Location E N

Environment Assessment

Water source: Mary River, Pump #1
Pump Station #: **Portable Tanks:** Yes
Natural depression/ drainage evident?: No (Photo required)
Manual drainage constructed?: No (Photo required)
Silt fence(s) constructed?: Yes (Photo required)
Silt Bag Used: Yes (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) No
Is site safe for drilling?: Yes
Safety concerns/issues:
None
Environmental concerns?:
None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: 2018 Drill Hole Database

COMMENTS:

INSPECTION COMPLETED BY:

Name:	Signature:
Massoud Robatian	<i>Massoud Robatian</i>

Date: 2018/08/11



DAILY DRILL INSPECTION REPORT 2018

BIM personnel:
Date & Time:
Hole ID:

HOLE INFORMATION:

Deposit #: Collar location: E
Location: Section: (UTM NAD 83 17W) N

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: Drill #:
Drill personnel:

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:

Assessment of effectiveness:

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform			Fall prevention system if platform is over 1.8m	Fire	
First Aid kit			Extinguisher(2)		
PPE			Eye Wash (2)		
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)		
			Lined Berms		
			Survival Shack		

Safety concerns/issues:

Corrective action required?:

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Photo of sediment control measures?

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Signature:

Date:



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/08/15 08:40
Hole ID: MR3-18-248

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 566976
(UTM NAD 83 17W) N 7913790

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: Christophe Lagare, Dakota Piemer

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 1 - Casing

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

None

Environmental Concerns:

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Max Sandering

Digitally signed by Max Sandering Date: 2018.08.29 10:53:59 -04'00'

Date: 8/15/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/16 10:15
Hole ID: MR3-18-248

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 566976
Location: Section: (UTM NAD 83 17W) N 7913790

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: Christophe Lagare, Dakota Piemer

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 117 Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

None

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

Silt fence could use more sandbags

INSPECTION COMPLETED BY:

Name: Jason Willson

Signature:

Date: 8/16/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/17 15:41
Hole ID: MR3-18-248

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 566976
Location: Section: (UTM NAD 83 17W) N 7913790

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: Christophe Lagare, Dakota Piemer

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 120 Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

None

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/17/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/08/18 00:00
Hole ID: MR3-18-248

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 566976
Location: Section: (UTM NAD 83 17W) N 7913790

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel:

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:

Assessment of effectiveness:

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input type="radio"/>	<input type="radio"/>
			Lined Berms	<input type="radio"/>	<input type="radio"/>
			Survival Shack	<input type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

Inspection not conducted due to weather.

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:33:36 -04'00'

Date: 8/18/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/08/19 00:00
Hole ID: MR3-18-248

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 566976
Location: Section: (UTM NAD 83 17W) N 7913790

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel:

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place:

Assessment of effectiveness:

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity)

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input type="radio"/>	<input type="radio"/>
			Lined Berms	<input type="radio"/>	<input type="radio"/>
			Survival Shack	<input type="radio"/>	<input type="radio"/>

Safety concerns/issues:

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

Inspection not conducted due to weather.

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:34:05 -04'00'

Date: 8/19/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering
Date & Time: 2018/08/20 12:30
Hole ID: MR3-18-248

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 566976
Location: Section: (UTM NAD 83 17W) N 7913790

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: Christophe Lagare, Dakota Piemer

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

None

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 10:56:59 -04'00'

Date: 8/17/20



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Max Sandering, Jason Willson
Date & Time: 2018/08/21 10:30
Hole ID: MR3-18-248

HOLE INFORMATION:

Deposit #: Deposit No. 3 Collar location: E 566976
Location: Section: (UTM NAD 83 17W) N 7913790

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: Christophe Lagare, Dakota Piamer

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

None

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Max Sandering

Signature: Maximilian Sandering Taylor
Digitally signed by Maximilian Sandering Taylor
Date: 2018.08.29 10:57:52 -04'00'

Date: 8/17/21



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Massoud Robatian
Date & Time: 2018/08/22 00:00
Hole ID: MR3-18-248

HOLE INFORMATION:

Deposit #: Deposit No. 3
Location: Section: Collar location: E 566976
(UTM NAD 83 17W) N 7913790

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: Christophe Lagare, Dakota Piamer

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

None

Environmental Concerns:

None

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Massoud Robatian

Signature: Massoud Robatian

Date: 2018/08/22



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/09/07 14:35
Hole ID: MR3-18-248

HOLE INFORMATION:

Deposit #: Deposit No. 3
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 566976.5
(UTM NAD 83 17W) N 7913789.5
Actual depth: 204 meters
Description of drillhole location: Southside of deposit 3
Purpose of drillhole: Delineation

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7560
End Date of drilling: 2018-08-22

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input type="radio"/>	<input checked="" type="radio"/>	
Casing left?:	<input checked="" type="radio"/>	<input type="radio"/>	
Has Casing left been cut to ground level?	<input type="radio"/>	<input checked="" type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Corrective action:			

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Cribbing left behind, will be used next year.

