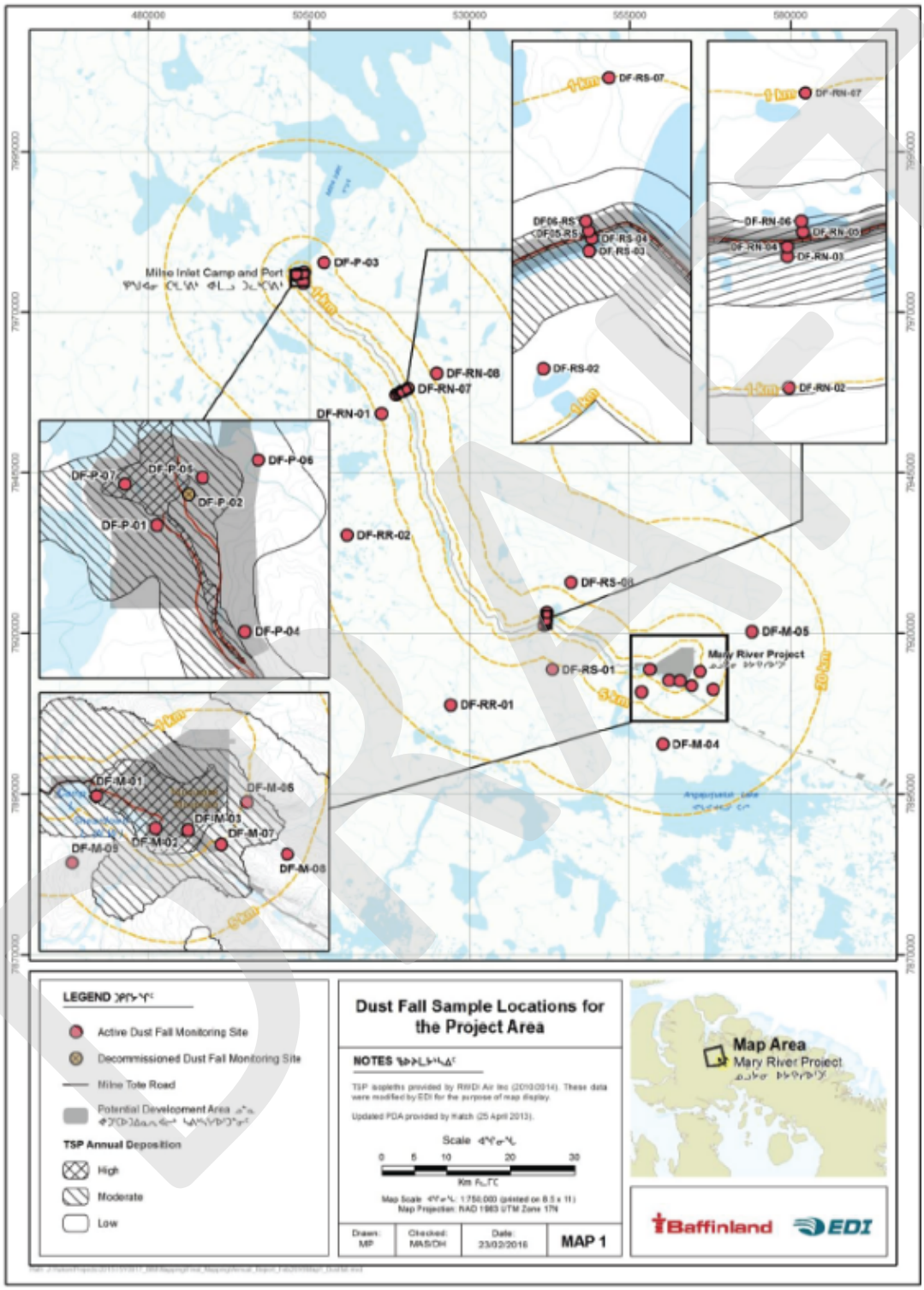

Figure 9.4 Dust Fall Sample Locations for the Project Area

It is expected that sampling of the revised, approved locations will take place up to three (3) time per year, during open water season. It is during these annual sampling events, that sampling personnel will identify and document any suspected cases of physical or geotechnical instability of lands and structures remaining on site as described in Section 9.4.

Aquatic monitoring at Post-Closure will be conducted in Years 4-6 at water crossings along ~~Tote Road~~the Northern Transportation Corridor to verify the closure criteria are met in these watercourses.

Baffinland will report on its Closure and Post-Closure Aquatic Monitoring and Reporting Program on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), the NWB (as per Type 'A' Water Licence 2AM-MYR-1325), AANDC Land Lease 47H/16-1-2, and the Land Owners (as per Commercial Lease Q13C301).

9.5.1 Environmental Effects Monitoring Program (EEM)

Mandated by the Metal and Diamond Mining Effluent Regulations, Schedule 5, the EEM Program focuses on determining if the discharge of mine contact water to the receiving environment will result in adverse environmental effects on the receiving streams and water bodies. This program will be carried out throughout mining, and as the locations of the mine contact water will not change after Final Closure (i.e., open pit water discharge, and, waste rock stockpile runoff discharge), it is expected the EEM component of the AEMP will remain relatively unchanged until Baffinland has achieved the "Recognized Closed Mine" status under Section 4 of the MDMER. Procedures for EEM monitoring are detailed in the existing AEMP including sampling locations, number of samples for each location, frequency of sampling and methods of interpretation.

Baffinland expects to conduct the EEM Program annually during Final Closure activities (Year 0 to 2) as required by the MDMER. This timeline would satisfy MDMER in order to achieve "Recognized Closed Mine" status, with the exception of the Open Pit. A modified EEM program would likely be designed through discussions with regulators to satisfy the delayed discharge via the Open Pit spillway, which built on the completed work at the Waste Rock Stockpile that can commence as soon as mining reaches 10% designed production capacity. Years 16-18 have been allocated conservatively to complete remaining EEM requirements for mine effluent at site.

Baffinland will report on any new EEM Program results on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type 'A' Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301).

9.5.2 Core Receiving Environment Monitoring Program (CREMP)

The CREMP focuses on follow-up monitoring to validate predictions to aquatic valued ecosystem components (VECs) and key indicators. As a component study of the AEMP, the CREMP evaluates potential mine-related influences on water quality, sediment quality, and/or biota (including

phytoplankton, benthic invertebrates and/or fish) within aquatic environments near the Mine Site. Water and sediment quality monitoring programs, incorporating benchmarks derived from the Canadian Water Quality Guidelines for Protection of Freshwater Aquatic Life (CWQG-PAL), established by the Canadian Council of Ministers of the Environment (CCME), and baseline data, are performed on receiving aquatic environments near the Mine Site, including the Camp Lake, Sheardown Lake, Mary Lake Systems as well as Reference Lake 3 and various reference tributaries.

Baffinland expects to conduct the CREMP during care and maintenance (Year 0), as well as annually during Final Closure activities (Year 1 to 3) to assess whether component-specific closure criteria are met. Post Closure monitoring would then be conducted the first three years following completion of Final Closure activities (Years 4 to 6) and the Years 7, 8 and 18 at the Mine Site to confirm closure objectives are met

Baffinland will report on any new CREMP results on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment).

9.5.3 Lake Sedimentation Monitoring Program

A Lake Sedimentation Monitoring Program is also performed annually under the AEMP and monitors dust and sediment deposition rates in Sheardown Lake NW to evaluate potential mine-related influences on biota (e.g. fish larvae hatching success). Annual monitoring reports for the Lake Sedimentation Monitoring Program further discuss the methods used and annual monitoring results and are provided as appendices to the Qikiqtani Inuit Association (QIA) and Nunavut Water Board (NWB) Annual Reports, required under Baffinland's Type A Water Licence and Commercial Lease with the QIA.

Baffinland expects to conduct the Lake Sedimentation Monitoring Program annually during Final Closure activities (Year 1 to 3) to assess whether component-specific closure criteria are met.

9.6 Environmental Site Assessment

An Environmental Site Assessment will be conducted at the onset of closure for areas that are expected to be contaminated with hydrocarbons or chemicals. Soil materials found to exceed the appropriate cleanup criteria for hydrocarbons (based on CCME contaminated sites guidelines or site-specific risk-based criteria) will be remediated onsite in the landfarm units, removed offsite to a licensed waste management facility, or the risk will be managed using site controls (e.g. covers).

The objective of the Environmental Site Assessments will be to determine areas of focus for final closure activities and to demonstrate conformance with CCME contaminated sites guidelines or site-specific risk-based criteria at the Mine Site, Milne Port, Tote Road and Steensby Port.

If not already done so, in the year prior to Final Closure activities (Year 0), Baffinland will commission a confirmatory sampling program at project sites to help determine adequacy of Final Closure activities'

ability to meet closure criteria. Based on results, closure activities will be modified accordingly to ensure closure objectives are met. The year following completion of closure activities (Year 4), a second Environmental Site Assessment of project sites will be conducted to confirm CCME contaminated sites guidelines or site-specific risk-based criteria have been met. If results indicate CCME contaminated sites guidelines or site-specific risk-based criteria have not been met, additional closure activities will be performed as necessary to ensure closure objectives are achieved.

If there is reason to suspect an area of soil has been contaminated by chemicals other than hydrocarbons (such as explosives), samples will be collected, and the soil will be tested. If the applicable regulatory requirements are exceeded, an appropriate method of disposal will be sought in consultation with the appropriate authorities.

Baffinland will report on any new Environmental Site Assessment and/or Human Health and Ecological Risk Assessment (HHERA) results on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type 'A' Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301).

9.7 Terrestrial Environment Monitoring and Reporting

The Terrestrial Environment Monitoring and Reporting program will occur during temporary care and maintenance (Year 0), and during closure activities (Years 1-3). Terrestrial environment monitoring during closure includes vegetation monitoring (exotic invasive vegetation) and caribou movement monitoring. Other monitoring programs such as vegetation health, migratory bird, and caribou habitat monitoring will continue during active closure as well, but may be discontinued during post closure, based on monitoring results to date.

The objective of the Terrestrial Environment Monitoring and Reporting program will shift focuses slightly from the operational project phase to determine if Project areas encourage the desired re-growth of vegetation and wildlife movement upon completion of Final Closure activities. Given the long operational period, effects monitoring programs will diminish quickly in scope post-closure. As noted in Section 2.4, Baffinland intends to establish a Mine Closure Working Group (MCWG) and Baffinland expect th~~is~~e ~~Mine Closure Working Group~~MCWG to help drive desired wildlife movement and passive re-vegetation considerations upon completion of Final Closure activities.

Baffinland expects to resume the Terrestrial Environment Monitoring and Reporting program the second year following completion of closure activities (Year 5) incorporating lesson learned from Operations. This schedule was determined to allow for a one (1) year wildlife/vegetation activity normalization period between active Final Closure activities and Post-Closure monitoring activities to help ensure an accurate representation of abandonment conditions. A follow up monitoring program is planned in Year 7.

The Terrestrial Environment Monitoring and Reporting program is expected to be a focused program that's main objective will be develop evidence of use or occupation of key indicator species in the avian and terrestrial environment for the Project area (visual sighting of species, bones, antlers, tracks, and trails, etc.). It is expected to be conducted by a team of two (2) experts for no more than two (2) weeks accompanied by an associated Bear Monitor. Baffinland will evaluate the re-vegetation of rehabilitated areas and conduct an invasive species assessment. Results of the Terrestrial Environment Monitoring and Reporting period in Year 5 are anticipated to be confirmed using a similar, second period two (2) years after the first, in Year 7.

The Mary River Project FEIS assessed there to be negligible adverse residual effects post-closure to fauna and flora. Post-closure, the loss of vegetation will be reversed with natural re-vegetation and the residual effects on fauna species will gradually lessen with time as the project areas are naturally re-vegetated. The risk of invasive plant species colonizing the area is expected to be negligible, however, it will be monitored post-closure.

Baffinland will report on any new Terrestrial Environment Monitoring and Reporting g program results on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type 'A' Water Licence 2AM-MYR-1325) and the Land Owners (as per Commercial Lease Q13C301).

9.8 Marine Environment Monitoring and Reporting

Discharges to the marine environment will be captured under the Closure and Post-Closure Aquatic Monitoring and Reporting Program (Section 9.5).

The MEWG will be functioning during the life of the Project to continually evaluate if there are any residual effects from Project activities on the marine environment at the Port. Based on current information that suggest effects on marine mammals is related to ship interaction, it is anticipated that there will be no significant residual effects at closure on the marine environment when ship interaction is removed. As long as shipping activity is occurring during closure, marine monitoring and reporting in place during operation will continue, as outlined in the Shipping and Marine Wildlife Management Plan and Marine Environmental Effects Monitoring Plan at the time of closure. If operational monitoring indicates that the prediction of no significant residual effects at closure on the marine environment may be inaccurate, additional Post-Closure Marine Monitoring will be evaluated in the light of this new information.

9.9 Safety Compliance Inspection

The objective of the Safety Compliance Inspection will be to determine if project components are closed and reclaimed in compliance with the Northwest Territories (NT) and Nunavut (NU) *Mine Health and Safety Act* and Regulations, and the *Explosives Use Act* and Regulations. The Safety Compliance Inspection

will be conducted by an Engineer/Inspector of Mines under the direction of the Chief Inspector of Mines working on behalf of the Workers' Safety and Compensation Commission (WSCC) of the Northwest Territories and Nunavut. Inspection frequency and scope will be established at the discretion of the Chief Inspector of Mines in consultation with Baffinland.

Baffinland will report on any Safety Compliance Inspection results on an annual basis to the NIRB (as per Project Certificate No. 005 and its Amendment), AANDC Land Lease 47H/16-1-2, the NWB (as per Type 'A' Water Licence 2AM-MYR-1325 and its Amendment) and the Land Owners (as per Commercial Lease Q13C301).

9.10 Socio-economic Reporting

As per condition 149 of the Project Certificate No. 005, Baffinland published a Closure Scenario Report in September 2014 and submitted it to the Nunavut Impact Review Board (NIRB). The report examines the potential socio-economic and cultural impacts closure may have on Inuit employees and analysis of the risk of temporary and permanent mine closure.

Socio-economic and monitoring during closure will be governed by the following legislative drivers and agreements:

- The *Nunavut Labour Standards Act*
- Human Resources Skills and Development Canada's (HRSDC) Employment Insurance Regulations
- The Nunavut Agreement on Labour Market Development
- Canada-Nunavut Labour Market Agreement
- Inuit Impact and Benefit Agreement between the Qikiqtani Inuit Association and Baffinland

In the event of permanent layoffs due to closure, under the Canada-Nunavut Agreement on Labour Market Development, Baffinland will engage with the Government of Nunavut to establish a Labour Market Partnership with the aim to develop and implement strategies for dealing with labour force adjustments. Under the Partnership Program a Joint Labour Adjustment Committee would be established to assist affected employees, a primary step being conducting a Needs Assessment to determine what labour adjustment issues have been addressed and determine appropriate programming required (e.g., job-search assistant, resume preparation, vocational counseling). Baffinland will also draw the on the expertise of the Mining Industry Human Resources Council (MiHR) who has developed a Mining Workforce Transition Kit that may address the specific needs of employees and their communities.

Socio-economic reporting, as required by the Project Certificate and in accordance with articles of the Inuit Impacts and Benefits Agreement, will be reported on in the Annual Report to the Nunavut Impact Review Board and the Implementation Report for the IIBA for the life of the project.

9.11 Air Quality Monitoring and Reporting

During reclamation activities (e.g., construction/regrading), air quality monitoring and reporting will be consistent with operations, occurring across the entire site, as outlined in the Air Quality and Noise Abatement Management Plan. Air quality data will be collected via active TSP, SO_2, NO_2 sampling and passive sampling for dustfall, including metal deposition. As no one area of the mine will close substantially within the 3-year closure construction period, site-wide post-closure ambient air quality monitoring will be executed following closure. As all the major impacts are removed, only 1 year of post-closure monitoring is planned to confirm ambient levels of TSP, $PM_{2.5}$, SO_2 and NO_2 are within the closure criteria (NU standards).

Baffinland expects to continue this monitoring during the first year of post closure activities (Year 4). TSP and $PM_{2.5}$ were selected as particulate matter poses health concerns due to their ability to be inhaled and accumulate in the respiratory system. Small particulate matter (e.g., $PM_{2.5}$) also has the ability to behave in the atmosphere like a gas and due to is small particle size, can disperse over greater distances than larger sized particulates before deposition.

