Baffinland

August 14, 2014

Mr. Peter Bengts
Chief Mine Inspector
Worker's Safety and Compensation Commission
Centre Square Tower, 5th Floor
5022 49 Street
Box 8888
Yellowknife, NT X1A 2R3

Dear Peter,

RE: Notice of Intention to Start Work – Mary River Mine

In accordance with Section 17.01 of the Nunavut Mine Health and Safety Regulations, Baffinland Iron Mines hereby submits Notice of Intention to Commence Work at the Mary River Mine.

In support of this application a Mine Operations Technical Summary report is enclosed that details the requirements of section 17.01(2) of the regulations. In addition, Volume 3, Project Description of the Early Revenue Phase (ERP) Final Environmental Impact Statement (FEIS) is being provided. The ERP Project Description provides a detailed scope of activities which has been approved by the Land Owner (the Qikiqtani Inuit Association), the Government of Nunavut, and the applicable Federal Government agencies for Mary River and Milne Port.

To facilitate your review, a concordance table of section 17.01(2) requirements is provided below along with the relevant location where the information can be found in the Technical Summary Report.

Requirement	Report Section
(a) a regional map showing the location of the mine property;	Figure 1, 2
(b) a plan at a scale of 1:10,000 or less, showing topographic contours, claims, leases or licences, lakes, streams, roads, landing strips and the location of all proposed mining works and related facilities and also showing the relationship to the Universal Transverse Mercator (UTM) grid;	Figure 2 Figure 7 Figure 15 Figure 16
(c) the basis of design,	ERP, Volume 3 5.1 to 5.4
details of geological structure,	3.1 to 3.4
materials handling,	7.1
buildings,	Appendix 2
processing plants and facilities,	7.1.1 7.1.2

Requirement	Report Section
	Figure 16, 17, 18
stockpiles,	7.1.2 7.1.4
tailings transportation and impoundment,	Not applicable
water supply and storage facilities,	7.2
(d) for underground development, plans of present and proposed underground workings and a plan of the mine openings in relation to the surface installations;	Not applicable
(e) for surface mines, the methods to be followed in the construction of haulage roads;	5.1
(f) for surface mines	6
a traffic control plan showing the maximum allowable speeds for the vehicles in use	Figure 8
rules for passing	6.5
"stop" and "yield" locations	6.8, Figure 8
priority rules for various vehicles	6.1
rules for night operation	6.7
maximum operating grades	5.3
emergency run-off protection	5.1.1
shoulder barriers	5.1.1

We would like to propose a meeting with you, Martin Van Rooy and representatives from the Baffinland Mine Operations management team at a mutual convenient location, to present this plan for initiating mining activities and to answer any questions you may have. As we have scheduled mine operations for September 2014, we would greatly appreciate the opportunity to meet before the end of August.

Please let me know of your availability to meet, or should you have any questions regarding the technical report please contact Michael Anderson at 647.253.0596 x 6030 or email at Michael.Anderson@Baffinland.com.

Best regards,

Erik Madsen
Vice President, Sustainable Development, Health, Safety and Environment

cc. Martin Van Rooy
Michael Anderson / Tony Woodfine / Glen Hein

Attachments:
Mine Operations Technical Summary
Early Revenue Phase, Addendum to Final Environmental Impact Statement, Volume 3

Baffinland Iron Mines Corporation

Mine Operations Technical Summary

Prepared By: Francisco Albor Consuegra
Department: Mine Operations
Title: Superintendent Engineering and Geology
Date: August 14, 2014
Signature:

Baffinland Iron Mines Corporation

Mine Operations Technical Summary

Prepared By: **Francisco Albor Consuegra**
Department: **Mine Operations**
Title: **Superintendent Engineering and Geology**
Date: **August 7, 2014**
Signature:

TABLE OF CONTENTS

1 INTRODUCTION

1.1 PROPERTY DESCRIPTION AND LOCATION

The Project area is located in Nunavut on the northern half of Baffin Island at Latitude 71°N and Longitude 79°W approximately 160 km south of Mittimatalik (Pond Inlet), 270 km southeast of Arctic Bay, 300 km north of Hall Beach, and 1,000 km northwest of Iqaluit, the capital of the Nunavut Territory as shown in Figure 1.

FIGURE 1 LOCATION OF THE MINE

1.2 LAND TENURE

The territory of Nunavut was created on April 1, 1999 through the Nunavut Land Claim Agreement (NLCA). The Mary River Project lies in the Qikiqtani region. The 1.9 million square kilometres of land in Nunavut are classified as either Crown land, Inuit Owned Land (IOL) surface land, IOL surface/subsurface lands, or Commissioners land. Land ownership and regulatory processes are managed by the Government of Canada (GoC), Nunavut Tunngavik Incorporated (NTI), Regional Inuit Associations (RIAs), the Government of Nunavut (GN) and Institutions of Public Government (IPGs). Each has specific mandates and responsibilities, however, there is some overlap.