INSPECTION COMPLETED BY:

BIM signature:  Anita Egvir
Digitally signed by Anita Egvir
Date: 2018.09.07 14:37:50 -04'00'
Foreman signature:

Date: 2018-09-07

Date:

APPENDIX E.5.10
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR1-18-249



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/25 10:30
Hole ID: MR1-18-249

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563137
Location: Axial Section: (UTM NAD 83 17W) N 7914008

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7506
Drill personnel:

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 0 Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Currently drilling anchor

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: No

Assessment of effectiveness: Poor

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

Need sediment barrier

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/25/18



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: Massoud Robatian
Date & Time: 2018/08/26 16:30
Proposed hole ID: MR1-18-p11
Final Hole ID: MR1-18-249

PROPOSED HOLE INFORMATION:

Deposit #: Deposit No. 1	Collar location: E 563142
Project: Mary River	(UTM NAD 83) N 7914008
Area: Baffin Island	Dip: -35
NTS: 37G/5	Azimuth: 228
Elevation: 499 meters	Target depth: 140 meters

Description of drillhole location: SE of axial zone
Purpose of drillhole: Infill and ore characterization drilling

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** Robert L'heureax
Drill contractor: Boart Longyear
Drill #: 7506
Expected start of drilling: 2018-08-24
Is moving of drillhole required?: No
If yes, provide reason:

New Collar Location E 563137 N 7914008

Environment Assessment

Water source: Water truck
Pump Station #: **Portable Tanks:** Yes
Natural depression/ drainage evident?: No (Photo required)
Manual drainage constructed?: Yes (Photo required)
Silt fence(s) constructed?: Yes (Photo required)
Silt Bag Used: Yes (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) No
Is site safe for drilling?: Yes
Safety concerns/issues:
None
Environmental concerns?:
None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: 2018 Drill Hole Database

COMMENTS:

Silt fence and silt bag needs to be constructed

INSPECTION COMPLETED BY:

Name: Massoud Robatian **Signature:** *Massoud Robatian*

Date: 2018/08/26



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle, Massoud Robatian
Date & Time: 2018/08/26 13:00
Hole ID: MR1-18-249

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563137
Location: Axial Zone Section: (UTM NAD 83 17W) N 7914008

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7506
Drill personnel: Curtis Picne, Cyril Noseworthy

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 12 Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:05:20 -04'00'

Date: 8/26/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle
Date & Time: 2018/08/27 11:00
Hole ID: MR1-18-249

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563137
Location: Axial Zone Section: (UTM NAD 83 17W) N 7914008

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7506
Drill personnel: Curtis Picne, Cyril Noseworthy

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 12 Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:08:59 -04'00'

Date: 8/27/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Maximilian Sandering Taylor
Date & Time: 2018/08/28 00:00
Hole ID: MR1-18-249

HOLE INFORMATION:

Deposit #: Deposit No. 1
Location: Axial zone Section:
Collar location: E 563137
(UTM NAD 83 17W) N 7914008

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7506
Drill personnel: Curtis; Cyril Noseworthy

DRILLING PROGRESS:

Night Shift Depth: 46.5 Day Shift Depth: 51 Current Lithology: 7 - High Grade
Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

2 bit changes; ran out of water around 4pm

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: yes

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

Table with 4 columns: Item, Yes, No, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

Driller (Curtis) was advised to put hard hat on; never complied.

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Maximilian Sandering Taylor

Signature: Max Sandering

Digitally signed by Max Sandering Date: 2018.08.29 10:53:24 -04'00'

Date: 8/29/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/29 11:00
Hole ID: MR1-18-249

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563137
Location: Axial Section: (UTM NAD 83 17W) N 7914008

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7506
Drill personnel:

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 0 Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No drilling due to lack of water, waiting for more. Est time unknown

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: No

Assessment of effectiveness: Good

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/29/18

BIM personnel: Sean Doherty
 Date & Time: 2018/08/30 17:37
 Hole ID: MR1-18-249

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563137
 Location: Section: (UTM NAD 83 17W) N 7914008

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: Christophe Lagace, Dakota Palmer

DRILLING PROGRESS:

Night Shift Depth: N/A Day Shift Depth: 59.5m Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Jaws are not grabbing onto drill rods, drilling will continue but may be temporarily slowed. Mechanic on site.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: ~80 bags per day

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Mechanic currently on site to look at issue with the jaws. One tooth taken out of drill bit in order to facilitate fluid flow.