Emissions of nitrogen oxides and sulphur oxides (i.e., NO_x and SO_x) are generated by fuel combustion in both stationary and mobile equipment. It should be noted there are negligible residual effects expected during post-closure as the primary sources of dust will no longer be in operation. During post-closure, stationary and mobile equipment will no longer be in use, with few exceptions such as truck traffic during monitoring programs. Accordingly, NO_x and SO_x emissions are expected to be negligible. However, to demonstrate that ambient conditions are below the criteria stated in the Environmental Guideline for Ambient Air Quality, Department of Environment, Government of Nunavut, October 2011 (200 µg/m^3 24 hr average for nitrogen dioxide and 150 µg/m^3 24 hr average for sulphur dioxide), a post-closure monitoring program consisting of up to five (5) sample locations using BAM-1020 or similar with a remote data logger for a period of not more than one (1) month during summer months is expected. Monitoring will be focused on locations identified through operational experience as having particulate emissions higher than other areas.

As indicated respectively by project component in Table 5.1, if Air Quality Monitoring program results demonstrate Mean TSP concentrations less than the risk-based criteria developed in consideration of the NU Ambient Air Quality Standard are met, the project component will be considered to have met the associated closure objectives. Dust deposition has been identified as a potential concern for the health of vegetation and wildlife, however, no residual effects of the Project on caribou health are anticipated due to metal exposure from dustfall. Most dustfall will be associated with the Mine Site and the primary metals are relatively innocuous to caribou (FEIS, Volume 6, Section 5.2.4). The potential effects of metals on plants either from aerial deposition or uptake from soils are highly dependent on site-specific conditions and the plant species themselves. Thresholds have not been developed for dust effects on plants, and the

literature acknowledges a lack of data of effects of atmospheric emissions and its effects on Arctic vegetation, leading to uncertainty in effects predictions. In an effort to further address this uncertainty, Baffinland is undertaking additional reclamation research on natural re-vegetation to better understand reclamation options. A dustfall monitoring program is being conducted to confirm project related activities will have a not significant effect on vegetation.

10 FINANCIAL SECURITY

Closure and reclamation costs for the Mary River Project are determined under the Annual Security Review (ASR) process conducted in accordance with Schedule C of the Type "A" Water Licence Amendment No. 1 2AM-MRY1325 and Commercial Lease No. Q13C301. Under the ASR process, Baffinland, the respective landowners (QIA & the Crown), the NWB, and other interested parties confer to determine the estimated closure and reclamation costs for an upcoming year on an annual basis. This approach allows for Baffinland to post financial security in incremental adjustments prior to the commencement of work. Publicly available ASR document submissions for a respective year, describing in detail, annual estimated closure and reclamation costs, can be downloaded from the NWB FTP site at: ftp.nwb-oen.ca.

10.1 Preliminary Mine Closure and Reclamation Plan Estimate and Updates

Prior to commencement of the ASR process, which is the current overriding process to determine Project closure and reclamation costs, Baffinland's estimated closure and reclamation costs were established and outlined in the Preliminary Mine Closure and Reclamation Plan (Rev D, H337697-0000-07-126-0014) which was submitted as part of the Mary River Project FEIS (FEIS Appendix 10G). Estimated costs and assumptions were made based on project design and costs available at the time of development using the Mining RECLAIM spreadsheet provided by Aboriginal Affairs and Northern Development Canada (AANDC).

An addendum to the PCRP Closure and Reclamation Cost Estimate ~~has been~~was developed to support the Type 'A' Water License 2AM-MRY1325 amendment process for 2015. This addendum ~~has been~~was made using current and updated estimated closure and reclamation costs, established through the ASR process, for Milne Port and the Tote Road aggregated with estimated closure and reclamation costs for Mary River Mine Site, the Railway and Steensby Port that were presented in Baffinland's original submission of the PCRP in February 2012. The purpose of this addendum ~~is~~ was to incorporate consideration of Baffinland's ERP to support the Type "A" Water License 2AM-MRY1325 amendment process. Details of the results of this process can be found in the following document: *Final Environmental Impact Statement (FEIS) Closure and Reclamation – Financial Security Estimate Addendum, H349001-0000-07-220-0001.*

Baffinland notes that the *Final Environmental Impact Statement (FEIS) Closure and Reclamation – Financial Security Estimate Addendum, H349001-0000-07-220-0001* does not override the ASR process and the ASR is still the governing process to determine reclamation financial security.

The Ultimate Project closure and reclamation cost estimate completed in 2015 totaled $518,711,208. The break down between land and water liability and IOL/Crown Land is presented in Table 10.1.

Table 10.1: Total Cost and Breakdown for Mary River Project Closure and Reclamation

	Total Cost	Percentage	Land Liability	Water Liability
Inuit Owned Land	$411,234,800	79.2	$405,430,454	$6,106,421
Federal Owned Land	$107,476,408	20.7	$105,391,574	$2,160,637
Total	$518,711,208	100	$510,822,029	$8,267,058

10.2 PHASE 2 PROPOSAL

In accordance with Part C of the Water Licence (2AM-MRY1325), Baffinland will continue to update the security requirements for the Project annually, with necessary adjustments accounted for in the results of the Annual Security Review process.

An estimate of the marginal increase in security associated with the Phase 2 Proposal was prepared in order to update the overall cost estimate for the Project (Appendix I). The Phase 2 Estimate follows established assumptions from previous years, and is intended to be inclusive of all closure and reclamation costs estimated to be required for a 3rd Party Contractor to perform the work in a 'worst-case' scenario for all disturbed areas, project components and project activities existing on the Mary River Project site upon conclusion of the Phase 2 proposal.

Table 10.2 below presents the 'global' closure and reclamation security estimated to be required (Column –E) based on the most recent 20189 ASR Estimate (Column C) and the Phase 2 Estimate (Column -D).

Discussions between Baffinland and land owners are ongoing to reach agreement regarding the global estimate assumption and calculations. An updated closure and reclamation security estimate for all aspects of the Phase 2 Proposal will be completed following the regulatory process on a timeline to be determined by Baffinland and QIA.

Table 10.2 Mary River Project 'Global' Closure and Reclamation Security Summary – Phase 2 Estimate

	A	B	C	D	E
	Authorization	Liability	Global Estimate from 2019 ASR ($)	Phase 2 Estimate Marginal ($)	Total 'Global' Estimated Security for Phase 2 Above Current Estimate ($)
					C + D = E
1	Type A 2AM-MRY1325	IOL[2]	96,438,000	43,839,000	140,277,000
2		Crown	1,802,000	15,262,000	17,064,000
3		Water	1,387,000	1,424,000	2,811,000
4		Land	96,853,000	56,677,000	153,530,000
5	*Subtotal Type A*		*98,240,000*	*58,101,000*	*156,341,000*
6	Type B Exploration2BE-MRY1421 [3]	IOL	165,000	-	165,000
7		Crown	1,082,000	-	1,082,000
8		Water	18,000	-	18,000
9		Land	1,229,000	-	1,229,000
10	*Subtotal Type B Exploration*		*1,247,000*		*1,247,000*
11	DFO Security Associated with Ore Dock	IOL[2]	-	-	-
12		Crown	563,000	-	563,000
13		Water	563,000	-	563,000
14		Land	-	-	-
15	*Subtotal DFO*		*563,000*		*563,000*
16	AANDC Land Lease 47H/16-1-2 [4]	IOL[2]	-	-	-
17		Crown	4,975,000	-	4,975,000
18		Water	-	-	-
19		Land	4,975,000	-	4,975,000
20	*Subtotal AANDC Land Lease*		*4,975,000*	-	*4,975,000*
21	**GRAND TOTAL**		**105,025,000**		**163,126,000**

11 CONCORDANCE TABLES

Table 11.1 has been prepared to demonstrate conformity of the ICRP with the MVLWB/AANDC, Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories, November 2013. The concordance table and ICRP have been structured to be consistent with the 'template' provided in pages 31 to 42 of the Guidelines.

Table 11.1: Conformity Assessment of the CIRNAC Guidelines to the ICRP

CIRNAC Guideline	ICRP Section
1.0 Plain Language Summary i. Plain language summary of CRP, with key aspects of current plan, major uncertainties and how they will be addressed, and differences from previous plans	Section 1
2.0 Introduction i. Purpose and scope of the closure and reclamation plan as it relates to Boards' requirements, previous versions of CRP, expectation of stakeholders. Approval dates of previous CRPs	Section 2.1
ii. General project description, description of proponents, spatial and temporal extent of project	Section 2.1
iii. Status of plan (e.g. interim CRP, final CRP, etc.)	Section 2.3.1
iv. Goal of the closure and reclamation plan.	Section 2.2
v. Identify closure and reclamation planning team. Describe, list or show important internal/external organizational relationships and specific responsibilities that facilitate/manage closure and reclamation	Section 2.3
vi. Outline approach to engagement, how they have or will integrate local community values into the CRP, strategies for engaging communities in CRP development and implementation	Section 2.4
vii. Identify relevant regulatory authority and existing/required permits, authorizations, agreements related	Section 2.5
viii. Conformance table showing where CRP satisfies applicable licences/permits. List of additional standards/guidelines to be followed	Section 11
3.0 Project Environment i. Overview of pre-disturbance atmospheric environment (e.g. climate, temperature, precipitation, air quality), including maps, tables, figures	Section ~~3~~3.1
ii. Overview of pre-disturbance physical (terrestrial) environment (e.g. physiography, geology, permafrost, geological hazards, hydrogeology), including maps, tables, figures	Section 3.2
iii. Overview of pre-disturbance chemical environment (e.g. soil/sediment chemistry, surface water/groundwater quality, ARD and metal leaching potential), including maps, tables, figures	Section 3.2
iv. Overview of pre-disturbance biological environment (e.g. vegetation, aquatic life, terrestrial wildlife, avifauna, overall ecosystem), including maps, tables, figures	Section 3.3.3
4.0 Project Information i. Site location, regional and local context of affected areas, access points and methods of access, including maps and photos	Section 4.1

CIRNAC Guideline	ICRP Section
ii. History of ore discovery, exploration, previous development and operations, ownership changes, summary of application, permitting, and licencing process to date	Section 4.2
iii. Description of site geology, mining resource, extraction methods and rational for footprint and specific target areas, including maps, figures, tables	Section 4.3
iv. Project summary, including life of mine plan through closure and reclamation and various options proposed from EA	Section 4.4
v. List of all project components	Table 4.1
5.0 Permanent Closure and Reclamation i. Definition of permanent closure and reclamation	Section 5.1
ii. Indicate components that may require passive long-term care and expected timelines for relinquishment	Section 5.1.1
iii. Description of project components, including details (e.g. dimensions, footprint, relative locations on map), lifespan and current status, with supporting maps, figures, photos.	Section 5.2 (Sections 5.2.X.1)
iv. Description of pre-development, existing, and projected final site conditions using maps, photos, figures as appropriate. Illustrate relevant water bodies, topographic modifications, and vegetation changes. Identify important/unique environmental conditions with bearing on closure.	Section 5.2 (Sections 5.2.X.2)
v. List of closure objectives and criteria for each component, with any uncertainties noted with reference to the associated reclamation research plan	Table 5.1
vi. Alternatives analysis of various closure options with clear demonstration of pros and cons, risk scenarios and unique/novel closure situations for the specific component.	Section 5.2 (Sections 5.2.X.4)
vii. Selection of preferred closure activity with rationale for selection/rejection of others	Section 5.2 (Sections 5.2.X.4)
viii. Description of engineering work (e.g. demolition, construction) necessary for selected closure activity, with supporting information for proposed work to prove proposed technology or engineering will be successful	Section 5.2 (Sections 5.2.X.5)
ix. Assessment of potential negative residual effects remaining after completion of reclamation. Provide results of risk assessments and discuss how any predicted residual effects compare to stakeholders' preferences and or to company's commitments made during EA.	Appendix G
x. Identify uncertainties associated with the risks of various closure options and how to select the best closure activity, how to best implement a selected closure activity, how to define closure criteria, how Traditional Knowledge will inform closure planning and more. Include how each uncertainty will be addressed (reclamation research, engineering study plan, etc.).	Section 5.2 (Sections 5.2.X.7)
xi. Description of what post closure monitoring will occur (e.g. fugitive dust, stream flow, wildlife and aquatic life movement etc.) and why, including sampling locations, frequencies, duration, maintenance activities, methods of reporting	Section 5.2 (Sections 5.2.X.8), Section 9
xii. List of possible contingencies should closure activity not be successful in meeting closure criteria and objectives, with identification of preferred contingency with rationale	Section 5.2 (Sections 5.2.X.9)
6.0 Progressive Reclamation i. Definition of progressive reclamation	Section 6.1
ii. Opportunities for progressive reclamation during life of the project, including location, aerial extent of work, description of planned reclamation activities and any planned/required monitoring	Section 6.2

CIRNAC Guideline	ICRP Section
iii. Summary and location of completed progressive reclamation activities, including a list of reports detailing any reclamation that has occurred, and any lessons learned that will inform closure planning	Section 6.3
7.0 Temporary Closure i. Closure goal and closure objective of temporary closure	Section 7.1 and 0
ii. Selected temporary closure activities for each project component (must include minimum activities identified by MVLWB guidelines)	Section 7.1 and 0
iii. Monitoring activities during temporary closure	Section 7.2 and 7.4
iv. Contingencies for unforeseen events/conditions during temporary closure if response different from normal operations, including effects on any monitoring activities and plans to address any effects	Section 5.2 (Sections 5.2.X.9)
v. Temporary closure schedule, including anticipated timing/sequence of events, description of temporary closure activities for each component, duration and approximate end date of closure period	Section 7.1 and 0
8.0 Integrated Schedule of Activities i. Component-specific schedule depicting operations, closure dates, and expected start and end times for selected closure activities, including progressive reclamation, initiation and completion of research, timeframes for meeting closure criteria and monitoring and reporting phases	Section 8
ii. Description of schedule uncertainties	Section 8
9.0 Post-Closure Site Assessment i. Description/study design of post-closure impact assessment	Section 9, See also Appendix G
10.0 Financial Security i. Estimates of total liability of permanent closure (including post-closure monitoring programs and activities)	Section 10
ii. Cost breakdown for each project component	Section 1.1.1 and ASR documentation
iii. Match estimate with timing of closure and reclamation activities	Section 1.1.1 and ASR documentation
11.0 References i. List of documents/reports that support characterization of baseline environmental data, geochemical analyses and predicted ML/ARD potential, and relevant engineering work related to support the CRP	Section 13
Appendix A – Glossary of Terms and Definitions i. Plain language explanation of discipline specific technical terms and key closure and reclamation planning terms	Section 12.1
Appendix B – List of Acronyms, Abbreviations, Units, and Symbols	Section 12.2
Appendix C – Record of Engagement i. Table outlining all completed engagement specific to closure, including issues identified by engaged parties and how company has addressed them	Appendix E
Appendix D – Lessons Learned from Other Projects i. Summary table of relevant on-site closure issues/concerns dealt with at other projects, the completed activity, lessons learned and application to managing project closure and reclamation	Appendix F

CIRNAC Guideline	ICRP Section
Appendix E – Reclamation Research Plans i. Reclamation research plans required to address uncertainties. Plans should describe the uncertainty, research/study objective, overview of tasks, linkages to other research/studies, project research schedule, costs and references.	Appendix D

Table 11.2 has been prepared to characterize the content of the ICRP and updated with reference to this ICRP. The concordance table is consistent with the principles of the Qikiqtani Inuit Association (QIA) Abandonment and Reclamation Policy for Inuit Owned Lands ('the Policy') and structured in accordance with Appendix C of the QIA Security Policy (v3).

Table 11.2: QIA Abandonmenta and Reclamation Policy for Inuit Owned Lands Concordance Table

Item	QIA Abandonment and Reclamation Policy for Inuit Owned Lands (v3)	Baffinland Response
1	Have **all** reports and plans including addendums and responses been submitted?	Yes
2	Are the submitted reports and plans executable standalone documents with adequate rational and detail?	Yes
3	Do all reports and plans contain appropriate referencing (document name, author, section, and page number) to **all** supporting information?	Yes
4	Do the reports and plans demonstrate a firm understanding, of QIA's *Guiding Principles on Reclamation* and provide rationale on how these principles have been satisfied?	Yes
5	Has IQ and consultation with Community Land and Resources Committee(s) been applied? Has the Tenant provided detailed community consultation records?	Closure and reclamation issues discussed at hearings related to the Project Certificate. Commitment to Mine Closure Working Group in the future to incorporate community input and IQ.
6	Are **all** the components that are considered in the abandonment and reclamation plan listed?	Yes
7	Does each component of the Project have an abandonment and reclamation objectives and criteria?	Yes
8	Has an A&R plan been provided with a financial security estimate?	Yes. Financial security estimate is conducted in accordance to Section 9.2 of Commercial Lease, No. Q13C301

Table 11.2: QIA Abandonmenta and Reclamation Policy for Inuit Owned Lands Concordance Table

Item	QIA Abandonment and Reclamation Policy for Inuit Owned Lands (v3)	Baffinland Response
9	Have Table 1, 2, 3 and 4 of Appendix B been used in completing the financial security estimate?	Yes – was adapted to suit project specific requirements.
10	Has evidence been provided to support the Policy assumptions for all reports and plans?	Yes

Table 11.3 has been prepared to show all the Project Certificate No. 005 commitments outlined in Appendix A of the Project Certificate that apply to this ICRP. Where the Project Certificate Terms and Conditions have requirements for Construction, Operations, Temporary Closure/Care and Maintenance, Closure and Post Closure Monitoring the requirements are dealt with by a current Management Plan that will be updated regularly throughout the life of the Project. These Management Plans will still be applicable during Closure and, as necessary, Post Closure Monitoring, however an initial post closure monitoring program has been outlined in this document to tie residual effects and proposed Post Closure Monitoring.