The mineral properties of Baffinland consist of three mining leases, three exploration areas leased from NTI, and a number of blocks of mineral claims.

1.2.1 Mining leases

The mining leases are numbered 2483, 2484, and 2485 and cover a total area of 1,593.4 ha. The leases were recently renewed and are valid for a 21 year period. The original leases were surveyed in 1971 by the Federal Land Surveyor and leases were issued in 1971, by the Northwest Territories Government, renewed in 1992, and are in good standing to August 27, 2034. The leases were legally transferred to Baffinland Iron Mines (BIM) on March 4, 2005. Pursuant to the NLCA of 1993, a new survey of the lands and boundaries was required.

Survey markers of the lease boundaries comprised of steel pins and rock cairns were relocated by BIM personnel in the summer of 2007 using a Trimble GPS to confirm the previously defined latitude and longitude coordinates and the current coordinate system of UTM Zone 17 NAD (1983). The BIM surveyed UTM points indicate that Deposit Nos. 1 and 2 and the western extent of Deposit No. 3 are all located within the lease boundaries.

The mining leases predate the NLCA, but are surrounded by IOL, either designated as surface and subsurface rights (around mining leases 2484 and 2485) or surface only (around mining lease 2483). The mining leases are administered by GoC under the Canadian Mining Regulations. Access to land for which the Inuit have surface ownership is through the regional Qikiqtani Inuit Association located in Iqaluit.

1.2.2 Mineral Claims

BIM holds 406 mineral claims totalling 390,288.4 ha. In October 2008, Baffinland staked 18 mineral claims totalling 12,956 ha known as the McOuat block, which encircle the leases covering Deposit No. 4 and extend to the southeast to cover Deposit No. 5. In 2010, BIM staked four additional blocks of claims, the Glacier Lake Block consisting of 20 claims covering Deposit No. 6, the Turner River Block consisting of nine claims covering Deposit No. 7, the North Cockburn River Block consisting of eight claims covering Deposit No. 8, and the Rowley River Block consisting of four claims covering Deposit No. 8. Six more blocks of claims were staked in 2011.