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.08.30 17:52:16 -04'00'

BIM personnel: Sean Doherty
 Date & Time: 2018/08/30 17:37
 Hole ID: MR1-18-249

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563137
 Location: Section: (UTM NAD 83 17W) N 7914008

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: Christophe Lagace, Dakota Palmer

DRILLING PROGRESS:

Night Shift Depth: N/A Day Shift Depth: 75m Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

No

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Water truck cannot come to fill the sump therefore no drilling today.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: ~80 bags per day

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? No Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

Drill currently not running due to the water truck being busy and a blast occurring this evening

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.08.30 17:52:16 -04'00'

BIM personnel: Sean & Cameron
 Date & Time: 2018/09/01 13:46
 Hole ID: MR1-18-249

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563137
 Location: Axial Zone Section: (UTM NAD 83 17W) N 7914008

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: Christophe Lagace, Lyle and Dakota

DRILLING PROGRESS:

Night Shift Depth: N/A Day Shift Depth: 94.5m Current Lithology: 7 - High Grade
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: 73 20kg bags

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

- Core is still high grade but is now more competent than the rubble before
 -Flow Meter Reading: 1:44064.4 2:44064.9 Flow Rate: 9.94 G

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.09.01 13:51:20 -04'00'

BIM personnel: Sean & Anita
 Date & Time: 2018/09/02 13:23
 Hole ID: MR1-18-249

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563137
 Location: Axial Zone Section: (UTM NAD 83 17W) N 7914008

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
 Drill personnel: Christophe & Cyril

DRILLING PROGRESS:

Night Shift Depth: N/A Day Shift Depth: 135 m Current Lithology: 4 - Schist
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
 Assessment of effectiveness: Fair
 Salt usage per day: 53 20 kg bags
 Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

- Currently drilling Mica schist, may be all the way through the ore body. Waiting for survey and shutdown.
- Flow Meter Total: 57711.2 Rate: 9.51 G

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.09.02 13:28:56 -04'00'



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Cameron Scott
Date & Time: 2018/09/18 08:30
Hole ID: MR1-18-249

HOLE INFORMATION:

Deposit #: Deposit No. 1
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 563137
(UTM NAD 83 17W) N 7914008
Actual depth: 150 meters
Description of drillhole location: Side of south limb on deposit 1
Purpose of drillhole: Define axial zone of deposit 1

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7506
End Date of drilling: 2018-09-03

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input checked="" type="radio"/>	<input type="radio"/>	
Casing left?:	<input type="radio"/>	<input checked="" type="radio"/>	
Has Casing left been cut to ground level?	<input checked="" type="radio"/>	<input type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input checked="" type="radio"/>	<input type="radio"/>	If yes, please describe below:

Due to snow cover it is advisable to recheck the drill site in the spring for any hidden tools or waste

Corrective action:

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

-Collar location same as "planned" location. Awaiting Mine Ops survey to confirm.
-See scan for Foreman signature.

INSPECTION COMPLETED BY:

BIM signature: Cameron Scott
Foreman signature: _____
Digitally signed by Cameron Scott
Date: 2018.09.18 10:33:54 -04'00'

Date: 2018-09-18

Date: 2018-09-18

APPENDIX E.5.11
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR1-18-247



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: Massoud Robatian
Date & Time: 2018/08/11 08:00
Proposed hole ID: MR1-18-p06
Final Hole ID: MR1-18-247

PROPOSED HOLE INFORMATION:

Deposit #: Deposit No. 1	Collar location: E 563868
Project: Mary River	(UTM NAD 83) N 7915565
Area: Baffin Island	Dip: -45
NTS: 37G/5	Azimuth: 296
Elevation: 593 meters	Target depth: 300 meters

Description of drillhole location: Deposit No.1, northern extension
Purpose of drillhole: Resource defination and investigate the interpreted northern extension of deposit No. 1

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** Robert L'heureax
Drill contractor: Boart Longyear
Drill #: 7506
Expected start of drilling: 2018-08-12
Is moving of drillhole required?: Yes
If yes, provide reason: Soft ground and saturated with water
New Collar Location E 563885 N 7915558

Environment Assessment

Water source: WS-18-01, WS-18-02
Pump Station #: **Portable Tanks:** Yes
Natural depression/ drainage evident?: Yes (Photo required)
Manual drainage constructed?: Yes (Photo required)
Silt fence(s) constructed?: Yes (Photo required)
Silt Bag Used: Yes (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) No
Is site safe for drilling?: Yes
Safety concerns/issues:
None
Environmental concerns?:
None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: 2018 Drill Hole Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Massoud Robatian **Signature:** *Massoud Robatian*