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
2	Meteorology and Climate – Climate Change Validation and Studies	To provide feedback on the impacts that climate change might be having on the Project.	The Proponent shall provide the results of any new or revised assessments and studies done to validate and update climate change impact predictions for the Project and the effects of the Project on climate change in the Local Study Area and Regional Study Area as defined in the Proponent's Final Environmental Impact Statement.	1 – Climate Change	None planned at this time however any research conducted during Closure and Post-Closure Phases will be provided during Annual Reporting.	Both	Section 9.11
3	Meteorology and Climate – Green House Gas Emissions	To confirm that the Proponent is exploring and implementing concrete steps to reduce greenhouse gases.	The Proponent shall provide interested parties with evidence of continued initiatives undertaken to reduce greenhouse gas emissions.	1 – Climate Change	Air Quality Monitoring Program. Results of Closure Phase Air Quality Monitoring Program and any other initiatives taken to reduce greenhouse gas emissions during Closure and Post-Closure Phases will be provided during Annual Reporting.	Both	Section 9.11
4	Climate Change – Consultation on Climate	To promote public awareness and engagement of affected groups.	The Proponent shall endeavor to include the participation of Inuit from affected communities and other communities in Nunavut when undertaking climate-change related studies and research.	1 – Climate Change	Air Quality Monitoring Program Mine Closure Working Group	Both	Section 9.11 Section 2.4
5	Meteorology and Climate – Weather Monitoring Data	To provide families of employees with up to date information.	The Proponent shall endeavour to explore and implement reasonable measures to ensure that weather-related information for the various Project sites is readily accessible to the public on a continual basis throughout the life of the Project.	2 – Air Quality	Air Quality Monitoring Program. Results of Closure Phase Air Quality Monitoring Program will be provided during Annual Reporting	Both	Section 9.11

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
6	Meteorology and Climate – Emissions	To provide feedback on the Project's emissions.	The Proponent shall provide the results of any emissions calculations conducted to determine the level of sulphur dioxide (SO_2) emissions, nitrogen oxide (NOX) emissions and greenhouse gases generated by the Project using fuel consumption or other relevant criteria as a basis.	2 – Air Quality	Air Quality Monitoring Program	Both	Section 9.11
11	Air Quality – Incineration Management Plan	To mitigate impacts to air quality from incineration activities.	The Proponent shall develop and implement an Incineration Management Plan that takes into consideration the recommendations provided in Environment Canada's Technical Document for Batch Waste Incineration (2010).	2 – Air Quality	Waste Management Plan (carried over from Operations) will apply when incinerators in operation	Both	Section 5.2.7
14	Noise and Vibration – Noise and Vibration Monitoring	To mitigate noise and vibration at Project sites, especially living areas.	The Proponent shall conduct noise and vibration monitoring at Project accommodations sites located at the Mary River mine site, Steensby Inlet Port site, and Milne Inlet Port site. Sampling shall be undertaken during the summer and winter months during all phases of Project development.	3 – Noise and Vibration	Considered, however no monitoring proposed during closure and negligible residual effects expected.	Both	N/A
15	Noise and Vibration	To enhance public safety when travelling around the Project area.	Noise and Vibration Monitoring – The Proponent shall collaborate to the extent possible with the Qikiqtani Inuit Association and local Hamlet organizations when undertaking consultation with all affected communities regarding railway, tote road and marine shipping operations. During these consultations, it is recommended that the Proponent provide information including video, audio, and photographic representation as well as any other aids	3 – Noise and Vibration	When undertaking consultation with all affected communities, collaboration with the Qikiqtani Inuit Association and local Hamlet organizations performed via Mine Closure Working Group sessions.	Both	Section 2.4

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			(i.e. models) that may enhance the general public's understanding of railway, tote road and marine shipping operations, as well as all safety considerations for members of the public who may be travelling around the project area.				
17	Hydrology and Hydrogeology – Effluent Management	To prevent impacts to water bodies from effluent.	The Proponent shall develop and implement effectives measures to ensure that effluent from project-related facilities and/or activities, including sewage treatment plants, ore stockpiles, and mine pit, satisfies all discharge criteria requirement established by the relevant regulatory agencies prior to being discharged into the receiving environment.	8 – Water Quality	Aquatic Monitoring and Reporting Program Environmental Effects Monitoring Program	Both	Section 9.5 Section 9.3.1
18	Hydrology and Hydrogeology – Pit Lake Monitoring	To enhance predictions for mine site closure conditions.	The Proponent shall carry out continued analyses over time to confirm and update, accordingly, the approximate fill time for the mine pit lake identified in the FEIS.	8 – Water Quality 9 – Surface water and sediment quality	None. ICRP will be reviewed annually and updated regularly throughout the life of the Project to confirm and/or update, accordingly the approximate fill time for the mine pit lake identified in the FEIS.	IOL	Section 2.3.1.3
19	Hydrology and Hydrogeology – Water Infrastructure Monitoring	To mitigate impacts to natural water flow.	The Proponent shall ensure that it develops and implements adequate monitoring and maintenance procedures to ensure that the culverts and other conduits that may be prone to blockage do not significantly hinder or alter the natural flow of water from areas associated with the proposed mine. In addition, the Proponent shall	8 – Water Quality 9 – Surface water and sediment quality	Will be addressed in Annual Report.	Both	N/A

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			monitor, document and report the withdrawal rates for water removed and utilized for all domestic and industrial purposes.				
20	Groundwater/Surface Waters – Explosives	To ensure that the effects associated with the manufacturing, storage, transportation and use of explosives do not negatively impact the areas surrounding the Project.	The Proponent shall monitor the effects of explosives residue and related by-products from project-related blasting activities as well as develop and implement effective preventative and/or mitigation measures, including treatment, if necessary, to ensure that the effects associated with the manufacturing, storage, transportation and use of explosives do not negatively impact the Project and surrounding areas.	8 – Water Quality 9 – Surface water and sediment quality	None. Negligible once closure activities have ceased	N/A	N/A
24	Groundwater/Surface Waters – Effluent Management	To mitigate impacts to groundwater and surface waters from effluent	The Proponent shall monitor as required the relevant parameters of the effluent generated from Project activities and facilities and shall carry out treatment if necessary to ensure that discharge conditions are met at all times.	8 – Water Quality	Aquatic Monitoring and Reporting Program	Both	Section 9.5
27	Landforms, Geology and Geomorphology – Natural Aesthetics	To mitigate impacts to natural aesthetics.	The Proponent shall include within its public consultation report information related to the sentiments expressed by affected communities about the impacts that changes to the topography and landscape have had on the aesthetic value of the Project area.	4 – Landforms, soil and permafrost	Geotechnical/Engineering Monitoring	Both	Section 9.2
28	Landforms, Geology and Geomorphology – Permafrost	To ensure that permafrost integrity is maintained.	The Proponent shall monitor the effects of the Project on the permafrost along the railway and all other Project affected areas and must implement effective preventative	4 – Landforms, soil and permafrost	Geotechnical/Engineering Monitoring	Both	Section 9.2

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			measures to ensure that the integrity of the permafrost is maintained.				
30	Landforms, Geology and Geomorphology – Quarries	To provide oversight on quarry design and management.	The Proponent shall develop site-specific quarry operation and management plans in advance of the development of any potential quarry site or borrow pit.	4 – Landforms, soil and permafrost	Geotechnical/Engineering Monitoring	Both	Section 9.2
32	Vegetation – Construction and Operations	To prevent introduction of invasive species.	The Proponent shall ensure that equipment and supplies brought to the Project sites are clean and free of soils that could contain plant seeds not naturally occurring in the area. Vehicle tires and treads in particular must be inspected prior to initial use in Project areas.	5 – Vegetation	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
33	Vegetation – Monitoring	To facilitate monitoring.	The Proponent shall include relevant Monitoring and Management Plans within its Environmental Management System, Terrestrial Environment Management and Monitoring Plan (TEMMP).	5 – Vegetation	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
37	Vegetation – Monitoring	To prevent establishment of invasive species.	The Proponent shall incorporate protocols for monitoring for the potential introduction of invasive vegetation species (e.g. surveys of plant populations in previously disturbed areas) into its Terrestrial Environment and Monitoring Plan. Any introductions of non-indigenous plant species must be promptly reported to the Government of Nunavut Department of Environment.	5 – Vegetation	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
38	Vegetation – Adaptive Management	To mitigate impacts to vegetation abundance, diversity and health.	The Proponent shall review, on an annual basis, all monitoring information and the vegetation mitigation and management plans developed under its Environmental	5 – Vegetation	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			Management System, Terrestrial Environment and Monitoring Plan (TEMMP) and adjust such plans as may be required to effectively prevent or reduce the potential for significant adverse project effects on vegetation abundance, diversity and health.				
39	Vegetation – Reclamation and Revegetation	To prevent erosion and promote progressive revegetation of disturbed areas.	The Proponent shall develop a progressive revegetation program for disturbed areas that are no longer required for operations, such program to incorporate measures for the use of test plots, reseeding and replanting of native plants as necessary. It is further recommended that this program be directly associated with the management plans for erosion control established for the Project.	5 – Vegetation	Terrestrial Environment Monitoring and Reporting	Both	Section 6 Section 9.5
40	Vegetation – Reclamation and Revegetation	To prevent erosion and promote progressive revegetation of disturbed areas.	The Proponent shall include revegetation strategies in its Site Reclamation Plan that support progressive reclamation and that promote natural revegetation and recovery of disturbed areas compatible with the surrounding natural environment.	5 – Vegetation	Terrestrial Environment Monitoring and Reporting	Both	Section 6 Section 9.5
41	Freshwater Aquatic Environment – Setbacks	To mitigate impacts of runoff into freshwater aquatic habitat.	Unless otherwise approved by regulatory authorities, the Proponent shall maintain a minimum 100-metre naturally-vegetated buffer between the high-water mark of any fish-bearing water bodies and any permanent quarries with potential for acid rock drainage or metal leaching.	4 – Landforms, soil and permafrost 5 – Vegetation	Geotechnical/Engineering Monitoring	Both	Section 9.2

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
42	Freshwater Aquatic Environment – Setbacks	To mitigate impacts of runoff into freshwater aquatic habitat.	The Proponent shall maintain minimum a 30-metre naturally-vegetated buffer between the mining operation and adjacent water bodies.	4 – Landforms, soil and permafrost 5 – Vegetation	Geotechnical/Engineering Monitoring	Both	Section 9.2
44	Freshwater Aquatic Environment – Explosives	To mitigate impacts of explosives on freshwater aquatic habitat.	The Proponent shall meet or exceed the guidelines set by Fisheries and Oceans Canada for blasting thresholds and implement practical and effective measures to ensure that residue and by-products of blasting do not negatively affect fish and fish habitat.	8 – Water Quality	Aquatic Monitoring and Reporting Program Environmental Effects Monitoring Program	Both	Section 9.5 Section 9.3.1
45	Freshwater Aquatic Environment – General	To mitigate impacts to freshwater aquatic habitat.	The Proponent shall adhere to the No-Net-Loss principle at all phases of the project to prevent or mitigate direct or indirect fish and fish habitat losses.	10 – freshwater fish, fish habitat, and other aquatic organisms	Aquatic Monitoring and Reporting Program Environmental Effects Monitoring Program	Both	Section 9.5 Section9.3.1
46	Freshwater Aquatic Environment – Drainage	To mitigate impacts to freshwater aquatic habitat.	The Proponent shall ensure that runoff from fuel storage and maintenance facility areas, sewage and wastewater other facilities responsible for generating liquid effluent and runoff meet discharge requirements.	8 – Water Quality	Aquatic Monitoring and Reporting Program Environmental Effects Monitoring Program	Both	Section 9.5 Section 9.3.1

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
49	Terrestrial Wildlife and Wildlife Habitat – Terrestrial Environment Working Group	The TEWG will provide direction and guidance to the Proponent regarding: adding to baseline information during construction and before project operations commence; monitoring and reporting regarding effects occurring during operations; and providing advice regarding changes that may be required to make sure the management of negative impacts is effective and that lasting damage is prevented.	The Proponent shall establish a Terrestrial Environment Working Group ("TEWG") which will act as an advisory group in connection with mitigation measures for the protection of the terrestrial environment and in connection with its Environmental Effects Monitoring Program, as it pertains to the terrestrial environment. Members may consider the draft terms of reference for the TEWG filed in the Final Hearing, but they are not bound by them. The role of the TEWG is not intended to either duplicate or to affect the exercise of regulatory authority by appropriate government agencies and departments.	7 – Terrestrial wildlife and habitat	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
50	Terrestrial Wildlife and Habitat – General	To ensure appropriate and responsive adaptive management.	The Proponent shall continue to develop and implement Project-specific monitoring for the terrestrial environment, and will demonstrate appropriate refinements to design, incorporation of analytical methods and elaboration of methodologies. The monitoring plan shall contain clear thresholds to allow for the assessment of long-term trends and cumulative effects	7 – Terrestrial wildlife and habitat	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			where project interactions are identified. Coordination and cooperation will be required where data collection, analysis and interpretation, or responsibility for mitigation and management requires the efforts of multiple parties (e.g., government, Qikiqtani Inuit Association, communities).				
51	Terrestrial Wildlife and Habitat – General	To promote coordination of monitoring efforts.	The Proponent, either directly or as part of the TEWG, shall consider and, where appropriate, cooperate with relevant regional and/or community-based monitoring initiatives that raise issues or produce information pertinent to mitigating project-induced impacts. The Proponent shall give special consideration for supporting regional studies of population health and harvest programs for North Baffin caribou which help address areas of uncertainty for Project impact predictions.	7 – Terrestrial wildlife and habitat	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
55	Terrestrial Wildlife and Habitat – Reporting	To mitigate potential impacts to wolves.	The Proponent shall develop an adaptive management plan applicable to wolves and wolf habitat in collaboration with the Government of Nunavut-Department of Environment (GN-DOE) to ensure compliance with the *Nunavut Wildlife Act.* Consideration must be given to the following: a. Monitoring for active wolf dens within a 10 km radius from the mine site, under the direction and prior approval of the GN DOE,	7 – Terrestrial wildlife and habitat	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			and reporting the results through NIRB's Annual Reports on terrestrial wildlife in the Potential Development Area (PDA); b. Estimating the available (glacio-fluvial materials) esker habitat within the Regional Study Area/PDA and identifying such habitat as ecologically sensitive; c. Developing "wolf indices" for presence/abundance of wolves (by conducting studies) to set a baseline pre-construction baseline; and d. Ensuring that wolf monitoring is capable of determining the relative abundance and distribution of wolves in the Project Development				
56	Terrestrial Wildlife and Habitat – Reporting		The Proponent shall develop a strategy for the recovery of terrestrial wildlife habitat in a progressive manner that is consistent with the *Nunavut Wildlife Act.* Overall, this will require the integration of a decision-making process and the identification of mitigation responses to cumulative impacts on caribou survival, breeding propensity, and population dynamics.	7 – Terrestrial wildlife and habitat	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
57	Terrestrial Wildlife and Habitat – Aircraft Disturbances	To mitigate and monitor for impacts to wildlife.	The Proponent shall report annually regarding its terrestrial environment monitoring efforts, with inclusion of the following information: a. Description of all updates to terrestrial ecosystem baseline data; b. A description of the involvement of Inuit	7 – Terrestrial wildlife and habitat	Terrestrial Environment Monitoring and Reporting Reporting requirements will be addressed in Annual Report.	Both	Section 9.5