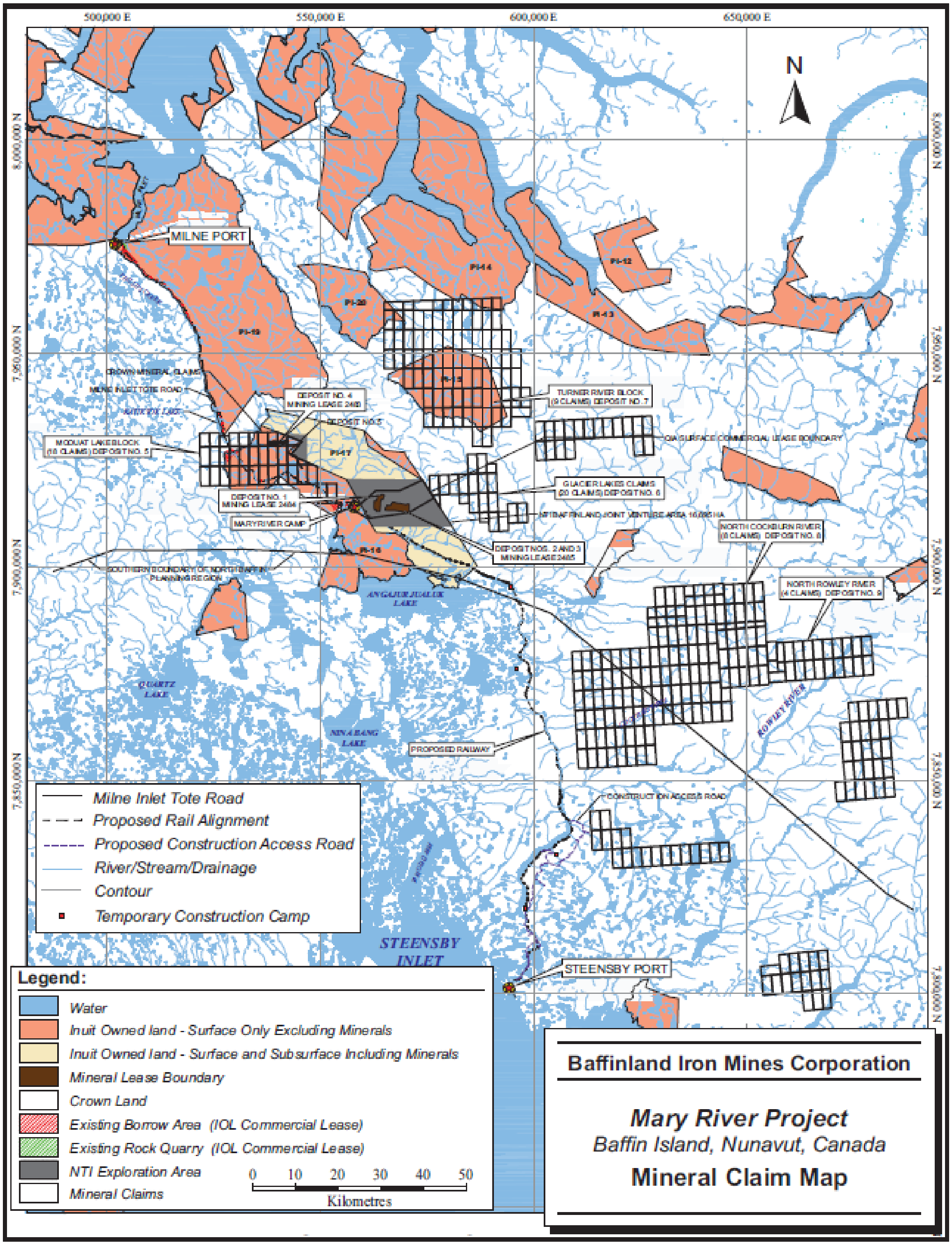


FIGURE 2 MINERAL CLAIMS

2 ACCESSIBILITY, CLIMATE, RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

Access to the Mary River project is by fixed wing aircraft using a 2000 m long gravel. Access is also available by float or ski plane on nearby Sheardown Lake. Iqaluit has daily scheduled flights and Pond Inlet is serviced by an ATR turboprop aircraft six days a week.

Milne Inlet, the closest navigable water, is located 100 km to the northwest of Nuluujaak Mountain, the site of the Mary River Deposit No. 1. A tote road constructed in the 1960s (suitable for a winter road) connects the Mary River deposits with Milne Inlet. The Milne-Mary River tote road and airstrip were rehabilitated in preparation for the extraction of a bulk sample in the winter of 2007 and 2008.

The climate is typically high Arctic, with long cold winters and short cool summers. Frost-free conditions are from late June to late August. There is continuous daylight from early May to early August and continuous darkness from mid-November to mid-February. The months of July and August bring maritime influences and are usually the wettest (snow may still occur). There are no local resources or infrastructure. The surrounding communities of Iqaluit, Clyde River, Igloolik, Arctic Bay, and Pond Inlet provide a potential labour pool for operations.

The Mary River iron deposits are situated close to the Central Borden Fault Zone, a major tectonic (structural discontinuity) and morphological feature which separates topographically lower land to the southwest from a higher plateau to the northeast which is deeply dissected by river valleys.

The Project lies within the zone of continuous permafrost, with an active layer thickness of up to two metres and a total permafrost depth of about 500 m. The extremely cold temperatures of the region, combined with permafrost ground conditions, result in a short period of runoff that typically occurs from June to September. All rivers and creeks, with perhaps the exception of the very largest systems, freeze solid during the winter months. The runoff coefficient is very high, due to the combination of low temperatures, low infiltration, and minimal vegetative cover and, correspondingly, surface water is abundant, and the region is dotted with thousands of small lakes and streams.

The vegetation of northern Baffin Island contains fewer species and typically less ground coverage compared with more southerly tundra environments. Terrestrial wildlife in the region is comprised of the following eight species: caribou, wolf, arctic fox, red fox, ermine, Brown and Pearyland collared lemmings, and arctic hare. There are numerous bird species, including a significant population of predators. Arctic char is the most abundant and widely distributed fish species in the lakes, rivers, and streams. During August and September, narwhal, bowhead whale, ringed seal, bearded seal, and harp seal are present within the waters of Milne Inlet and Eclipse Sound. Beluga and killer whales may also occasionally occur in those waters during this time.

3 GEOLOGY

The Mary River Group is part of the Committee Belt, an assemblage of granite-greenstone terrains, rift basin sediments and volcanic rocks which lie within the northern Churchill Province and extend from southwest of Baker Lake for over 2,000 km to northwestern Greenland. Mary River Group greenstone belts form isolated remnants in a roughly 65 km long stratigraphically coeval volcanic series, which has been highly contorted, deeply eroded and forms a discontinuous series of volcanogenic units within older gnesiss and migmatite formations, the iron formations (of varying types of quality) and occur discontinuously within the metasedimentary mid-section units of the Mary River Group.