Date: 2018-08-11



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Massoud Robatian
Date & Time: 2018/08/14 09:00
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1
Location: Section: Collar location: E 563885
(UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Jean Francis Dallaire, Jacques Fortier

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: Drilled Anchor Current Lithology: 2 - Overburd
Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Problem with the waterline

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes
Assessment of effectiveness: Poor
Salt usage per day: NA
Flow Meter Reading: End of N/S: No meter End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Massoud Robatian Signature: Massoud Robatian

Date: 8/14/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/15 11:30
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1
Location: Section: Collar location: E 563885
(UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Jean Francis Dailaire, Jacques Fortier

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 0 Current Lithology: 1 - Casing
Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

No crew at pump

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Poor

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

The set up of the sediment control measure needs to modified.

SAFETY ASSESSMENT:

Table with 6 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

No crew at drill. Casing has not been drilled, with 1.5 m casing rod without bit attached to the head.

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/15/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Massoud Robatian
Date & Time: 2018/08/22 10:30
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1
Location: Section: Collar location: E 563885
(UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Christian Lereuvre, Leslie N.

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 0 Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

still setting up drill

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Poor

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

The set up of the sediment control measure needs to modified.

SAFETY ASSESSMENT:

Table with 6 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Massoud Robatian Signature: Massoud Robatian

Date: 8/22/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Massoud Robatian
Date & Time: 2018/08/23 12:30
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563885
Location: Section: (UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Christian Lereuvre, Leslie N.

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 0 Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

still setting up drill

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Poor

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

The set up of the sediment control measure needs to modified.

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Massoud Robatian

Signature: *Massoud Robatian*

Date: 8/23/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/25 10:00
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563885
Location: North Limit Section: (UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel:

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 0 Current Lithology: 1 - Casing

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Finished setting up waterline and fixing pump, about to drill casing when left.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Need contact sheet inside drill

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/25/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Justin Hoyle, Massoud Robatian
Date & Time: 2018/08/26 11:45
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563885
Location: North Limit Section: (UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Christian Leredvre, Leslie N.

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 0 Current Lithology: 1 - Casing

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Justin Hoyle

Signature: Justin Hoyle

Digitally signed by Justin Hoyle
Date: 2018.08.29 10:02:24 -04'00'

Date: 8/26/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Massoud Robatian
Date & Time: 2018/08/27 12:30
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1
Location: Section: Collar location: E 563885
(UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: Christian Lereuvre, Leslie N.

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 18 Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Massoud Robatian

Signature: Massoud Robatian

Date: 8/27/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/28 08:30
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1
Location: North Limit Section:
Collar location: E 563885
(UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: (D) CHRISTIAN LEREDVRE, LESLIE N.
Drill Type: LF /U
Drill #: 7565

DRILLING PROGRESS:

Night Shift Depth: NA
Day Shift Depth: 33
Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Hydraulic oil filter/? (not clearly told the issue). Est. fixed by end of shift

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

Not drilling, waiting for mechanic to fix hydraulics.

INSPECTION COMPLETED BY:

Name: Jason Willson
Signature:

Date: 8/28/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/29 10:30
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563885
Location: North Limit Section: (UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: (D) Christian Lerebvre, Leslie N.

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 91.5 Current Lithology: 7 - High Grade

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Yes

Assessment of effectiveness: Fair

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Two fox

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/29/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Sean Doherty
Date & Time: 2018/08/30 17:23
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1
Location: Section: Collar location: E 563885
(UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear
Drill personnel: (D) CHRISTIAN LEREDVRE, LESLIE N.
Drill Type: LF /U
Drill #: 7565

DRILLING PROGRESS:

Night Shift Depth: N/A
Day Shift Depth: 112.5m
Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

None

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: No salt used at drill

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

1 Fox

Environmental Concerns:

None

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes
Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Drilling running smoothly, No pump inspection today due to restricted time.

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
Date: 2018.08.30 17:31:36 -04'00'

Date: 8/30/18

BIM personnel: Sean & Anita
 Date & Time: 2018/08/31 17:19
 Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563885
 Location: Section: (UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: (D) CHRISTIAN LEREDVRE, LESLIE N.

DRILLING PROGRESS:

Night Shift Depth: N/A Day Shift Depth: 126m Current Lithology: 7 - High Grac
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
 Assessment of effectiveness: Fair
 Salt usage per day: ~50 bags at the pump +9 b
 Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

When we arrived at the drill, foreman checked the calcium concentration and found it to be very low. He advised the drill helper to add calcium at the drill and then directed the pump man to ensure he lets the calcium dissolve and to make sure he stirs the bottom of the tub.