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			in the monitoring program; c. An explanation of the annual results relative to the scale of the natural variability of Valued Ecosystem Components in the region, as described in the baseline report; d. A detailed presentation and analysis of the distribution relative to mine structures and activities for caribou and other terrestrial mammals observed during the surveys and incidental sightings; e. Results of the annual monitoring program, including field methodologies and statistical approaches used to support conclusions drawn; f. A summary of the chronology and level of mine activities (such as vehicle frequency and type); g. An assessment and presentation of annual environmental conditions including timing of snowmelt, green-up, as well as standard weather summaries; and h. A discussion of any proposed changes to the monitoring survey methodologies, statistical approaches or proposed adaptive management stemming from the results of the monitoring program.				
58	Terrestrial Wildlife and Habitat – Explosives	To mitigate and monitor for impacts to wildlife.	Within its annual report to the NIRB, the Proponent shall incorporate a review section which includes: a. An examination for trends in the measured natural variability of Valued	7 – Terrestrial wildlife and habitat	Terrestrial Environment Monitoring and Reporting. Reporting requirements will be addressed in Annual Report.	Both	Section 9.5

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			Ecosystem Components in the region relative to the baseline reporting; b. A detailed analysis of wildlife responses to operations with emphasis on calving and post-calving caribou behavior and displacements (if any), and caribou responses to and crossing of the railway, the Milne Inlet Tote Road and associated access roads/trails; c. A description of the extent of dust fall based on measured levels of dust fall (fugitive and finer particles such as TSP) on lichens and blueberries, and ash content of caribou fecal pellets; d. A demonstration and description of how the monitoring results, including the railway, road traffic, air traffic and dust fall contribute to cumulative effects of the project; e. Any proposed changes to the monitoring survey methodologies, statistical approaches or proposed adaptive management stemming from the results of the monitoring program; f. Any updates to information regarding caribou migration trails. Maps of caribou migration trails, primarily obtained through any new collar and snow tracking data, shall be updated (at least annually) in consultation with the Qikiqtani Inuit Association and affected communities, and				

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			shall be circulated as new information becomes available.				
59	Terrestrial Wildlife and Habitat – Operations (General)	To mitigate aircraft disturbance to wildlife and Inuit harvesting.	The Proponent shall ensure that aircraft maintain, whenever possible (except for specified operational purposes such as drill moves, take offs and landings), and subject to pilot discretion regarding aircraft and human safety, a cruising altitude of at least 610 metres during point to point travel when in areas likely to have migratory birds, and 1,000 metres vertical and 1,500 metres horizontal distance from observed concentrations of migratory birds (or as otherwise prescribed by the Terrestrial Environment Working Group) and use flight corridors to avoid areas of significant wildlife importance. The Proponent, in collaboration with the Terrestrial Environment Working Group shall develop a program or specific measures to ensure that employees and subcontractors providing aircraft services to the Project are respectful of wildlife and Inuit harvesting that may occur in and around project areas.	6 – Birds	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
61	Terrestrial Wildlife and Habitat – Public Engagement	To mitigate Project impacts to wildlife.	Whenever practical and not causing a human safety issue, a stop work policy shall be implemented when wildlife in the area may be endangered by the work being carried out. An operational definition of 'endangered' shall be provided by the Terrestrial Environment Working Group.	6 – Birds 7 – Terrestrial wildlife and habitat	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
62	Terrestrial Wildlife and Habitat – Waste Management	To prevent increased harvesting pressure on wildlife.	The Proponent shall prohibit project employees from transporting firearms to site and from operating firearms in project areas for the purpose of wildlife harvesting.	None.	None.	N/A	N/A
63	Birds – Awareness	To keep communities up to date with Project operations.	The Proponent shall liaise with local Hunters and Trappers Organizations in advance of carrying out terrestrial wildlife surveys. At a minimum, The Proponent shall also meet annually in person with Hunters and Trappers Organizations to discuss wildlife monitoring and mitigation plans and address community concerns regarding wildlife interactions. The Proponent may be required to facilitate these meetings through payment of honoraria and meeting costs.	6 – Birds 7 – Terrestrial wildlife and habitat	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
64	Birds – Species at Risk	To prevent human-carnivore interactions.	The Proponent shall ensure that its Environment Protection Plan incorporates waste management provisions to prevent carnivores from being attracted to the Project site(s). Consideration must be given to the following measures: a. Installation of an incinerator beside the kitchen that will help to keep the food waste management process simple and will minimize the opportunity for human error (i.e. storage of garbage outside, hauling in a truck (odours remain in truck), hauling some distance to a landfill site, incomplete combustion at landfill, fencing of landfill, etc.); and b. Installation of solid carnivore-proof	6 – Birds 7 – Terrestrial wildlife and habitat	Geotechnical/Engineering Monitoring	Both	Section 9.5

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			skirting on all kitchen and accommodation buildings (i.e., heavy-duty steel mesh that would drop down from the edge of the buildings/trailers and buried about a half meter into the ground to prevent animals from digging under the skirting).				
65	Birds – Species at Risk	To prevent disturbance to birds and bird habitat.	The Proponent shall ensure all employees working at project sites receive awareness training regarding the importance of avoiding known nests and nesting areas and large concentrations of foraging and moulting birds.	6 – Birds	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
66	Birds – Project Infrastructure	To prevent impacts to sensitive bird species.	If Species at Risk or their nests and eggs are encountered during Project activities or monitoring programs, the primary mitigation measure must be avoidance. The Proponent shall establish clear zones of avoidance on the basis of the species-specific nest setback distances outlined in the Terrestrial Environment Management and Monitoring Plan.	6 – Birds	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
67	Birds – Construction/Clearing Activities	To prevent impacts to sensitive bird species.	The Proponent shall ensure that the mitigation and monitoring strategies developed for Species at Risk are updated as necessary to maintain consistency with any applicable status reports, recovery strategies, action plans and management plans that may become available during the duration of the Project.	6 – Birds	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
68	Birds – Construction/Clearing Activities	To prevent potential injuries to birds.	The Proponent shall ensure flashing red, red strobe or white strobe lights and guy-wire deterrents are used on	6 – Birds	Geotechnical/Engineering Monitoring	Both	Section 9.2 Section 9.5

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			communications towers established for the Project. Consideration should also be given to reducing lighting when possible in areas where it may serve as an attractant to birds or other wildlife.		Terrestrial Environment Monitoring and Reporting		
69	Birds – Flight Altitude Requirements	To prevent nesting by birds in active Project areas.	Prior to bird migrations and commencement of nesting, the Proponent shall identify and install nesting deterrents (e.g. flagging) to discourage birds from nesting in areas likely to be disturbed by construction/clearing activities taking place during the nesting season.	6 – Birds	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
70	Birds – Flight Altitude Requirements	To prevent impacts to birds and nesting areas.	The Proponent shall protect any nests found (or indicated nests) with a buffer zone determined by the setback distances outlined in its Terrestrial Environment Mitigation and Monitoring Plan, until the young have fledged. If it is determined that observance of these setbacks is not feasible, the Proponent will develop nest-specific guidelines and procedures to ensure bird's nests and their young are protected.	6 – Birds	Geotechnical/Engineering Monitoring Terrestrial Environment Monitoring and Reporting	Both	Section 9.2 Section 9.5
71	Birds – Monitoring	To mitigate aircraft disturbance to birds.	Subject to safety requirements, the Proponent shall require all project related aircraft to maintain a cruising altitude of at least: a. 650 m during point to point travel when in areas likely to have migratory birds b. 1100 m vertical and 1500 m horizontal distance from observed concentrations of migratory birds	6 – Birds	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			c. 1100 m over the area identified as a key site for moulting snow geese during the moulting period (July-August), and if maintaining this altitude is not possible, maintain a lateral distance of at least at least 1500 m from the boundary of this site.				
72	Birds – Monitoring	To mitigate aircraft disturbance to birds.	The Proponent shall ensure that pilots are informed of minimum cruising altitude guidelines and that a daily log or record of flight paths and cruising altitudes of aircraft within all Project Areas is maintained and made available for regulatory authorities such as Transport Canada to monitor adherence and to follow up on complaints.	None.	None.	N/A	N/A
73	Birds – Monitoring	To develop appropriate mitigation and monitoring of impacts to birds.	The Proponent shall develop detailed and robust mitigation and monitoring plans for migratory birds, reflecting input from relevant agencies, the Qikiqtani Inuit Organization and communities as part of the Terrestrial Environment Working Group and to the extent applicable the Marine Environment Working Group.	6 – Birds	Terrestrial Environment Monitoring and Reporting Mine Closure Working Group	Both	Section 9.5 Section 2.4
74	Birds – Monitoring	To develop appropriate mitigation and monitoring of impacts to birds.	The Proponent shall continue to develop and update relevant monitoring and management plans for migratory birds under the Proponent's Environmental Management System, Terrestrial Environment Mitigation and Monitoring Plan prior to construction. The key indicators for follow up monitoring under this plan will include: peregrine falcon,	6 – Birds	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			gyrfalcon, common and king eider, red knot, seabird migration and wintering, and songbird and shorebird diversity.				
75	Birds – Monitoring	To assess the extent of terrestrial habitat loss.	The Proponent's monitoring program shall assess and report, on annual basis, the extent of terrestrial habitat loss due to the Project to verify impact predictions and provide updated estimates of the total project footprint.	6 – Birds	Terrestrial Environment Monitoring and Reporting	Both	Section 9.5
76	Marine Environment – Ice Breaking and Shipping	To mitigate potential impacts to the marine environment.	The Proponent shall develop a comprehensive Environmental Effects Monitoring Program to address concerns and identify potential impacts of the Project on the marine environment.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
77	Marine Environment – Ice Breaking and Shipping	The MEWG will consult with, and provide advice and recommendations to the Proponent in connection with mitigation measures for the protection of the marine environment, monitoring of effects on the marine environment and the consideration of adaptive management plans. The role of the MEWG is not intended to	A Marine Environment Working Group ("MEWG") shall be established to serve as an advisory group in connection with mitigation measures for the protection of the marine environment, and in connection with the Project Environmental Effects Monitoring program, as it pertains to the marine environment. Membership on the MEWG will include the Proponent, Environment Canada, Fisheries and Oceans Canada, Parks Canada, the Government of Nunavut, the Qikiqtani Inuit Association, the Mittimatilik Hunters and Trappers Organization, and other agencies or interested parties as determined to be appropriate by these key members. Makivik Corporation shall also be entitled to membership on the MEWG at its	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
		either duplicate or to affect the exercise of regulatory authority by appropriate government agencies and departments.	election. The MEWG members may consider the draft terms of reference				
78	Marine Environment – Ice Breaking and Shipping	To obtain accurate and current ice information.	The Proponent shall update the baseline information for landfast ice using a long-term dataset (28 years), and with information on inter-annual variation. The analysis for pack and landfast ice shall be updated annually using annual sea ice data (floe size, cover, concentration) and synthesized and reported in the most appropriate management plan.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
79	Marine Environment – Shoreline Effects and Sediment Redistribution	To assist in the development of nautical charts for Canadian waters.	The Proponent shall provide the Canadian Hydrographic Services with bathymetric data and other relevant information collected in support of Project shipping where possible, to assist in the development of nautical charts for Canadian waters.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
87	Marine Environment – Ballast Water	To prevent invasive species introductions resulting from Project shipping.	The Proponent shall develop a detailed monitoring program at a number of sites over the long term to evaluate changes to marine habitat and organisms and to monitor for non-native introductions resulting from Project-related shipping. This program needs to be able to detect changes that may have biological consequences and should be initiated several years prior to any ballast water	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			discharge into Steensby Inlet and Milne Inlet to collect sufficient baseline data and should continue over the life of the Project.				
89	Marine Environment – Ballast Water	To prevent impacts to marine water quality resulting from ballast water exchange.	The Proponent shall develop and implement an effective ballast water management program that may include the treatment and monitoring of ballast water discharges in a manner consistent with applicable regulations and/or exceed those regulations if they are determined to be ineffective for providing the desired and predicted results. The ballast water management program shall include, without limitation, a provision that requires ship owners to test their ballast water to confirm that it meets the salinity requirements of the applicable regulations prior to discharge at the Milne Port, and a requirement noting that the Proponent, in choosing shipping contractors will, whenever feasible, give preference to contractors that use ballast water treatment in addition to ballast water exchange.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
92	Marine Environment – Spill Prevention	To ensure adequate spill response capacity.	The Proponent shall ensure that it maintains the necessary equipment and trained personnel to respond to all sizes of potential spills associated with the Project in a self sufficient manner.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
103	Marine Environment – Traffic Log and Shipping Information	To monitor effectiveness of mitigation of shipping	The Proponent shall report annually to the NIRB regarding project-related ship track and sea ice information, including:	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
		impacts to marine wildlife.	a. A record of all ship tracks taken along both shipping routes covering the entire shipping season; b. When employing ice-breaking, an overlay of ship tracks onto ice imagery to determine whether ships are effectively avoiding shore leads and polynyas; c. A comparison of recorded ship tracks to the expected nominal shipping route, and probable (if any) extent of year-round shipping during periods of ice cover and open-water; d. An assessment of the level of adherence to the nominal shipping route and the spatial extent of the shipping zone of influence; and e. When employing ice-breaking, marine bird and mammal species and number of individuals attracted to ship tracks in ice.				
106	Marine Environment – Shipboard Observers	To ensure that interactions with marine mammals and Project shipping activities are effectively monitored.	The Proponent shall ensure that shipboard observers are employed during seasons where shipping occurs and provided with the means to effectively carry out assigned duties. The role of shipboard observers in shipping operations should be taken into consideration during the design of any ore carriers purpose-built for the Project, with climate controlled stations and shipboard lighting incorporated to permit visual sightings by shipboard observers during all seasons and conditions. Any shipboard lighting incorporated should be in	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			accordance with the *Canada Shipping Act, 2001's Collision Regulations*, and should not interfere with safe navigation of the vessel.				
113	Marine Environment – Arctic Char	To prevent impacts to marine fish in Steensby Inlet and Milne Inlet	The Proponent shall conduct monitoring of marine fish and fish habitat, which includes but is not limited to, monitoring for Arctic Char stock size and health condition in Steensby Inlet and Milne Inlet, as recommended by the Marine Environment Working Group.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
114	Marine Environment – Arctic Char	To prevent impacts to marine fish in Steensby Inlet and Milne Inlet.	In the event of the development of a commercial fishery in the Steensby Inlet area or Milne Inlet-Eclipse Sound areas, the Proponent, in conjunction with the Marine Environment Working Group, shall update its monitoring program for marine fish and fish habitat to ensure that the ability to identify Arctic Char stock(s) potentially affected by Project activities and monitor for changes in stock size and structure of affected stocks and fish health (condition, taste) is maintained to address any additional monitoring issues identified by the MEWG relating to the commercial fishery.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
120	Marine Environment – Marine Mammal Interactions	To prevent impacts to marine mammals associated with Project shipping.	The Proponent shall ensure that, subject to vessel and human safety considerations, all project shipping adhere to the following mitigation procedures while in the vicinity of marine mammals: a. Wildlife will be given right of way;	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			b. Ships will when possible, maintain a straight course and constant speed, avoiding erratic behavior; and c. When marine mammals appear to be trapped or disturbed by vessel movements, the vessel will implement appropriate measures to mitigate disturbance, including stoppage of movement until wildlife have moved away from the immediate area.				
121	Marine Environment – Marine Mammal Interactions	To prevent impacts to marine mammals and seabird colonies associated with Project shipping.	The Proponent shall immediately report any accidental contact by project vessels with marine mammals or seabird colonies to Fisheries and Oceans Canada and Environment Canada respectively, by notifying the appropriate regional office of the: a. Date, time and location of the incident; b. Species of marine mammal or seabird involved; c. Circumstances of the incident; d. Weather and sea conditions at the time; e. Observed state of the marine mammal or sea bird colony after the incident; and, f. Direction of travel of the marine mammal after the incident, to the extent that it can be determined	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
122	Marine Environment – Marine Mammal Interactions	To prevent impacts to marine mammals and seabird colonies associated with Project shipping.	The Proponent shall summarize and report annually to the NIRB regarding accidental contact by project vessels with marine mammals or seabird colonies through the applicable monitoring report.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
123	Marine Environment – Marine Mammal Interactions	To prevent impacts to marine mammals and seabird colonies associated with Project shipping.	The Proponent shall provide sufficient marine mammal observer coverage on project vessels to ensure that collisions with marine mammals and seabird colonies are observed and reported through the life of the Project. The marine wildlife observer protocol shall include, but not be limited to, protocols for marine mammals, seabirds, and environmental conditions and immediate reporting of significant observations to the ship masters of other vessels along the shipping route, as part of the adaptive management program to address any items that require immediate action.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
124	Marine Environment – Marine Mammal Interactions	To prevent impacts to marine mammals and marine fish populations from increased harvesting pressures in Project areas.	The Proponent shall prohibit project employees from recreational boating, fishing, and harvesting of marine wildlife in project areas, including Steensby Inlet and Milne Inlet. The Proponent is not directed to interfere with harvesting by the public in or near project areas, however, enforcement of a general prohibition on harvesting in project areas by project employees during periods of active employment (i.e. while on site and between work shifts) is required.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
125	Marine Environment – Public Engagement	To assess acceptability of acoustic deterrent devices for the general public.	Prior to use of acoustic deterrent devices, the Proponent shall carry out consultations with communities along the shipping routes and nearest to Steensby Inlet and Milne Inlet ports to assess the acceptability	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			of these devices. Feedback received from community consultations shall be incorporated into the appropriate mitigation plan.				
125 a	Marine Environment – Public Engagement	To ensure public acceptability of project vessel anchor sites and reduce potential conflicts between project marine shipping and local harvesting.	The Proponent shall consult with potentially-affected communities and groups, particularly Hunters' and Trappers' Organizations regarding the identification of project vessel anchor sites and potential areas of temporary refuge for project vessels along the shipping routes within the Nunavut Settlement Area. Feedback received from community consultations shall be incorporated into the most appropriate mitigation or management plans.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
127	Marine Environment – Public Engagement	To promote public awareness and engagement with Project shipping activities.	The Proponent shall ensure that communities and groups in Nunavik are kept informed of project shipping activities and are provided with opportunity to participate in the continued development and refinement of shipping related monitoring and mitigation plans.	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A
128	Marine Environment – Public Engagement	To ensure habitat compensation is acceptable to local communities.	The Proponent shall consult with local communities as fish habitat off-setting options are being considered and demonstrate its incorporation of input received into the design of the Fish Habitat Off-Setting Plan required to offset the Harmful Alteration, Disruption or Destruction of Fish and Fish Habitat (HADD).	N/A – Related to Marine Monitoring	N/A	Crown (Marine)	N/A