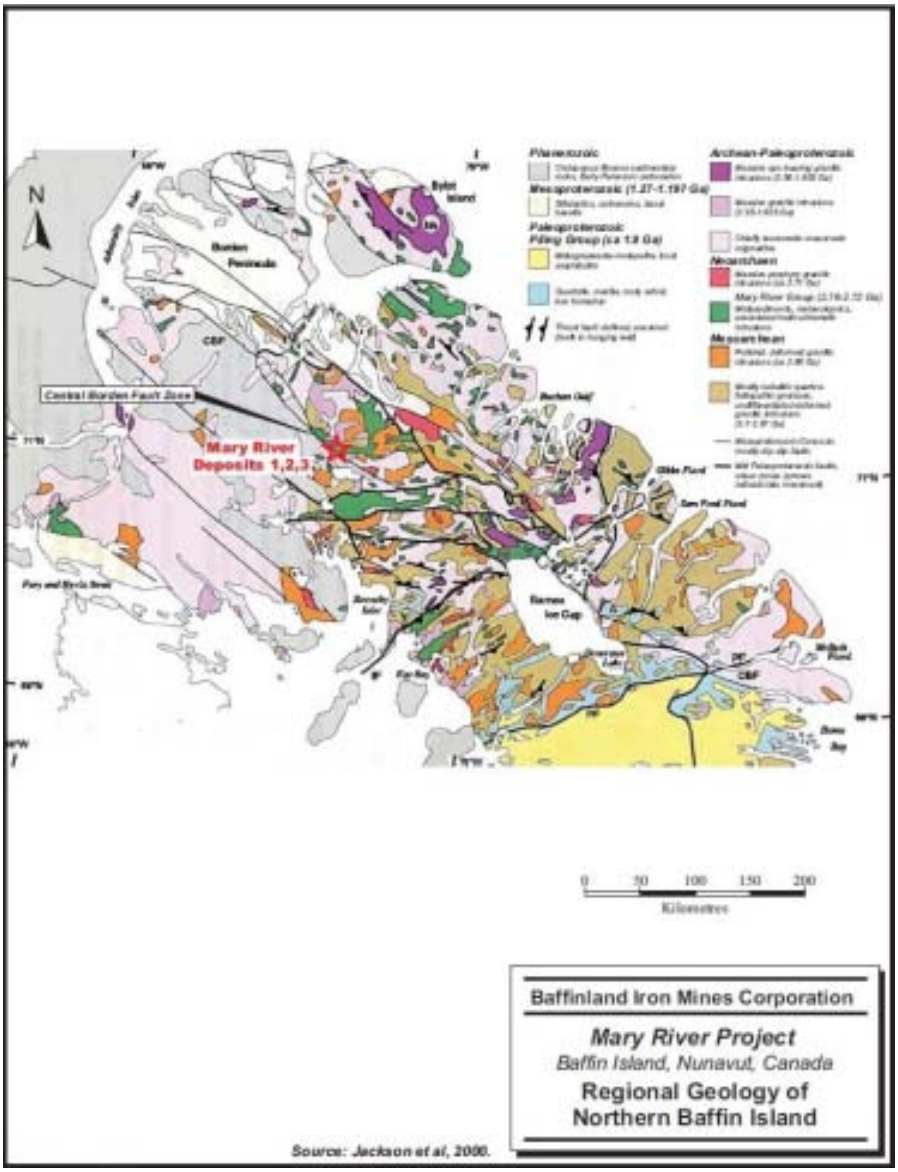


FIGURE 3 REGIONAL GEOLOGY

3.1 Geological Setting and Mineralization

The Mary River deposits comprise a number of iron formations which have been enriched and altered to varying degrees. Original banded iron formations comprised of alternating layers of magnetite and hematite are preserved in several locations along strike of existing high grade deposits. The regional metamorphism and folding associated with the Hudsonian Orogeny resulted in significant crustal thickening. This period also resulted in zones of weak to very efficient leaching of silica. Subsequent hypogene and metamorphic events led to the alteration of magnetite to hematite and specular hematite. Surface outcrops differ in iron, silica and sulphur content and in the proportions of their main oxide minerals – hematite, magnetite and specularite.