Flow Meter readings: 37787.8 |

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.08.31 17:58:17 -04'00'

BIM personnel: Sean & Cameron
 Date & Time: 2018/09/01 13:40
 Hole ID: MR1-18-247

HOLE INFORMATION:

 Deposit #: Deposit No. 1 Collar location: E 563885
 Location: North Limit Section: (UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

 Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: (D) CHRISTIAN LEREDVRE, LESLIE N.

DRILLING PROGRESS:

Night Shift Depth: N/A Day Shift Depth: 174 m Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

leak in the water line to the pump, currently changing hose line.

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: 8 20kg bags

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

 - Hole in hose line repaired and drilling will continue
 - Flow Meter readings: 395344 Flow rate: 17.76 G

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

 Digitally signed by Sean Doherty
 Date: 2018.09.01 13:45:07 -04'00'

Date: 9/1/18

BIM personnel: Sean & Anita
 Date & Time: 2018/09/02 13:32
 Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563885
 Location: North Limit Section: (UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: (D) CHRISTIAN LEREDVRE, LESLIE N.

DRILLING PROGRESS:

Night Shift Depth: N/A Day Shift Depth: 207 m Current Lithology: 4 - Schist
 Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
 Assessment of effectiveness: Fair
 Salt usage per day: None at drill 70 20 kg bags
 Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

1 Fox

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
 Location of photos: 2018 Drilling Database

COMMENTS:

- Waiting to see if we hit another ore body
 - Flow meter broken rate reading @0.00
 -Total flow: 40355.9

INSPECTION COMPLETED BY:

Name: Sean Doherty

Signature: Sean Doherty

Digitally signed by Sean Doherty
 Date: 2018.09.02 13:39:57 -04'00'



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Sean Doherty
Date & Time: 2018/09/03 14:25
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563885
Location: North Limit Section: (UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
Drill personnel: (D) CHRISTIAN LEREDVRE, LESLIE N.

DRILLING PROGRESS:

Night Shift Depth: N/A Day Shift Depth: 246 m Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Currently changing bit

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Fair

Salt usage per day: None at drill ~70 20 kg bags

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

none

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

-Flow Meter at the pump currently broken
-No other ore body yet

INSPECTION COMPLETED BY:

Name: Sean Doherty Signature:

Date: 9/3/18

BIM personnel: Anita Egvir
 Date & Time: 2018/09/04 10:07
 Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563885
 Location: Section: (UTM NAD 83 17W) N 7915558

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7565
 Drill personnel: Christian, Les

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 276m Current Lithology: 4 - Schist

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Drill stopped; end of hole, downhole survey being conducted

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence

Assessment of effectiveness: Good

Salt usage per day: ~70 20kg bags, plus 13 bag

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox

Environmental Concerns:

None

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

End of drilling for this hole, and downhole survey has been conducted.

INSPECTION COMPLETED BY:

Name: Anita Egvir

Signature:

Anita Egvir

Digitally signed by Anita Egvir
 Date: 2018.09.04 13:24:40 -04'00'



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/09/09 11:55
Hole ID: MR1-18-247

HOLE INFORMATION:

Deposit #: Deposit No. 1
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 563868
(UTM NAD 83 17W) N 7915565
Actual depth: 276 meters
Description of drillhole location: Northern extension on deposit 1
Purpose of drillhole: Resource definition and investigate the interpreted northern extension of deposit No.1

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7565
End Date of drilling: 2018-09-04

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input type="radio"/>	<input checked="" type="radio"/>	
Casing left?:	<input checked="" type="radio"/>	<input type="radio"/>	
Has Casing left been cut to ground level?	<input type="radio"/>	<input checked="" type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input type="radio"/>	<input checked="" type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:

Corrective action:

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Drill left up for the winter for next season. It was the original MR1-18-250, but was not drilled this season.

INSPECTION COMPLETED BY:

BIM signature:  Anita Egvir
Digitally signed by Anita Egvir
Date: 2018.09.09 14:09:12 -04'00'
Foreman signature:

Date: 2018-09-09

Date:

APPENDIX E.5.12
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR1-18-P05



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: Massoud Robatian
Date & Time: 2018/08/27 14:30
Proposed hole ID: MR1-18-P05
Final Hole ID: MR1-18-P05

PROPOSED HOLE INFORMATION:

Deposit #: Deposit No. 1	Collar location: E 563771
Project: Mary River	(UTM NAD 83) N 7915525
Area: Baffin Island	Dip: -44
NTS: 37G/5	Azimuth: 296
Elevation: 622 meters	Target depth: 190 meters