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
129	Population Demographics – Qikiqtaaluk Socio-Economic Monitoring Committee	Description of the general monitoring framework to be developed in consultation with the Qikiqtaaluk Socio-Economic Monitoring Committee.	The Proponent is strongly encouraged to engage in the work of the Qikiqtaaluk Socio-Economic Monitoring Committee along with other agencies and affected communities, and it should endeavor to identify areas of mutual interest and priorities for inclusion into a collaborative monitoring framework that includes socio-economic priorities related to the Project, communities, and the North Baffin region as a whole.	N/A – Related to Population demographics	Will be addressed by the Socio-Economic Monitoring Committee	Both	Section 9.10
130	Population Demographics – Project-specific monitoring	Recognizing that some Project-specific socio-economic monitoring initiatives may be best addressed in smaller more focused working groups, this is encouraged where possible.	The Proponent should consider establishing and coordinating with smaller socio-economic working groups to meet Project specific monitoring requirements throughout the life of the Project.	N/A – Related to Population demographics	Will be addressed by the Socio-Economic Monitoring Committee	Both	Section 9.10
131	Population Demographics – Monitoring demographic changes	To monitor demographic changes affecting the North Baffin communities and the territory as a whole in order to understand changes and to evaluate the Proponent's predictions as related	The Qikiqtaaluk Socio-Economic Monitoring Committee is encouraged to engage in the monitoring of demographic changes including the movement of people into and out of the North Baffin communities and the territory as a whole. This information may be used in conjunction with monitoring data obtained by the Proponent from recent hires and/or out-going employees in order to assess the potential effect the Project has on migration.	N/A – Related to Population demographics	Will be addressed by the Socio-Economic Monitoring Committee	Both	Section 9.10

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
		to population demographics.					
132	Population Demographics – Training programs	To develop training programs in ways which contribute to limiting the potential for migration to occur as North Baffin residents seek training and employment opportunities in the larger centre of Iqaluit.	The Proponent is encouraged to partner with other agencies such as Hamlet organizations in the North Baffin region, the Municipal Training Organization, and the Government of Nunavut in order to adapt pre-existing, or to develop new programs which encourage Inuit to continue living in their home communities while seeking ongoing and progressive training and development. Programs may include driver training programs offered within Hamlets, providing upgraded equipment to communities for use in municipal works, providing incentives for small businesses to remain operating out of their community of origin, or supplementing existing recreational facilities and programming in North Baffin communities.	N/A – Related to Education and Training	Will be addressed by the Socio-Economic Monitoring Committee	Both	Section 9.10
133	Population Demographics – Monitoring demographic changes	Training programs may be developed with the goal of limiting the potential for migration to occur as North Baffin residents may choose to seek employment and therefore move from smaller North Baffin communities to	The Proponent is encouraged to work with the Qikiqtaaluk Socio-Economic Monitoring Committee and in collaboration with the Government of Nunavut's Department of Health and Social Services, the Nunavut Housing Corporation and other relevant stakeholders, design and implement a voluntary survey to be completed by its employees on an annual basis in order to identify changes of address, housing status (i.e. public/social, privately owned/rented,	N/A – Related to Population demographics	Will be addressed by the Socio-Economic Monitoring Committee	Both	Section 9.10

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
		the larger centre of Iqaluit.	government, etc.), and migration intentions while respecting confidentiality of all persons involved. The survey should be designed in collaboration with the Government of Nunavut's Department of Health and Social Services, the Nunavut Housing Corporation and other relevant stakeholders. Non-confidential results of the survey are to be reported to the Government of Nunavut and the NIRB.				
134	Population Demographics – Employee origin	Project-specific information regarding employee origin is important to comparing predictions of labour availability and employment opportunities with actual levels of employment from various demographic segments over different geographic areas.	The Proponent shall include with its annual reporting to the NIRB a summation of employee origin information as follows: a. The number of Inuit and non-Inuit employees hired from each of the North Baffin communities, specifying the number from each; b. The number of Inuit and non-Inuit employees hired from each of the Kitikmeot and Kivalliq regions, specifying the number from each; c. The number of Inuit and non-Inuit employees hired from a southern location or other province/territory outside of Nunavut, specifying the locations and the number from each; and d. The number of non-Canadian foreign employees hired, specifying the locations and number from each foreign point of hire.	N/A – Related to Population demographics	Included in Annual Report to NIRB and the Annual IIBA Implementation Report	Both	Section 9.10

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
145	Livelihood and Employment – Barriers to employment for women	To monitor and understand the existence of barriers to employment for women specifically relating to childcare availability and costs.	The Proponent is encouraged to work with the Government of Nunavut and the Qikiqtaaluk Socio-Economic Monitoring Committee to monitor the barriers to employment for women, specifically with respect to childcare availability and costs.	N/A – Related to Livelihood and Employment	Will be addressed by the Socio-Economic Monitoring Committee and the Closure Working Group closer to mine Closure	Both	Section 9.10
146	Livelihood and Employment – Availability of childcare for Project employees	To lessen the barriers to employment as relating to the availability of childcare.	The Government of Nunavut and the Qikiqtani Inuit Association are strongly encouraged to investigate the possibility for Project revenue streams to support initiatives or programs which offset or subsidize childcare for Project employees.	N/A – Related to Livelihood and Employment	Will be addressed by the Socio-Economic Monitoring Committee and the Closure Working Group closer to mine Closure	Both	Section 9.10
147	Livelihood and Employment – Affordability of housing	To lessen the barriers to maintaining employment as relating to the availability and costs of housing.	The Proponent is encouraged to work with the Government of Nunavut and the Nunavut Housing Corporation to investigate options and incentives which might enable and provide incentive for employees living in social housing to maintain employment as well as to negotiate for and obtain manageable rental rates.	N/A – Related to Livelihood and Employment	Will be addressed by the Socio-Economic Monitoring Committee and the Closure Working Group closer to mine Closure	Crown	Section 9.10
152	Economic Development and Self-Reliance, and Contracting and Business Opportunities – IIBA contract requirements	To improve ability of small businesses to access Project contract and sub-contract opportunities.	The Qikiqtani Inuit Association is encouraged to provide the Board and the Qikiqtaaluk Socio-Economic Monitoring Committee with information regarding the effectiveness of any provisions within the Inuit Impact and Benefit Agreement which may require that larger contracts be broken down into smaller size in order that they are reasonably managed by smaller businesses in the North Baffin region, while	N/A – Related to Economic Development and Self-Reliance	Included in Annual IIBA Implementation Report to QIA. Will be addressed by the Socio-Economic Monitoring Committee and the Closure Working Group closer to mine Closure.	Both	Section 9.10

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			respecting any confidential or privileged information.				
153	Human Health and Well-Being – Employee and family health and well-being	To provide adequate medical services on site, including those that contribute to the mental health and well-being of all employees.	The Proponent is encouraged to employ a mental health professional to provide counseling to Inuit and non-Inuit employees in order to positively contribute toward employee health and well-being.	N/A – Related to Human health and well-being	Included in Annual IIBA Implementation Report to QIA. Will be addressed by the Closure Working Group closer to mine Closure	Crown	Section 9.10
154	Human Health and Well-being – Indirect impacts to health and well-being	To understand the indirect impacts of the Project upon health and well-being.	The Proponent shall work with the Government of Nunavut and the Qikiqtaaluk Socio-Economic Monitoring Committee to monitor potential indirect effects of the Project, including indicators such as the prevalence of substance abuse, gambling issues, family violence, marital problems, rates of sexually transmitted infections and other communicable diseases, rates of teenage pregnancy, high school completion rates, and others as deemed appropriate.	N/A – Related to Human health and well-being	Will be addressed by the Socio-Economic Monitoring Committee and the Closure Working Group closer to mine Closure	Both	Section 9.10
156	Human Health and Well-Being – Support initiatives	To assist with fostering well-being within point-of-hire communities.	The Proponent is encouraged to assist with the provision and/or support of recreation programs and opportunities within the potentially affected communities in order to mitigate potential impacts of employees' absences from home and community life.	N/A – Related to Human health and well-being	Will be addressed by the Socio-Economic Monitoring Committee and the Closure Working Group closer to mine Closure	Both	Section 9.10
157	Human Health and Well-Being – Counseling and treatment programs	To make available, necessary treatment and counseling services for employee and family well-being.	The Proponent should consider providing counseling and access to treatment programs for substance and gambling addictions as well as which address	N/A – Related to Human health and well-being	Included in Annual IIBA Implementation Report to QIA. Will be addressed by the Socio-Economic Monitoring Committee	Both	Section 9.10

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
			domestic, parenting, and marital issues that affect employees and/or their families.		and the Closure Working Group closer to mine Closure		
158	Community Infrastructure and Public Services – Impacts to health services	To monitor indirect Project impacts to health and social services provided by the Government of Nunavut.	The Proponent is encouraged to work with the Government of Nunavut and other parties as deemed relevant in order to develop a Human Health Working Group which addresses and establishes monitoring functions relating to pressures upon existing services and costs to the health and social services provided by the Government of Nunavut as such may be impacted by Project-related in-migration of employees, to both the North Baffin region in general, and to the City of Iqaluit in particular.	N/A – Related to Community Infrastructure and public service	Will be addressed by the Socio-Economic Monitoring Committee and the Closure Working Group closer to mine Closure	Crown	Section 9.10
159	Community Infrastructure and Public Services – Impacts to infrastructure	To monitor Project-related impacts to infrastructure within the Local Study Area communities.	The Proponent is encouraged to work with the Government of Nunavut to develop an effects monitoring program that captures increased Project-related pressures to community infrastructure in the Local Study Area communities, and to airport infrastructure in all point-of-hire communities and in Iqaluit.	N/A – Related to Community Infrastructure and public service	Will be addressed by the Socio-Economic Monitoring Committee and the Closure Working Group closer to mine Closure	Crown	Section 9.10
160	Community Infrastructure and Public Services – Distribution of benefits	To ensure the distribution of benefits is done in a way that off-sets Project-related impacts to infrastructure or services.	The Government of Nunavut and the Qikiqtani Inuit Association are encouraged to cooperate to ensure in a broad sense, that Project benefits	N/A – Related to Community Infrastructure and public service	Will be addressed by the Socio-Economic Monitoring Committee and the Closure Working Group closer to mine Closure	Both	Section 9.10

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
161	Community Infrastructure and Public Services – Policing	To ensure the territorial government and its policing service are adequately prepared to handle any Project-related increases to the need for service and associated impacts.	The Government of Nunavut should be prepared for any potential increased need for policing, and ensure that the Royal Canadian Mounted Police is prepared to handle ongoing Project-related demographic changes and subsequent crime prevention that may be needed as a result of the development, operation, and closure of the Project.	N/A – Related to Community Infrastructure and public service	Will be addressed by the Socio-Economic Monitoring Committee and the Closure Working Group closer to mine Closure	Crown	Section 9.10
162	Culture, Resources and Land Use – Public consultation	To ensure the ongoing and consistent involvement of Elders and community members in developing and revising monitoring and mitigation plans.	The Proponent should make all reasonable efforts to engage Elders and community members of the North Baffin communities in order to have community level input into its monitoring programs and mitigative measures, to ensure that these programs and measures have been informed by traditional activities, cultural resources, and land use as such may be implicated or impacted by ongoing Project activities.	N/A – Related to Cultural resources and Land use	Will be addressed by the Community Working Group and the Closure Working Group closer to mine Closure	Both	Section 9.10
163	Culture, Resources and Land Use – Public consultation	To involve communities in the development and evolution of management and monitoring plans.	The Proponent shall continue to engage and consult with the communities of the North Baffin region in order to ensure that Nunavummiut are kept informed about the Project activities, and more importantly, in order that the Proponent's management and monitoring plans continue to evolve in an informed manner.	N/A – Related to Cultural resources and Land use	Will be addressed by the Community Working Group and the Socio-Economic Monitoring Committee and the Closure Working Group loser to mine Closure	Both	Section 9.10
164	Socio-Economic Impacts – Shipping notification	In order to inform members of North Baffin communities of planned Project	The Proponent is required to provide notification to communities regarding scheduled ship transits throughout the regional study area including Eclipse Sound	N/A – Related to Cultural resources and Land use	Part of already established Marine safety protocols on site and	Both	Section 9.10

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
		shipping transits such that community members' planned travel routing may be adjusted to avoid interaction with Project ships and/or ship tracks.	and Milne Inlet, real-time data regarding ships in transit and any changes to the proposed shipping schedule to the MEWG and agencies within Pond Inlet on a weekly basis during open water shipping, and to the RSA communities on a monthly basis.		though IIBA Implementation.		
165	Socio-Economic Impacts – Emergency shelters	In order to provide for human safety precautions in the event of adverse weather or other emergency situations along segments of linear transportation infrastructure.	The Proponent is strongly encouraged to provide buildings along the rail line and Milne Inlet Tote Road for emergency shelter purposes, and shall make these available for all employees and any land users travelling through the Project area. In the event that these buildings cannot, for safety or other reasons be open to the public, the Proponent is encouraged to set up another form of emergency shelters (e.g. seacans outfitted for survival purposes) every 1 kilometre along the rail line and Milne Inlet Tote Road. These shelters must be placed along Tote Road and rail routing prior to operation of either piece of infrastructure, and must be maintained for the duration of project activities, including the closure phase.	N/A	Part of already established Marine safety protocols on site. Will be addressed by the Community Working Group	Both	Section 9.10
166	Socio-Economic Impacts – Public Consultation	To ensure members of the public are able to access shipping information on an as-required basis in order to inform	The Proponent should ensure through its consultation efforts and public awareness campaigns that the public have access to shipping operations personnel for transits into and out of both Steensby Inlet port and Milne Inlet port either via telephone or		Part of already established Marine safety protocols on site	Both	Section 9.10

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
		potential users of the scheduled Project activities which could require deviations to land users' schedules or routing.	internet contact, in order that any questions regarding ice conditions or ship movements that could assist ice users in preparing for travel may be answered by Project staff in a timely fashion.				
168	Governance and Leadership – Monitoring program	Outline variables that are relevant to the Project and which should be adopted by the QSEMC's monitoring program.	The specific socioeconomic variables as set out in Section 8 of the Board's Report, including data regarding population movement into and out of the North Baffin Communities and Nunavut as a whole, barriers to employment for women, project harvesting interactions and food security, and indirect Project effects such as substance abuse, gambling, rates of domestic violence, and education rates that are relevant to the Project, be included in the monitoring program adopted by the Qikiqtani Socio-Economic Monitoring Committee.	N/A – Related to Governance and leadership	Will be addressed by the Socio-Economic Monitoring Committee closer to mine Closure	Both	Section 9.10
169	Governance and Leadership – Monitoring economic effects	To maintain transparency inform communities in relation to economic benefits associated with the Project.	The Proponent provide an annual monitoring summary to the NIRB on the monitoring data related to the regional and cumulative economic effects (positive and negative) associated with the Project and any proposed mitigation measures being considered necessary to mitigate the negative effects identified.	N/A – Related to Governance and leadership	Will be addressed by the Socio-Economic Monitoring Committee closer to mine Closure	Both	Section 9.10
175	Accidents and Malfunctions – Ship track markers in ice cover	To ensure that measures taken to mark the shipping track(s) during	The Proponent shall, in coordination and consultation with the Qikiqtani Inuit Association and the Hunters and Trappers Organizations of the North Baffin	N/A – Related to Marine Monitoring	Part of already established Marine safety protocols on site	Crown (Marine)	N/A