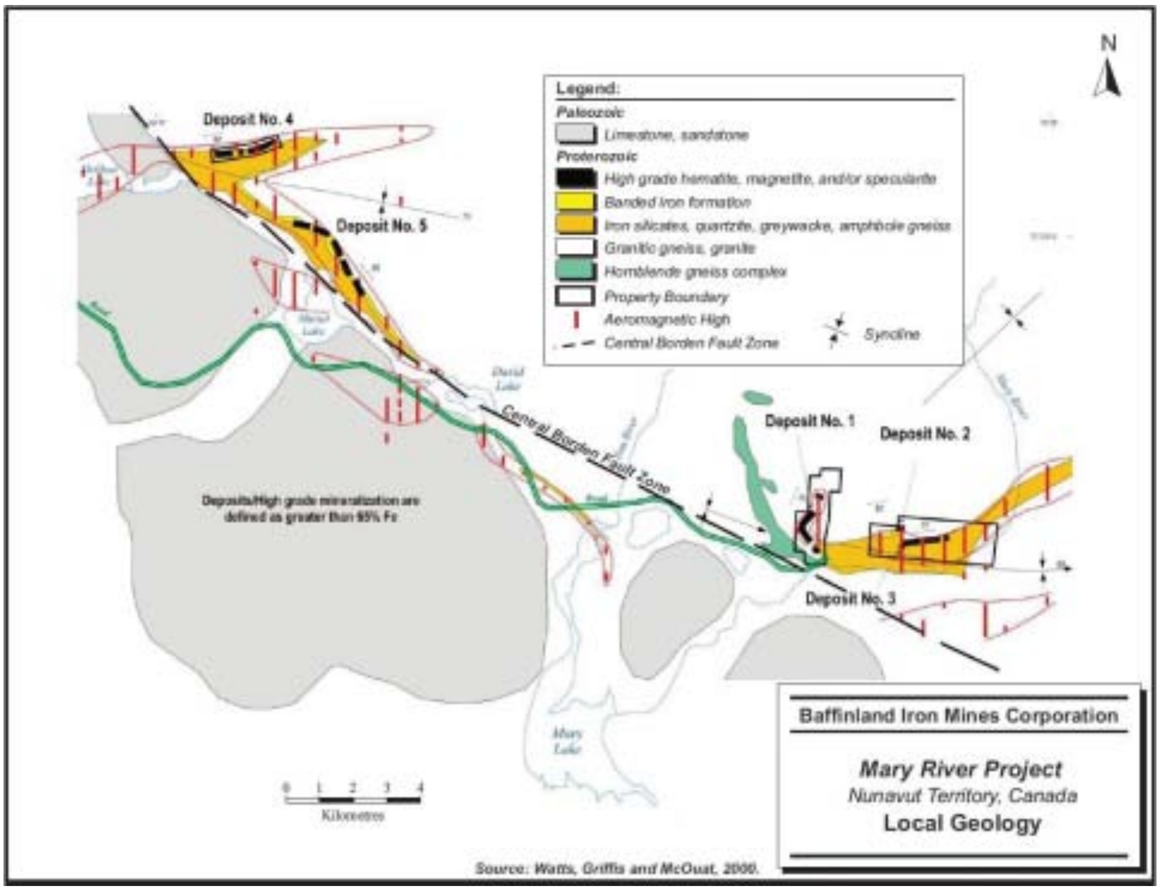


FIGURE 4 LOCAL GEOLOGY

3.2 Local Geology

High-grade iron deposits were discovered in 1962 within a deformed granite-greenstone terrain at Mary River on northern Baffin Island, about 160 km south of Pond Inlet. Initial fieldwork in the 1962 to 1965 period outlined the presence of four exposed deposits (Deposit Nos. 1, 2, 3, and 4) of high-grade hematite-magnetite mineralization hosted within extensive belts of banded iron formation. Deposit Nos. 1 to 3 occur within a single 30 km^2 area, while Deposit No. 4 is situated 27 km to the northwest. The sedimentary-volcanic succession in which the iron formations are developed was designated as the Mary River Group in 1966. The Mary River iron ore deposits represent high-grade examples of Algoma-type iron formation. The deposits are characterized by zones of massive, layered to brecciated hematite and magnetite, variable intermixed with banded oxide to silicate facies iron formation.

3.3 Deposit Types

The Mary River deposits can be described by the depositional model proposed for Algoma-type iron formation. The characteristic stratigraphy for Algoma-type iron formations consists of a lower succession of typically intermediate volcanic rocks interbedded with acid volcanic rocks, volcaniclastic sedimentary rocks, and their sedimentary derivatives. This succession is followed by banded iron formation comprised of alternating cherty bands and iron oxides or bedded or banded pure oxides ranging from metres to hundreds of metres in thickness depending on depths of original basins. This succession in turn is overlain by a sequence of volcanic and volcaniclastic sedimentary rocks commonly intruded by ultramafic and granitic intrusive bodies.