Description of drillhole location:
Purpose of drillhole: Resource definition and investigate the interpreted northern extension of deposit No.1

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes **Foreman:** Robert L'heureax
Drill contractor: Boart Longyear
Drill #: 7506
Expected start of drilling: 2018-08-28
Is moving of drillhole required?: Yes
If yes, provide reason: Steep ground
New Collar Location E 5631818 N 7915500

Environment Assessment

Water source: WS-18-01, WS-18-02
Pump Station #: **Portable Tanks:** Yes
Natural depression/ drainage evident?: Yes (Photo required)
Manual drainage constructed?: Yes (Photo required)
Silt fence(s) constructed?: Yes (Photo required)
Silt Bag Used: Yes (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) Yes
Is site safe for drilling?: Yes
Safety concerns/issues:
None
Environmental concerns?:
None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: 2018 Drill Hole Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Massoud Robatian **Signature:** *Massoud Robatian*

Date: 2018-08-27



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/28 08:00
Hole ID: MR1-18-P05

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563818
Location: North Limit Section: (UTM NAD 83 17W) N 7915500

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: Christophe Lagace, Dakota Palmer

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 0 Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: No

Assessment of effectiveness: Poor

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Fire Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

Not drilling, setting up platform/sloop, to be drilling by end of day.

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/28/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Jason Willson
Date & Time: 2018/08/28 10:00
Hole ID: MR1-18-P05

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563818
Location: North Limit Section: (UTM NAD 83 17W) N 7915500

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LF /U Drill #: 7560
Drill personnel: Christophe Lagace, Dakota Palmer

DRILLING PROGRESS:

Night Shift Depth: NA Day Shift Depth: 0 Current Lithology:

Any rods/casing/tools lost in the drill hole? If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: No

Assessment of effectiveness: Poor

Salt usage per day:

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? No

Location of photos: 2018 Drilling Database

COMMENTS:

Not drilling, mostly set up.

INSPECTION COMPLETED BY:

Name: Jason Willson Signature:

Date: 8/29/18



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Anita Egyir
Date & Time: 2018/09/09 11:58
Hole ID: MR1-18-P05

HOLE INFORMATION:

Deposit #: Deposit No. 1
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 563181.8
(UTM NAD 83 17W) N 7915500
Actual depth: 0 meters
Description of drillhole location: North limb
Purpose of drillhole: Resource definition and investigate the interpreted northern extension of deposit No.1

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7560
End Date of drilling:

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input type="radio"/>	<input checked="" type="radio"/>	
Casing left?:	<input checked="" type="radio"/>	<input type="radio"/>	
Has Casing left been cut to ground level?	<input type="radio"/>	<input checked="" type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Corrective action:			

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Drill left up for the winter for next season. This drill hole was the original MR1-18-250, but was not drilled this season.

INSPECTION COMPLETED BY:

BIM signature:  Digitally signed by Anita Egyir
Date: 2018.09.09 13:39:24 -04'00'
Foreman signature:

Date: 2018-09-09

Date:

APPENDIX E.5.13
ENVIROMENTAL MONITORING LOGS
2018 EXPLORATION LOCATION - MR1-18-250



PRE-DRILLING INSPECTION REPORT (pre-set-up) 2018

BIM Personnel: Massoud Robatian
Date & Time: 2018/09/02 16:18
Proposed hole ID: MR1-18-p10
Final Hole ID: MR1-18-250

PROPOSED HOLE INFORMATION:

Deposit #: Deposit No. 1	Collar location: E 563117
Project: Mary River	(UTM NAD 83) N 7914043
Area: Baffin Island	Dip: -35
NTS: 37G/5	Azimuth: 232
Elevation: 584 meters	Target depth: 165 meters

Description of drillhole location: SE of axial zone
Purpose of drillhole: Infill and ore characterization drilling

DRILLING INFORMATION:

Has site been approved by drill foreman?: Yes Foreman: Robert L'heureax
Drill contractor: Boart Longyear
Drill #: 7506
Expected start of drilling: 2018-09-04
Is moving of drillhole required?: No
If yes, provide reason:
New Collar Location E 563116 N 7914044

Environment Assessment

Water source: Water truck
Pump Station #: Portable Tanks: Yes
Natural depression/ drainage evident?: No (Photo required)
Manual drainage constructed?: Yes (Photo required)
Silt fence(s) constructed?: Yes (Photo required)
Silt Bag Used: Yes (Photo required)

SITE ASSESSMENTS:

Are wildlife present?: (if yes, record in log) No
Is site safe for drilling?: Yes
Safety concerns/issues:
None
Environmental concerns?:
None