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Ref #	Category	Objective	Project Condition/Type A Water Licence Condition	Related VEC	Associated Closure/Post-Closure Monitoring Program	IOL/ Crown land	ICRP Ref
		periods of ice cover are effective in advising ice-based travelers, and that, where necessary, revisions to this practice can be made to ensure public safety.	communities and Coral Harbour, provide updates to its Shipping and Marine Mammals Management Plan to include adaptive management measures it proposes to take should the placement of reflective markers along the ship track in winter months not prove to be a feasible method of marking the track to ensure the safety of ice-based travelers.				
177	Accidents and Malfunctions – Foreign flagged vessels	To ensure foreign flagged ships operating in Canadian waters are held to the same standard as domestic ships with regard to emergency response planning.	The Proponent shall enroll any foreign flagged vessels commissioned for Project-related shipping within Canadian waters into the relevant foreign program equivalent to Transport Canada's Marine Safety Delegated Statutory Inspection Program.	N/A – Related to Marine Monitoring	Part of already established Marine safety protocols on site	Crown (Marine)	N/A
180	Transboundary Effects – Makivik Corporation involvement in the Marine Environment Working Group	To enable Makivik Corporation and Nunavik communities near shipping lanes to remain informed and involved in those shipping activities which could affect the marine environment and marine mammals.	The Marine Environment Working Group established for this Project shall invite a representative from Makivik Corporation to be a member of the Group	N/A – Related to Marine Monitoring	Will be addressed in Annual Report. And in Marine Environmental Working Group	Crown (Marine)	N/A
181	Transboundary Effects – Marine Environment Working Group reporting	To enable Makivik Corporation and Nunavik communities near shipping lanes to remain informed and	Regardless of whether Makivik Corporation participates as a member of the Marine Environment Working Group, the Marine Environment Working Group will provide Makivik Corporation with regular updates	N/A – Related to Marine Monitoring	Will be addressed in Annual Report. And in Marine Environmental Working Group	Crown (Marine)	N/A

Table 11.3: NIRB Project Certificate Term and Conditions Concordance Table

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		involved in those shipping activities which could affect the marine environment and marine mammals.	regarding the activities of the Marine Environment Working Group throughout the Project life cycle.				
182	Transboundary Effects – Reporting to Marine Environment Working Group (MEWG)	To enable Makivik Corporation and Nunavik communities near shipping lanes to remain informed and involved in those shipping activities which could affect the marine environment and marine mammals.	Baffinland shall make available to Makivik Corporation any ship route deviation reports provided to the NIRB in accordance with the terms and conditions set out in Section 4.12.4 of the Final Hearing Report.	N/A – Related to Marine Monitoring	Will be addressed in Annual Report. And in Marine Environmental Working Group	Crown (Marine)	N/A

Table 11.4 has been prepared to show concordance with Part J, Number 2 of the Type 'A' Water Licence, 2AM-MRY1325.

Table 11.4: Type 'A' Water Licence 2AM-MRY1325 Amendment No.1, Part J, Item 2

TYPE 'A' WATER LICENCE 2AM-MRY1325, Schedule J	ICRP Section
a. Detailed description, including maps and other visual representations, of the preconstruction conditions for each site, accompanied by a detailed description of the proposed final landscape, with emphasis on the reclamation of surface drainage over the restored area	3 & 5.2
b. A description of how progressive reclamation will be employed and monitored throughout the life of the mine, plus reclamation scheduling and coordination of activities with the overall sequence of the project; details of reclamation scheduling and procedures for coordinating reclamation activities within the overall mining sequence and materials balance	6
c. Implications of any updated water balance and water quality model prediction results and any adaptive management measures that may be required	5.2.1.9, 5.2.2.9, & Appendix D
d. An evaluation of closure and reclamation measures for each mine component, including the goals, objectives, closure criteria and the rationale for selection of the preferred measures	Table 5.1
e. A comprehensive assessment of materials suitability, including geochemical and physical characterization and a schedule of availability for reclamation needs. Particular attention shall be given to cover materials, including maps showing sources and stockpile locations of all reclamation construction materials	5.2.8.5.1
f. An assessment and description of any required post-closure treatment for pit water that is not acceptable for discharge, taking into consideration further studies completed and updated modeling information	5.2.1
g. Contingency measures for all reclamation components including action thresholds that are linked to the monitoring programs	5.1.1
h. Monitoring programs to assess reclamation performance and environmental conditions including monitoring locations for surface water and Ground Water, parameters	9
i. Monitoring schedules and overall timeframes	9
j. QA/QC procedures for managing the demolition landfill and other waste disposal areas	5.2.7
k. A list of non-salvageable materials and disposal locations	5.2.4, 5.2.5, & 5.2.7
l. Rock storage facility closure design plans and sections including the types of material placed and volumes	5.2.2

TYPE 'A' WATER LICENCE 2AM-MRY1325, Schedule J	ICRP Section
m. Protocol for the disposal of any contaminated soil;	Section 9.4
n. An assessment of the Long-term physical stability of all remaining project components;	Table 5.1
o. A revised closure and reclamation cost estimate; and	10.1
p. A detailed implementation schedule for completion of reclamation work	Table 5.1

12 GLOSSARY OF TERMS, ACRONYMS, OR ABBREVIATIONS

12.1 GLOSSARY OF TERMS

Term	Meaning
Abandonment	The permanent dismantlement of a facility so it is permanently incapable of its intended use. This includes the removal of associated equipment and structures.
Acid-Base Accounting (ABA)	Acid-Base Accounting (ABA) is a screening procedure whereby the acid-neutralizing potential and acid-generating potential of rock samples are determined.
Acid generating (AG)	Production of acidity irrespective of its effect on the adjacent pore water or whether the material is net acid producing or neutralizing.
Acid rock drainage (ARD)	Acidic drainage stemming from open pit, underground mining operations, waste-rock or tailings facilities that contains free sulphuric acid and dissolved metals sulphate salts, resulting from the oxidation of contained sulphide minerals or additives to the process. The acid dissolves minerals in the rocks, further changing the quality of the drainage water.
Acid Potential (AP)	Maximum potential acid generation from a sample. The calculation of AP (or MPA) is an integral part of acid/base accounting.
Acidity	Measure of the capacity of a solution to neutralize a strong base.
Active layer	The layer of ground above the permafrost which thaws and freezes annually.
Alkalinity	Measure of the capacity of a solution to neutralize a strong acid.
Backfill	Material excavated from a site and reused for filling the surface or underground void created by mining. Reinsertion of materials in extracted part(s) of the ore body. Materials used for backfilling can be waste-rock or overburden. In most cases backfill is used to refill mined-out areas in order to: ▪ Assure ground stability. ▪ Prevent or reduce underground and surface subsidence. ▪ Provide roof support so that further parts of the ore body can be extracted and to increase safety. ▪ Provide an alternative to surface disposal. And ▪ Improve ventilation.
Background	An area near the site under evaluation not influenced by chemicals released from the site, or other impacts created by onsite activity.
Baseline	A surveyed condition and reference used for future surveys.
Benign	Having little or no detrimental effect.
Berm	A mound or wall, usually of earth, used to retain substances or to prevent substances from entering an area.

Term	Meaning
Best Management Practices	Any program, technology, process, operating method, measure, or device that controls, prevents, removes, or reduces pollution and impact on the environment.
Biodiversity	The variety of plants and animals that live in a specific area.
Bioremediation	The use of microorganisms or vegetation to reduce contaminant levels in soil or water.
Borrow Pit	A source of fill or embanking material.
Care and Maintenance	A term to describe the status of a mine when it undergoes a temporary closure.
Closure	When a mine ceases operations without the intent to resume mining activities in the future.
Closure Criteria	Detail to set precise measures of when the objective has been satisfied.
Closure Goal	The guiding statement that provides the vision and purpose of reclamation. Attainment of the closure goal happens all closure objectives have been satisfied. By its nature, the closure goal is a broad, high-level statement and not directly measurable.
Closure Principles	A fundamental basis for the selection of closure objectives.
Closure Objectives	Statements that describe what the selected closure activities are aiming to achieve; they are guided by the closure principles.
Comminution	Size reduction of an ore by crushing and/or grinding to such a particle size that the product is a mixture of relatively clean particles of mineral and gangue. In order to produce a relatively pure concentrate, it is necessary to grind the ore fine enough to liberate the desired minerals.
Contaminant	Any physical, chemical, biological or radiological substance in the air, soil or water that has an adverse effect. Any chemical substance with a concentration that exceeds background levels or which is not naturally occurring in the environment.
Contouring	The process of shaping the land surface to fit the form of the surrounding land.
Cumulative Effects	The combined environmental impacts that accumulate over time and space as a result of a series of similar or related actions or activities.
Crushing	Comminution process that reduces the particle size of run-of-mine ore to such a level that grinding can be carried out. This is accomplished by compression of ore against rigid surfaces, or by impact against surfaces in rigidly constrained motion path.
Cryoconcentration	Concentration of solutes due to exclusion by ice.

Term	Meaning
Decommissioning	Process by which a mining operation is shut down i.e.: permanently closing a site. Removing equipment, buildings and structures. Rehabilitation and plans for future maintenance of affected land and water are also included.
Dewatering	Process of removing water from an underground mine or open pit, or from the surrounding rock or non-lithified area. The term is also commonly used for the reduction of water content in concentrates, tailings and treatment sludges.
Disposal	The relocation, containment, treatment or processing of unwanted materials or materials that are not reusable. This may involve the removal of contaminants or their conversion to less harmful forms.
Drainage	Manner in which the waters of an area exist and move, including surface streams and groundwater pathways. A collective term for all concentrated and diffuse water flow.
Drainage Chemistry	Concentrations of dissolved components in drainage, including element concentrations, chemical species and other aqueous chemical parameters.
Effluent	Treated or untreated liquid waste material that is discharged into the environment from a structure such as a settling pond or a treatment plant.
End Land Use	The allowable use of disturbed land following reclamation. Municipal zoning and/or approval may be required for specific land uses.
Environment	Interrelated physical, chemical, biological, social, spiritual and cultural components that affect the growth and development of living organisms.
Erosion	The wearing away of rock, soil or other surface material by water, rain, waves, wind or ice, the process may be accelerated by human activities.
Evaporation	Physical process by which a liquid is changed into a gas.
Existing Operation	An installation in operation or, in accordance with legislation existing before the date on which this Directive is brought into effect, an installation authorized or in the view of the competent authority the subject of a full request for authorization, provided that that installation is put into operation no later than one year after the date on which this Directive is brought into effect.
Frost Heave	Annual ground displacements and differential ground pressures due to the freezing of water within soils.
Geochemistry	Science of the chemistry of geological materials and the interaction between geological materials with the environment.
Geology	Study of the earth, its history and the changes that have occurred or are occurring, and the rocks and non-lithified materials of which it is composed and their mode of formation and transformation.
Grade	Dimensionless proportion of any constituent in an ore, expressed often as a percentage, grams per tonne (g/t) or parts per million (ppm).
Ground Thermal Regime	Temperature conditions below the ground surface. A condition of heat losses and gains from geothermal sources and the atmosphere.

Term	Meaning
Groundwater	All subsurface water that occurs beneath the water table in rocks and geologic formations that are fully saturated. Distinct from surface water.
Humidity Cell Test	Kinetic test procedure used primarily to measure rates of acid generation and neutralization in sulphide-bearing rock.
Hydrogeology	Science of the groundwater circuit (interrelationship of geologic materials and processes with water).
Hydrology	The science that deals with water, its properties, distribution and circulation over the Earth's surface.
Inert Waste	Material having insignificant leachability and pollution content which will not require laboratory analysis.
Infiltration	Entry of water into a porous substance.
Inukshuk	A stone representation of a person, used as a milestone or directional marker by the Inuit of the Canadian Arctic.
In Situ Treatment	A method of managing or treating contaminated soils, sludges and waters "in place" in a manner that does not require the contaminated material to be physically removed or excavated from where it originated.
Landfill	An engineered waste management facility at which waste is disposed by placing it on or in land in a manner that minimizes adverse human health and environmental effects.
Leachate	Solution obtained by leaching e.g. water that has percolated through soil containing soluble substances and that contains certain amounts of these substances in solution.
Leaching	Passage of a solvent through porous or crushed material in order to extract components from the liquid phase. For example, gold can be extracted by heap leaching of a porous ore, or pulverized tailings. Other methods are tank leaching of ore, concentrates or tailings and in-situ leaching.
Lithology	Composition of rocks, including physical and chemical characteristics such as colour, mineralogical composition, hardness and grain size.
Migration	The movement of chemicals, bacteria, and gases in flowing water or vapour.
Mineral Resource	Concentration or occurrence of natural, solid, inorganic or fossilized organic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.
Mining	Methods and techniques to extract ore from the ground, including support facilities (e.g. stockpiles, workshops, transport, ventilation) and supporting activities in the mine itself or in the vicinity.
Mining Operation	Any extraction of ore from which mineral substances are taken, where the corporate intent is to make an operating profit or build continuously toward a profitable enterprise.

Term	Meaning
Mitigation	The process of rectifying an impact by repairing, rehabilitating or restoring the affected environment, or the process of compensating for the impact by replacing or providing substitute resources or environments.
Monitoring	Observing the change in geophysical, hydrogeological or geochemical measurements over time. Process intended to assess or to determine the actual value and the variations of an emission or another parameter, based on procedures of systematic, periodic or spot surveillance, inspection, sampling and measurement or another assessment methods intended to provide information about emitted quantities and/or trends for emitted pollutants.
Naturally Re-vegetate or Natural Re-vegetation	For the purposes of the Mary River Project natural re-vegetation will include scarification and covering with overburden as required and allowing the surrounding natural vegetation to encroach and be re-established on the disturbed area.
Neutralization	Raising the pH of acidic solutions or lowering the pH of alkaline solutions to near-neutral pH (about pH 7) values through a reaction in which the hydrogen ion of an acid and the hydroxyl ion of a base combine to form water.
Neutralization Potential (NP)	General term for a sample's or a material's capacity to neutralize acidity.
Objectives	Objectives describe what the reclamation activities are aiming to achieve. The goal of mine closure is to achieve the Long-term objectives that are selected for the site.
Open Pit Mining	Mining operation takes place on the surface. Mining operation and environment are in contact over an extended area.
Operator	Any natural or legal person that is responsible for the control, operation, and maintenance of the mine, mineral processing plant, tailings dam and/or related facilities including the after-closure phases.
Ore	Mineral or variety of accumulated minerals of sufficient value as to quality and quantity that it/they may be mined at a profit. Most ores are mixtures of extractable minerals and extraneous rocky material.
Orebody (mineral deposit)	Naturally occurring geological structure consisting of an accumulation of a desired mineral and waste-rock, from which the mineral can be extracted, at a profit, or with a reasonable expectation thereof.
Overburden	Layer of natural grown soil or massive rock on top of an orebody. In case of open pit mining operations it has to be removed prior to extraction of the ore
P	Phosphate
Passive Treatment	Treatment technologies that can function with little or no maintenance over long periods of time.
Permafrost	Ground that remains at or below zero degrees Celsius for a minimum of two consecutive years.