3.4 Property Geology

3.4.1 Deposit No. 1

Deposit No. 1 is currently the largest defined iron deposit in the Mary River area. The deposit has a total strike length, as defined by outcrop and magnetic anomalies, of about 3,800 m. Outcrops of high-grade iron oxides consisting of hematite and magnetite in various proportions and of specularite are exposed along the margin and crest of Nuluujaak Mountain at elevations ranging from 250 m to 700 m, over a strike length of 2,500 m. A possible additional strike of 550 m is suggested by magnetics and outcrop to the south, and magnetics indicate the continuation of the iron formation for about 750 m to the north (WGM, 1964, 1965).

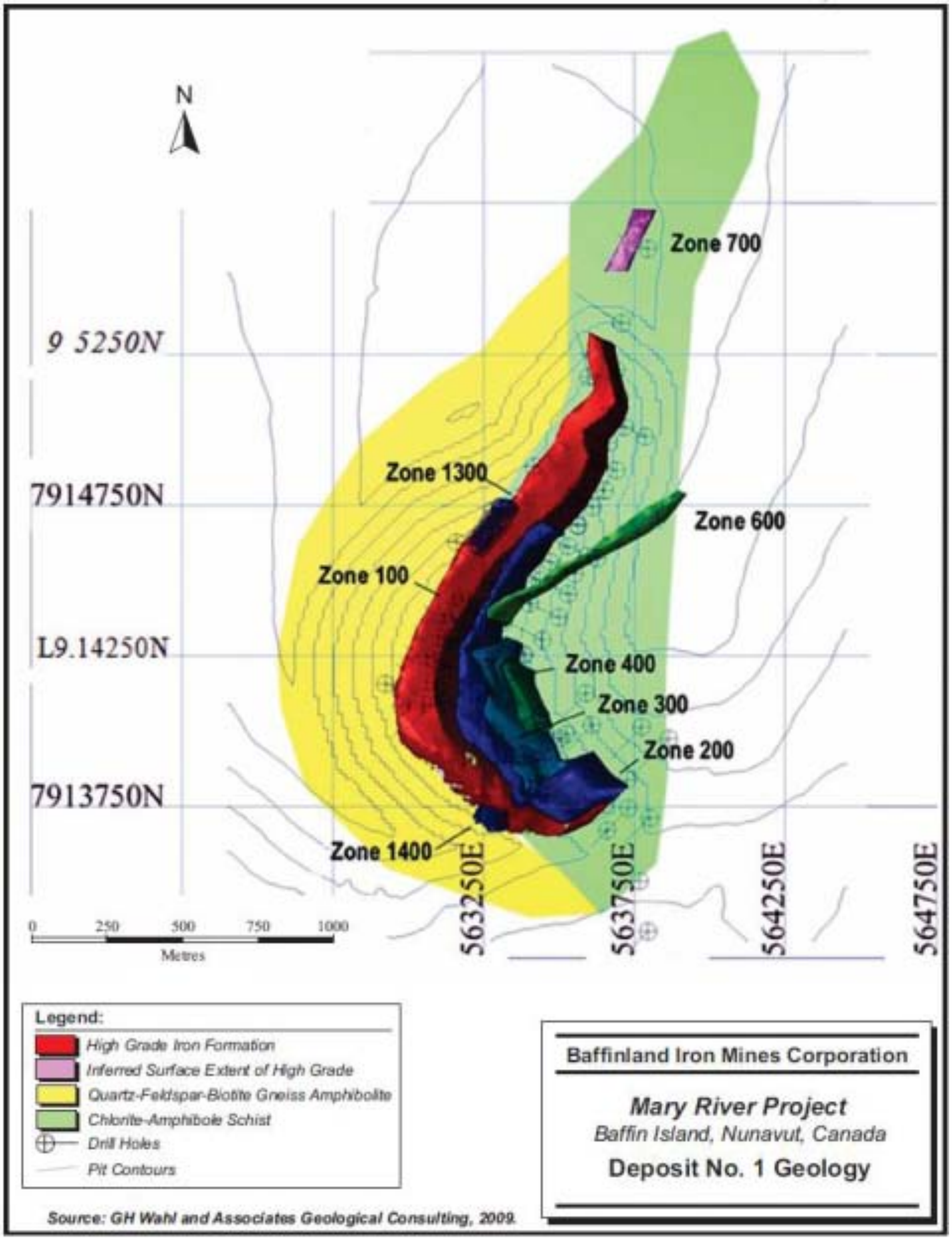


FIGURE 5 DEPOSIT NO.1 GEOLOGY

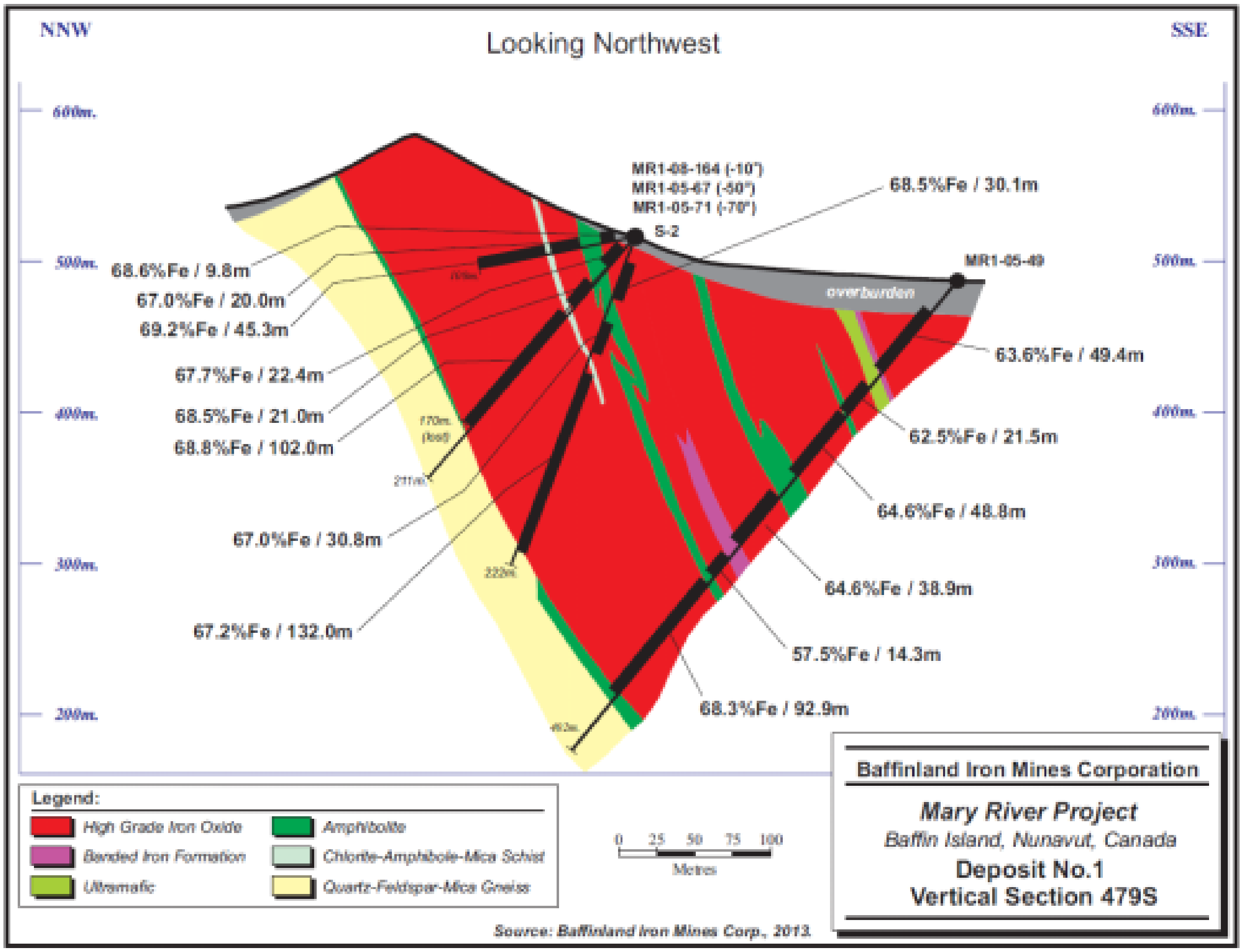


FIGURE 6 DEPOSIT NO.1 - VERTICAL CROSS SECTION

4 GEOTECHNICAL CHARACTERISTICS

In general, the main rock types that will influence the design of the pits are:

- The Hangingwall (HW) rocks forming the upper East Walls and consisting primarily of Tuffs, Amphibolites and Schists
- The Ore Body forming the lower pit walls and consisting primarily of High Grade Magnetite, Mixed Ore and High Grade Hematite
- The Footwall (FW) rocks forming the upper West Walls and consisting primarily of a Gneissic rock mass

The entire assemblage of HW, Ore and FW rocks is contained within a syncline plunging steeply to the east. This structural geometry naturally divides the deposit into three regions:

- The North Limb
- The Fold Axis
- The South Limb

In addition to geology, there are a number of geomechanical factors that will influence the pit slope design. These include:

- Small-scale structural features
- Rock mass quality
- Large-scale structural features
- Groundwater and permafrost conditions
- Stress conditions
- Seismic loading

The characterization of these geomechanical factors has been based upon consideration of all relevant geological and geomechanical information. The basis for this information is the result of site investigation programs, which included: logging of geomechanical and (select) exploration drillholes, surface mapping and field and laboratory test results.