PHOTOGRAPHIC RECORD:

Photo of drillhole location prior to setup? Yes
Location of photos: 2018 Drill Hole Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Massoud Robatian Signature: *Massoud Robatian*

Date: 2018/09/02



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/09/07 08:30
Hole ID: MR1-18-250

HOLE INFORMATION:

Deposit #: Deposit No. 1
Location: Section: Collar location: E 563116
(UTM NAD 83 17W) N 7914044

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7506
Drill personnel: CHRISTOPH, DAKOTA, NICHOIAS

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 32.5 Current Lithology: 7 - High Grac
Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate
None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day: 15 small bags (50lbs/bag)
Flow Meter Reading: End of N/S: 3.22 dl/m End of D/S:
Has wildlife been present?: (check log for previous wildlife activity) Yes
Arctic Fox
Environmental Concerns:
None

SAFETY ASSESSMENT:

Table with 4 columns: Item, Yes, No, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:
Need lined berms on every fuel source (caches)
Corrective action required?: No
Action plan (if required):

Responsible party: Date to be completed:
Photograph (only required to document problems and corrective actions): No

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Using silt fence used at MR-18-249 hole. Placed matting in sump as preventative measure. Water flows from drill to ditch, and from ditch to sump. Need to put up lined berms under fuel caches; this will be done in the morning.

INSPECTION COMPLETED BY:

Name: Anita Egvir Signature: Anita Egvir Digitally signed by Anita Egvir Date: 2018.09.07 13:33:06 -04'00'

Date: 9/7/18

BIM personnel: Cameron Scott
 Date & Time: 2018/09/08 13:15
 Hole ID: MR1-18-250

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563116
 Location: Axial zone Section: (UTM NAD 83 17W) N 7914044

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7506
 Drill personnel: CHRIS, DAKOTA

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 52 Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Trouble latching rods due to blockiness of core

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence + Pond

Assessment of effectiveness: Good

Salt usage per day: 45 20kg bags/6 bags per hc

Flow Meter Reading: End of N/S: 9.24 GL/m End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) No

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

-Up to core box 19 in basket on arrival
 -Total: 93442.8 GL

INSPECTION COMPLETED BY:

Name: Cameron Scott

Signature: Cameron Scott
 Digitally signed by Cameron Scott
 Date: 2018.09.08 14:29:31 -04'00'

Date: 9/8/18



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/09/09 11:18
Hole ID: MR1-18-250

HOLE INFORMATION:

Deposit #: Deposit No. 1
Location: Section: Collar location: E 563116
(UTM NAD 83 17W) N 7914044

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7506
Drill personnel: CHRISTOPH, DAKOTA, NICHOIAS

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 61 Current Lithology: 7 - High Grac
Any rods/casing/tools lost in the drill hole? Yes If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day: 5 bags (20lbs)
Flow Meter Reading: End of N/S: 1.35 Gl/m End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes
Fox

Environmental Concerns:

SAFETY ASSESSMENT:

Table with safety assessment items: Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack. Includes Yes/No columns with radio buttons.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

Water is hot, so no not much salt needed (~6 bags/hour).

INSPECTION COMPLETED BY:

Name: Anita Egvir

Signature: Anita Egvir Digitally signed by Anita Egvir Date: 2018.09.09 13:48:04 -04'00'

Date: 9/9/18

BIM personnel: Cameron Scott
 Date & Time: 2018/09/10 13:50
 Hole ID: MR1-18-250

HOLE INFORMATION:

Deposit #: Deposit No. 1 Collar location: E 563116
 Location: Axial zone Section: (UTM NAD 83 17W) N 7914044

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7506
 Drill personnel: CHRIS, DAKOTA

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 88m Current Lithology: 7 - High Grac

Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

Broken core (rough drilling), Water truck late

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence and Silt Pond

Assessment of effectiveness: Good

Salt usage per day: ~6 20kg bags CaCl per hour

Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Fox

Environmental Concerns:

No

SAFETY ASSESSMENT:

	Yes	No		Yes	No
Stable platform	<input checked="" type="radio"/>	<input type="radio"/>	Fall prevention system if platform is over 1.8m	<input checked="" type="radio"/>	<input type="radio"/>
First Aid kit	<input checked="" type="radio"/>	<input type="radio"/>	Fire Extinguisher(2)	<input checked="" type="radio"/>	<input type="radio"/>
PPE	<input checked="" type="radio"/>	<input type="radio"/>	Eye Wash (2)	<input checked="" type="radio"/>	<input type="radio"/>
(Safety glasses/steal toe boots/ear plugs/Hard Hats)			Spill Kits (2)	<input checked="" type="radio"/>	<input type="radio"/>
			Lined Berms	<input checked="" type="radio"/>	<input type="radio"/>
			Survival Shack	<input checked="" type="radio"/>	<input type="radio"/>