Term	Meaning
Permafrost Aggradation	A naturally or artificially caused increase in the thickness and/or area extent of permafrost.
Permeability	The ease with which gases, liquids, or plant roots penetrate or pass through soil or a layer of soil. The rate of permeability depends upon the composition of the soil.
Phreatic Surface	The term phreatic is used in Earth sciences to refer to matters relating to ground water below the water table (the word originates from the Greek phrear, phreat- meaning "well" or "spring"). The term 'phreatic surface' indicates the location where the pore water pressure is under atmospheric conditions (i.e. the pressure head is zero). This surface normally coincides with the water table.
Potentially Acid Generating (PAG)	Rock or overburden material that has the potential to produce acidity irrespective of its effect on the adjacent pore water or whether the material is net acid producing or neutralizing.
Progressive Reclamation	Actions that can be taken during mining operations before permanent closure, to take advantage of cost and operating efficiencies by using the resources available from mine operations to reduce the overall reclamation costs incurred. It enhances environmental protection and shortens the timeframe for achieving the reclamation objectives and goals.
Primary Crushing	Process of reducing ore into smaller fragments to prepare it for further processing and/or so that it can be transported to the processing plant. In underground mines, the primary crusher is often located underground, or at the entrance to the processing plant.
Quarry	Whole area under the control of an operator carrying out any activity involved in the prospecting, extraction, treatment and storage of minerals, including common related infrastructures and waste management activities, being not a mine. It is distinguished from a mine because it is usually open at the top and front, and used for the extraction of building stone, such as slate, limestone, gravel and sand.
Reclamation	The process of returning a disturbed site to its natural state or one for other productive uses that prevents or minimizes any adverse effects on the environment or threats to human health and safety.
Rehabilitation	Activities to ensure that the land will be returned to a form and productivity in conformity with a prior land use plan, including a stable ecological state that does not contribute substantially to environmental deterioration and is consistent with surrounding aesthetic values.
Remediation	The removal, reduction, or neutralization of substances, wastes or hazardous material from a site in order to prevent or minimize any adverse effects on the environment and public safety now or in the future.
Restoration	The renewing, repairing, cleaning-up, remediation or other management of soil, groundwater or sediment so that its functions and qualities are comparable to those of its original, unaltered state.
Re-vegetation	Replacing original ground cover following a disturbance to the land.

Term	Meaning
Risk Assessment	Reviewing risk analysis and options for a given site, component or condition. Risk assessments consider factors such as risk acceptability, public perception of risk, socio-economic impacts, benefits, and technical feasibility. It forms the basis for risk management.
Run-of-mine (ROM)	Run of mine. Unprocessed conveyed material (ore) from the mining operation.
Runoff	Part of precipitation and snowmelt that does not infiltrate but moves as overland flow and drains off the land into bodies of water.
Scarification	Seedbed preparation to make a site more amenable to plant growth.
Screening	Separating material into size fractions.
Security Deposit	Funds held by the Crown or designated owner of the land that can be used in the case of abandonment of an undertaking to reclaim the site, or carry out any ongoing measures that may remain to be taken after the abandonment of the undertaking.
Sediment	Solid material, both mineral and organic, that has been moved by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.
Seismic	Relating to an earthquake or to other tremors of the Earth, such as those caused by large explosions.
Solubility	Quantity of solute that dissolves in a given volume and type of solvent, at given temperature and pressure, to form a saturated solution. The degree to which compounds are soluble depends on their ability, and that of the other dissolved species, to form ions and aqueous complexes in particular drainage chemistry.
Sump	An underground catch basin in a mine where water accumulates before being pumped to the surface.
Supernatant	The clear liquid that floats about the sediment or precipitate.
Surface Water	Natural water bodies such as river, streams, brooks, ponds and lakes, as well as artificial watercourses, such as irrigation, industrial and navigational canals, in direct contact with the atmosphere.
Sustainable Development	Industrial development that does not detract from the potential of the natural environment to ensure benefits for future generations.
Tailings	Material rejected from a mill after most of the recoverable valuable minerals have been extracted.
Taliks	Unfrozen zones that can exist within, below, or above permafrost layers. They are usually located below deep water bodies.
Temporary Closure	When a mine ceases operations with the intent to resume mining activities in the future. Temporary closures can last for a period of weeks, or for several years, based on economical, environmental, political, or social factors.
Thermokarst	A landscape characterized by shallow pits and depressions caused by selective thawing of ground ice, or permafrost.

Term	Meaning
Topsoil	Natural huminous layer on top of the orebody, which has to be stripped prior to start-up of ore extraction.
Traditional Knowledge	A cumulative, collective body of knowledge, experience, and values built up by a group of people through generations of living in close contact with nature. It builds upon the historic experiences of a people and adapts to social, economic, environmental, spiritual and political change.
Ultramafic	Igneous rock composed chiefly of mafic minerals, e.g. monomineralic rocks composed of hypersthenes, augite, or olivine.
Waste-rock, Discard, or Spoil Material	All rock materials, except ore and tailings that are produced as a result of mining operations.
Watershed	A region or area bordered by ridges of higher ground that drains into a particular watercourse or body of water.
Water Table	The level below where the ground is saturated with water.
Weathering	Processes by which particles, rocks and minerals are altered on exposure to surface temperature and pressure, and atmospheric agents such as air, water and biological activity.

12.2 Acronyms and Abbreviations

The following are acronyms or abbreviations that may be used in this document:

Abbreviation	Description
General	
A&R	Abandonment and Reclamation
ARD	Acid Rock Drainage
Baffinland	Baffinland Iron Mines Corporation
CCME	Canadian Council of Ministers of the Environment
DEIS	Draft Environmental Impact Statement
EA	Environmental Assessment
EHS	Environmental Health and Safety
EIS	Environmental Impact Statement
EMMP	Environmental Mitigation and Monitoring Plans
ERP	Proposed Early Revenue Phase
ESA	Environmental Site Assessment
FEIS	Final Environmental Impact Statement
FOL	Federal Owned Lands
Ga	Giga-annum (billion years)
HADD	Harmful Alteration, Disruption, or Destruction
HTA/HTO	Hamlets, Hunters, and Trappers Association/Organization
HTO	Hunters and Trappers Organization
ICRP	Interim Closure and Reclamation Plan
IIBA	Inuit Impact and Benefits Agreement

Abbreviation	Description
IOL	Inuit Owned Lands
IQ	Inuit Qaujimajatuqangit (Inuit knowledge, or traditional knowledge)
KI	Key Indicator
LAC	Land Advisory Committee
LSA	Local Study Area
MASL	Metres above Sea Level
Mary River	Nuluujaak
MDAG	Mineral Development Advisory Group
MERA	Mineral and Energy Resource Assessment
ML	Metal Leaching
MOU	Memorandum of Understanding
Mtpa	Million Tonne-Per-Annum
NLCA	Nunavut Land Claims Agreement
NSA	Nunavut Settlement Area
NWT	Northwest Territories
PAG	Potential Acid Generating
PCRP	Preliminary Closure and Reclamation Plan
PDA	Potential Development Area
PDW	Pre-Development Works
PLA	Production Lease Area
PPR	Personal Property Registry
RA(s)	Responsible Authority(ies)
RMO	Resource Management Officer
RSA	Regional Study Area
TC-NWPP	Transport Canada Navigable Waters Protection Program
the Project	Mary River Project
TK	Traditional Knowledge
VC	Valued Component
VEC	Valued Ecosystem Component
VSEC	Valued Socio-Economic Component
Federal and Territorial Acts	
AWPPA	Arctic Waters Pollution Prevention Act
BCANU	Business Corporations Act (Nunavut)
CEAA	Canadian Environmental Assessment Act
CEPA	Canadian Environmental Protection Act, 1999
CLA	Commissioner's Land Act
CNPA	Canada National Parks Act
CWA	Canada Wildlife Act
EG&GANU	Engineers, Geologists and Geophysicists Act (Nunavut)
EMAANU	Emergency Medical Aid Act (Nunavut)
EPANU	Environmental Protection Act (Nunavut)
EUANU	Explosives Use Act (Nunavut)
EXA	Explosives Act
FA	Fisheries Act

Abbreviation	Description
FPANU	Fire Prevention Act (Nunavut)
LSANU	Labour Standards Act (Nunavut)
MBCA	Migratory Birds Convention Act, 1994
MH&SANU	Mine Health and Safety Act (Nunavut)
NW&NSRTA	Nunavut Waters and Nunavut Surface Rights Tribunal Act
PHANU	Public Health Act (Nunavut)
TDGA	Transportation of Dangerous Goods Act, 1992
TDGANU	Transportation of Dangerous Goods Act (Nunavut)
TLA	Territorial Lands Act
TPANU	Territorial Parks Act (Nunavut)
WANU	Wildlife Act (Nunavut)
WCANU	Workers' Compensation Act (Nunavut)
Federal and Territorial Regulations	
AWPPR	Arctic Waters Pollution Prevention Regulations
CFAEAP&R	Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements
CLR	Commissioner's Land Regulations
CMR	Canada Mining Regulations
CRFR	AECB Cost Recovery Fees Regulations, 1996
CSLR	Comprehensive Study List Regulations
CSLRNU	Comprehensive Study List Regulations (Nunavut)
CSRNU	Camp Sanitation Regulations (Nunavut)
ELR	Exclusion List Regulations
EURNU	Explosives Use Regulations (Nunavut)
EXR	Explosives Regulations
FPRNU	Fire Prevention Regulations (Nunavut)
ILR	Inclusion List Regulations
LLR	Law List Regulations
MBSR	Migratory Bird Sanctuary Regulations
MH&SRNU	Mine Health and Safety Regulations (Nunavut)
MDMER	Metal and Diamond Mining Effluent Regulations
NA&PSR	Nunavut Archaeological and Palaeontological Sites Regulations
NBRLUP	North Baffin Regional Land Use Plan
NPWR	National Parks Wildlife Regulations
NWTFR	Northwest Territories Fishery Regulations
NWTWR	Northwest Territories Waters Regulations
PCSRNU	Propane Cylinder Storage Regulations (Nunavut)
SCP&RRNU	Spill Contingency Planning and Reporting Regulations (Nunavut)
TDGR	Transportation of Dangerous Goods Regulations
TDGRNU	Transportation of Dangerous Goods Regulations (Nunavut)
TDR	Territorial Dredging Regulations
TLR	Territorial Lands Regulations
TLUR	Territorial Land Use Regulations
TPRNU	Territorial Parks Regulations (Nunavut)

Abbreviation	Description
TQR	Territorial Quarrying Regulations
WAR	Wildlife Area Regulations
WCRNU	Workers' Compensation Regulations (Nunavut)
WSRNU	Wildlife Sanctuaries Regulations (Nunavut)
Federal Government Departments and Agencies	
AANDC	Aboriginal Affairs and Northern Development Canada
CTA	Canadian Transportation Agency
DFO	Fisheries and Oceans Canada
DOJ	Department of Justice Canada
EC	Environment Canada
CIRNAC	Crown Indigenous Relations and Northern Affairs Canada, formerly Indian and Northern Affairs Canada (INAC) and prior to that Aboriginal Affairs and Northern Development Canada (AANDC)
NRCan	Natural Resources Canada
PCH	Parks Canada Agency (Canadian Heritage)
TC	Transport Canada
Territorial Government Departments and Agencies	
CGSNU	Department of Community and Government Services
CLEYNU	Department of Culture, Language, Elders and Youth
DOJNU	Department of Justice
DOENU	Department of Environment
ED&TNU	Economic Development & Transportation
GN	Government of Nunavut
H&SSNU	Department of Health and Social Services
WSCC	Workers Safety and Compensation Commission of the Northwest Territories and Nunavut
Institutions Of Public Government	
CLARC	Community Land and Resource Committee
CLO	Community Liaison Officer
IPGs	Institutions of Public Government
MVLWB	Mackenzie Valley Land and Water Board
NIRB	Nunavut Impact Review Board
NPC	Nunavut Planning Commission
NSRT	Nunavut Surface Rights Tribunal
NWB	Nunavut Water Board
NWMB	Nunavut Wildlife Management Board
Inuit Organizations	
DIO	Designated Inuit Organizations
MHTO	Mittimatalik Hunters and Trappers Organization
NTI	Nunavut Tunngavik Incorporated
QIA	Qikiqtani Inuit Association
RIA	Regional Inuit Association
RWO	Regional Wildlife Organization

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Appendix A
Preliminary Mine Closure and Reclamation Plan Drawings

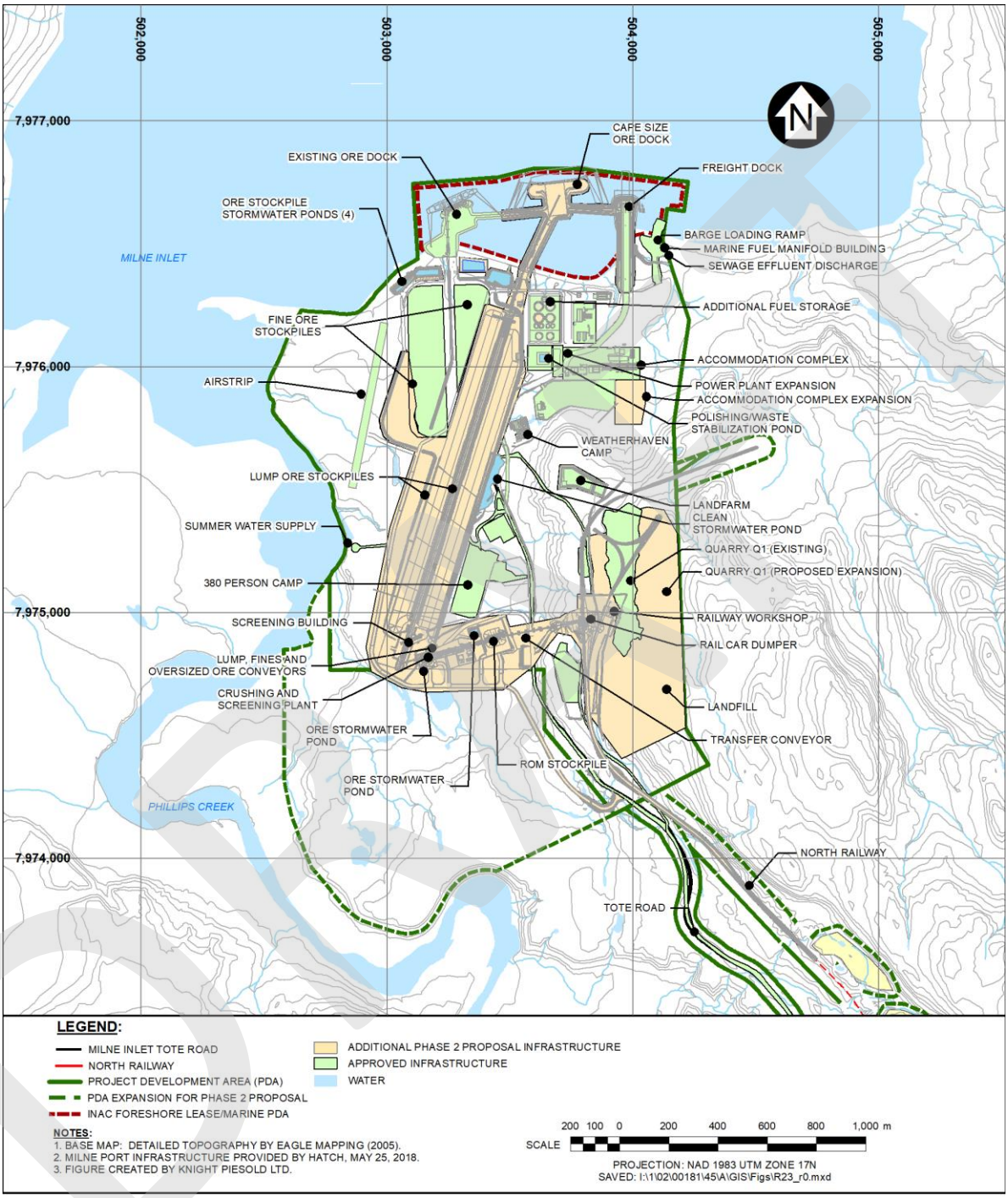
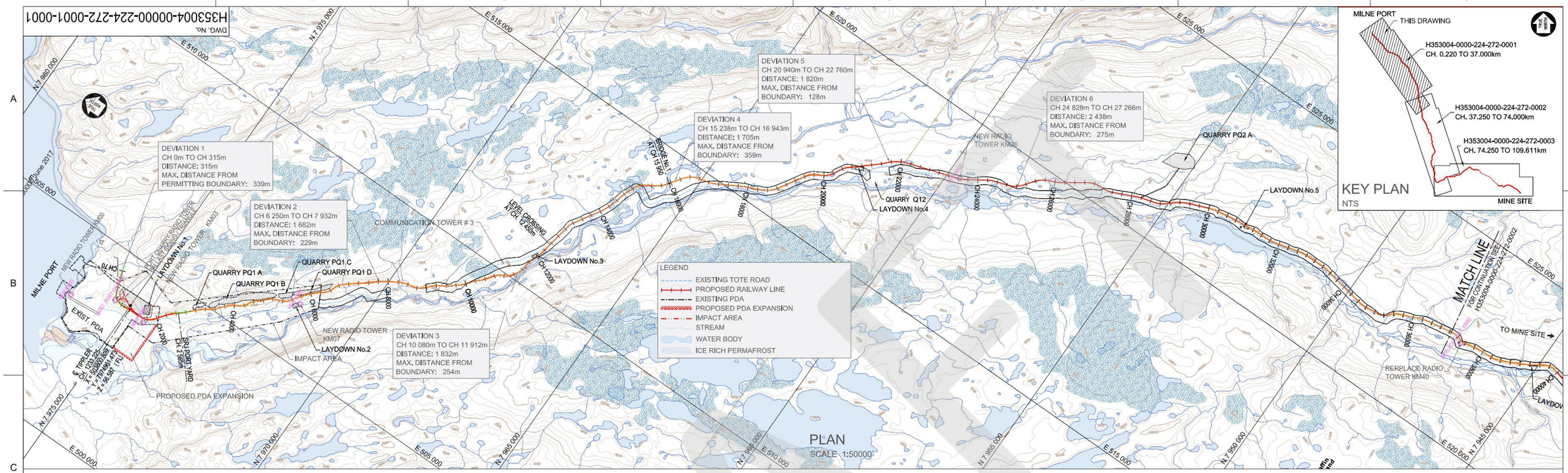


Figure A.1 Milne Port - Site Infrastructure, End of Mining

DWG. No. H353004-00000-224-272-0001-0001



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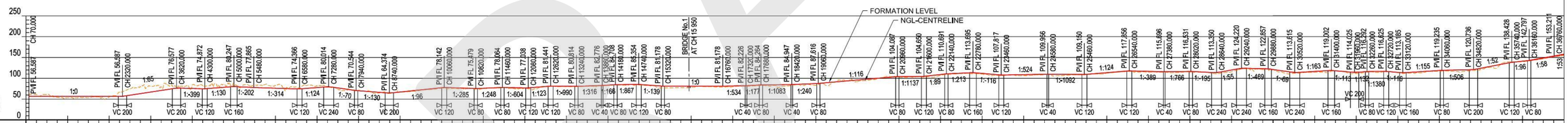

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LONGITUDINAL SECTION

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H353004-0000-224-272-0001	LINE PLAN AND LONGGITUDINAL SECTION CH. 37.250km TO 74km
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REFERENCE DRAWINGS	

NAME
SIGNATURE
ENG REG NUMBER
REVISION DATE
ORIGINAL DATE
REG. PROFESSIONAL

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1	APPROVED FOR BID	AJVN	GM	2017/02/10
0	APPROVED FOR BID	AJVN	GM	2016/12/13

REVISIONS

HATCH

ROLE	NAME	SIGNATURE	DATE
DRAFTSPERSON	A VAN NIEKERK	NR	2016/12/06
DESIGNER		NR	
CHECKER			
DESIGN COORD.			
RESP. ENG.			
LEAD DISC. ENG.			
ENG. MANAGER			
PROJ. MANAGER			

DRAWING APPROVAL STATUS: Approved for Construction

Baffinland

BAFFINLAND IRON MINES LP
MARY RIVER PROJECT

SITE PLAN
PLAN AND LONGITUDINAL SECTION
CH. 070km TO CH. 37.000km

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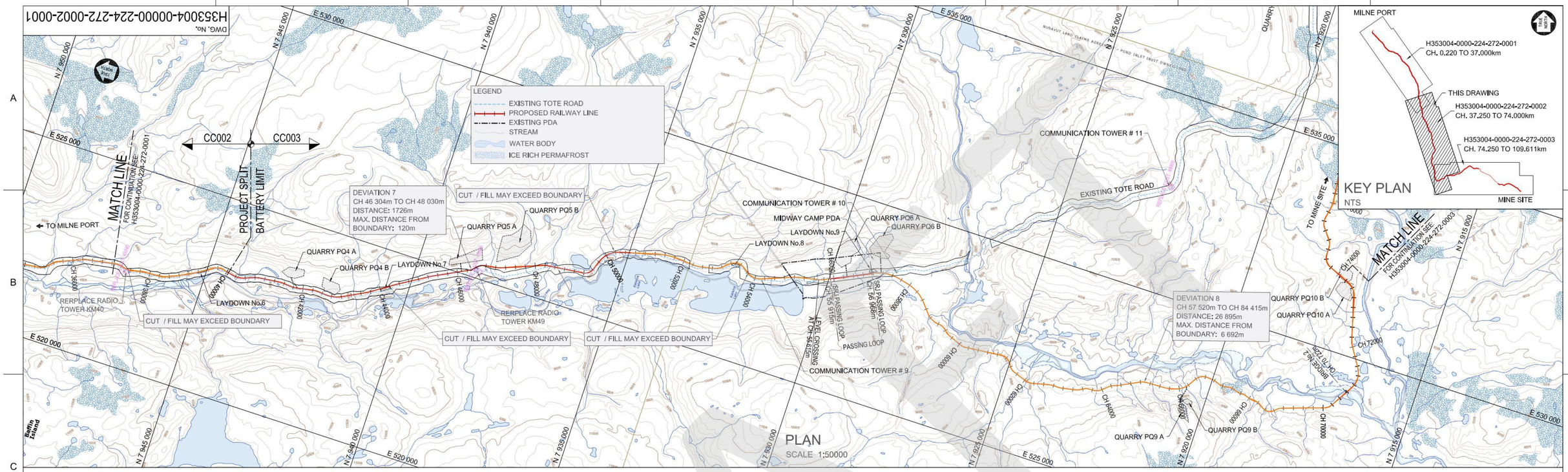

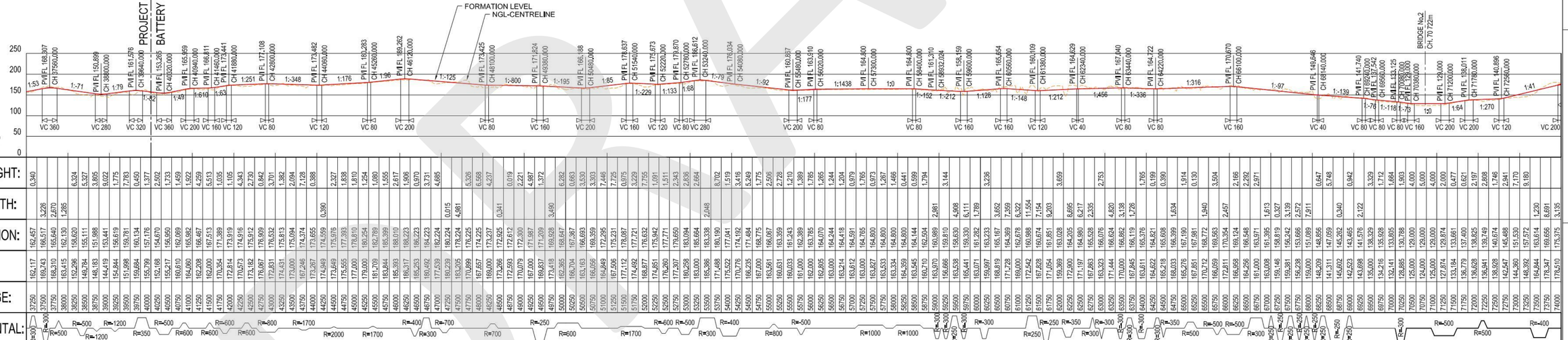

LONGITUDINAL SECTION

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REVISIONS

ROLE	NAME	SIGNATURE	DATE
DRAFTSPERSON	A VAN NIEKERK	NR	2016/12/06
DESIGNER		NR	
CHECKER			
DESIGN COORD.			
RESP. ENG.			
LEAD DISC. ENG.			
ENG. MANAGER			
PROJ. MANAGER			

DRAWING APPROVAL STATUS: Approved for Construction

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H353004-0000-224-272-0001	LINE PLAN AND LONGGITUDINAL SECTION CH. 0.220km TO 37km

REFERENCE DRAWINGS

HATCH

Baffinland

BAFFINLAND IRON MINES LP
MARY RIVER PROJECT

SITE PLAN
PLAN AND LONGITUDINAL SECTION
CH. 37.250km TO CH. 74km

SCALE 1:50,000 OR AS NOTED

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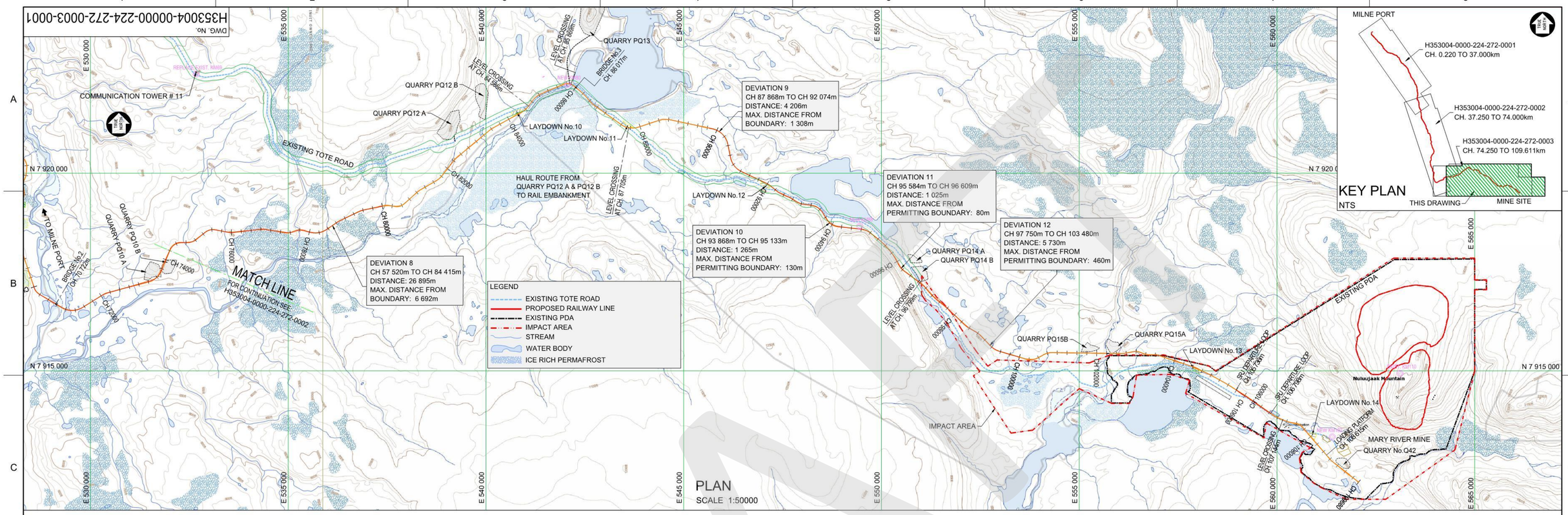

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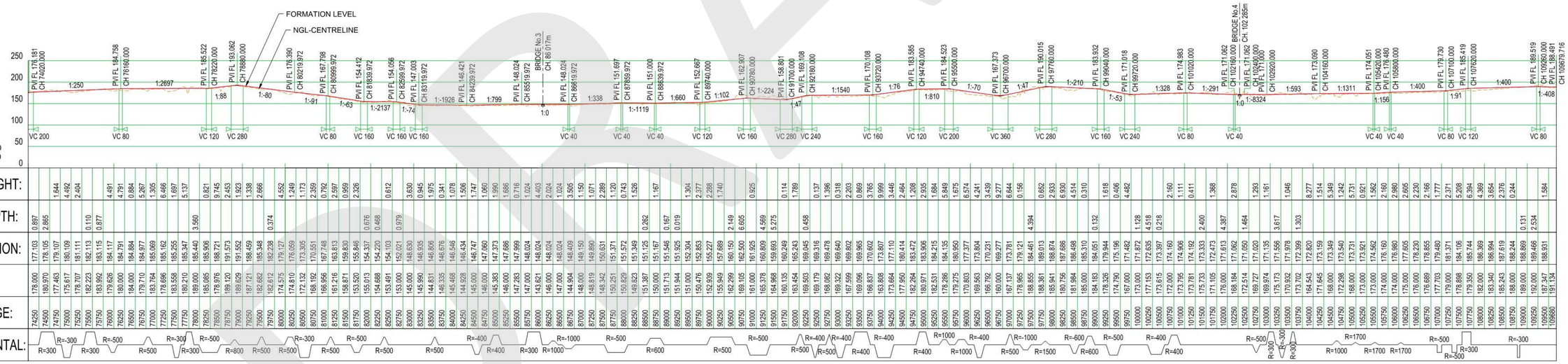

LONGITUDINAL SECTION

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		ORIGINAL DATE						LEAD DISC. ENG.			
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H353004-0000-224-272-0001	LINE PLAN AND LONGGITUDINAL SECTION CH. 0.220km TO 37km		1	APPROVED FOR BID	AJVN	GM	2017/02/10	PROJ. MANAGER			
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			REVISIONS					DRAWING APPROVAL STATUS:	Approved for Construction		

HATCH

Baffinland

BAFFINLAND IRON MINES LP
MARY RIVER PROJECT

SITE PLAN
PLAN AND LONGITUDINAL SECTION
CH. 74.250km TO CH. 109.680km

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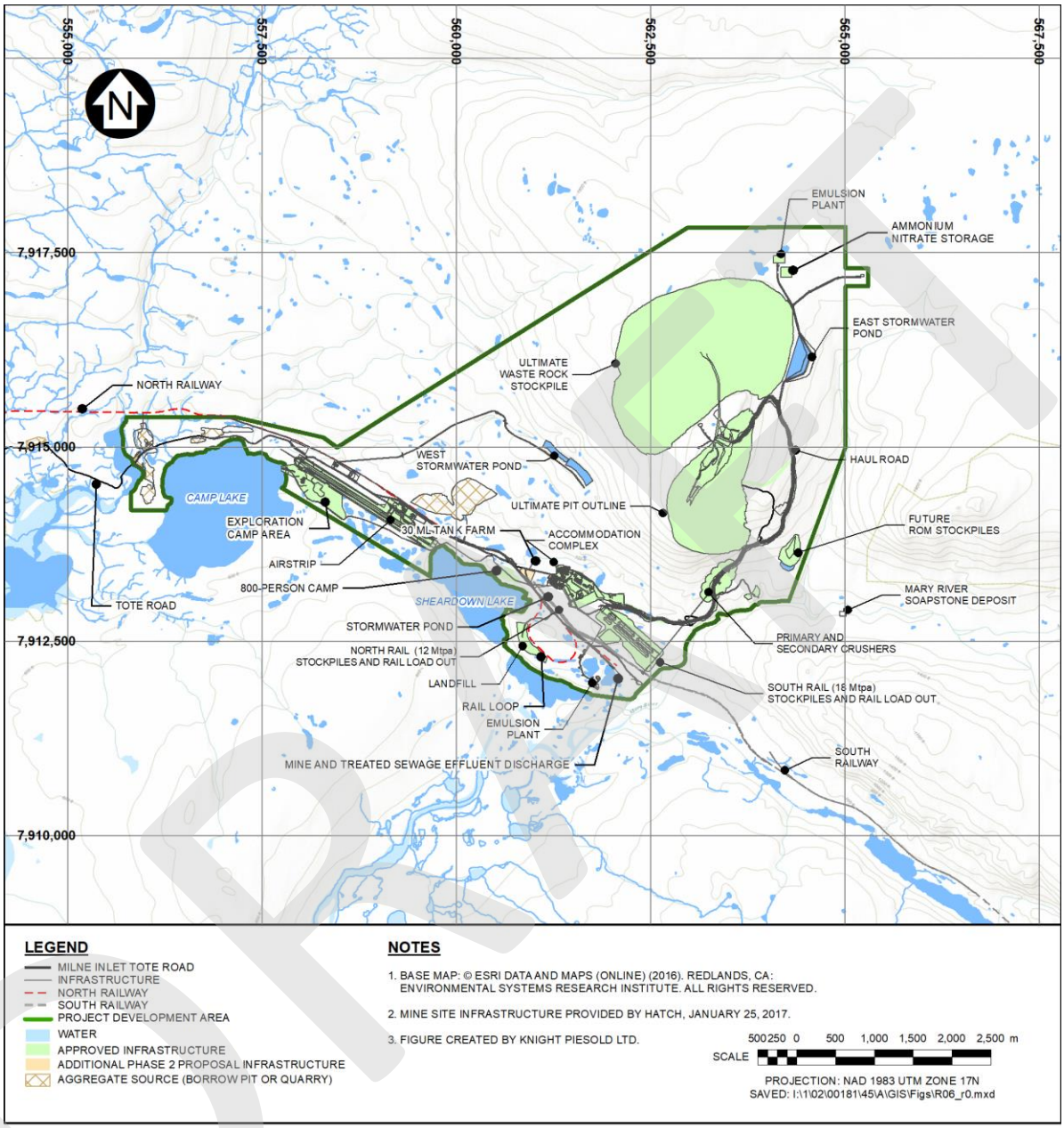

Figure A.2 **Mine Site - Site Infrastructure, End of Mining**