Safety concerns/issues:

No

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes

Location of photos: 2018 Drilling Database

COMMENTS:

Total1: 105594 GL /Flow Rate: 0.00GL/m
 -Flow meter possibly broken, reads 0.00GL/m
 -Noted minor silt water flow diversion away from normal route into silt pond and fences

INSPECTION COMPLETED BY:

Name: Cameron Scott

Signature: Cameron Scott
 Digitally signed by Cameron Scott
 Date: 2018.09.10 15:34:57 -04'00'



DAILY DRILL INSPECTION REPORT 2018

BIM personnel: Anita Egvir
Date & Time: 2018/09/11 09:20
Hole ID: MR1-18-250

HOLE INFORMATION:

Deposit #: Deposit No. 1
Location: Section: Collar location: E
(UTM NAD 83 17W) N

DRILLING INFORMATION

Drill contractor: Boart Longyear Drill Type: LM 55 Drill #: 7506
Drill personnel: DAKOTA, CHRISTOTT, NICHOLAS

DRILLING PROGRESS:

Night Shift Depth: Day Shift Depth: 109 Current Lithology: 7 - High Grac
Any rods/casing/tools lost in the drill hole? No If yes, what was lost?:

Delays/Problems: (breakdowns, stuck rods, bit change, weather, wait time, drill move, etc) Provide time estimate

None

ENVIRONMENT ASSESSMENT:

Sediment control measures in place: Silt Fence
Assessment of effectiveness: Good
Salt usage per day: 8 bags (20 lbs/bag)
Flow Meter Reading: End of N/S: End of D/S:

Has wildlife been present?: (check log for previous wildlife activity) Yes

Foxes

Environmental Concerns:

None

SAFETY ASSESSMENT:

Table with 4 columns: Item, Yes, No, Item, Yes, No. Rows include Stable platform, First Aid kit, PPE, Fall prevention system, Extinguisher, Eye Wash, Spill Kits, Lined Berms, Survival Shack.

Safety concerns/issues:

None

Corrective action required?: No

Action plan (if required):

Responsible party:

Date to be completed:

Photograph (only required to document problems and corrective actions):

PHOTOGRAPHIC RECORD:

Photo of drill hole during drilling? Yes Photo of sediment control measures? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

INSPECTION COMPLETED BY:

Name: Anita Egvir Signature: Anita Egvir Digitally signed by Anita Egvir Date: 2018.09.11 10:57:51 -04'00'

Date: 9/11/18



POST-DRILL CLEAN UP INSPECTION REPORT 2018

BIM personnel: Cameron Scott
Date & Time: 2018/09/18 08:30
Hole ID: MR1-18-250

HOLE INFORMATION:

Deposit #: Deposit No. 1
Project: Mary River
Area: Baffin Island
NTS: 37G/5
Collar location: E 563116
(UTM NAD 83 17W) N 7914044
Actual depth: 124 meters
Description of drillhole location: Side of south limb deposit 1
Purpose of drillhole: Define axial zone of deposit 1

DRILLING INFORMATION:

Drill Contractor: Boart Longyear
Drill #: 7506
End Date of drilling:

ENVIRONMENT ASSESSMENT:

	Yes	No	
All materials and debris removed from site?	<input checked="" type="radio"/>	<input type="radio"/>	
Casing left?:	<input checked="" type="radio"/>	<input type="radio"/>	
Has Casing left been cut to ground level?	<input checked="" type="radio"/>	<input type="radio"/>	
Any drill rods lost in the drillhole?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, how many?:
Has hole been properly marked?	<input checked="" type="radio"/>	<input type="radio"/>	
Any environmental concerns?	<input type="radio"/>	<input checked="" type="radio"/>	If yes, please describe below:
Any additional work required?	<input checked="" type="radio"/>	<input type="radio"/>	If yes, please describe below:

Due to snow cover it is advisable to re-check site in the spring for any hidden tools/waste.

Corrective action:

PHOTOGRAPHIC RECORD:

Photo of drillhole location following demobilization and clean up? Yes
Location of photos: 2018 Drilling Database

COMMENTS:

-Collar location same as "planned" location. Awaiting Mine Ops survey to confirm.
-See scan for Foreman signature

INSPECTION COMPLETED BY:

BIM signature: Cameron Scott
Foreman signature: _____
Digitally signed by Cameron Scott
Date: 2018.09.18 10:41:35 -04'00'

Date: 2018-09-18

Date: 2018-09-18