4.1 ROCK MASS CHARACTERISTICS

The encountered rock masses were divided into geomechanical domains which will be the basis for the design sectors used for the pit's walls. As mentioned above, the domains were defined along lithological boundaries and were as follows:

- HW Rocks - consisting primarily of Tuffs, Amphibolites and Schists.
- Ore Body - consisting primarily of High Grade Magnetite, Mixed Ore and High Grade Hematite.
- FW Rocks - consisting primarily of a Gneissic rock mass that locally grades to Schist.

The engineering characteristics of each geomechanical domain are discussed below. Note that subdomains were created as required for particular analyses. The pit geometries were divided into design sectors as a simplification step to reduce the required number of stability analyses. In this case, the strategy is to divide the proposed pit geometries into sections or sectors whose slopes are likely to have similar performance characteristics. These were defined as regions of the pit wall whereby the composition of the pit wall and its orientation are fairly consistent. The composition was determined by looking at the spatial distribution of the various geomechanical domains. Once the characteristics of the geomechanical domains were determined and the design sectors defined, the required pit slope analyses were undertaken on each design sector to provide recommendations on achievable bench geometries and overall slope angles.

4.1.1 Geomechanical Domains

4.1.1.1 HW Rocks – Tuffs and Schists

Rock Types - For the purposes of design, the HW rock types have been divided into two sub-domains: i) the “true” HW rocks, which are assumed to consist primarily of Tuffs and Schists and ii) the “waste stringers”, which are dominated by Schistose units. Within the North Limb, where the Ore Body is generally thinner, the upper walls will be dominated by “true” HW material, whereas some of the upper Fold Axis and South Limb walls will be within waste stringers. In these areas, the alternating zones of Ore and HW waste will result in a striped appearance. Only the thickest of these stringers can be broken-out for the purposes of the slope design with the remainder being incorporated as variability within the Ore domain. The available drill data suggests that the “true” HW material is generally more homogenous and less sheared than the HW units closer to, or within, the Ore Body.

Structural Fabric - In terms of overall joint orientations, the HW units are dominated by JSA, with this discontinuity being defined by fabric or schistosity. Drilling evidence supports the assertion that the orientation of JSA will generally follow the orientation of the syncline.

The prominence of JSA within the HW units is highly variable and most prominent in the Schistose units. It is anticipated that the “true” HW and the more competent regions of the HW stingers will often be blocky in appearance, since the orientation of JSB appears to also rotate with the syncline. The immediate HW and waste stringers are expected to be highly variable in appearance and range from being dominated by JSA parallel shearing to blocky.

Rock Mass Quality - The UCS values derived from the field estimates are variable due to the influence of the fabric on the laboratory UCS results. Based on the available data, the “true” HW material was assigned a UCS of 80 MPa and the Schist and waste stringer material a lower value of 50 MPa. The “true” HW was assigned a design value of RMR=55 (FAIR) in most sectors, except opposite to the Fold Axis where it was assigned an RMR=40 (POOR to FAIR) value. The waste stringers were generally assigned values of RMR=40 (POOR to FAIR), except for along the North Limb where a substantial number of drillhole interceptions suggested a higher value of RMR=50 (FAIR).

4.1.1.2 The Orebody

Hematization - The characteristics of the Ore Body are variable ranging from orthogonally jointed and blocky to rubblized. The degree of hematization is one of the factors that strongly influences rock mass quality. In general, the hematization process appears to destroy much of the structural fabric that existed in the Magnetite prior to alternation. The hematization process also creates vugs of varying intensity that can coalesce and result in the core being rubblized during drilling. As such, intense hematization can effectively result in a more massive unit of lower intact strength. The regions of Deposit No. 1 that have been subjected to the most intense hematization are areas where there are natural conduits for fluid flow, the most prominent being the Fold Axis area.

Shears and Waste Stringers - The Ore Body also contains a relatively large number of shears and thin waste stringers. Many of these shears do not appear to cross the fabric of the Ore Body and appear to be of limited persistence. While the thin waste stringers are often Schist by lithology, from an engineering perspective they are incorporated into the variability of the Ore Body domain. Many of these stringers have undergone deformation/shearing that has substantially reduced their strength. This is thought to be due to the mechanical contrast between the relatively massive and stiff Ore and the relatively thin and weak waste zones.

Structural Fabric - In terms of overall joint orientations, the Ore Body is dominated by JSA. While it is hard to recognize at some locations, there is evidence to suggest that JSA follows the orientation of the Deposit No. 1 syncline. Although there is considerable latitude for interpretation, it appears that JSB also rotates with position in the overall syncline. These observations support the assertion that the syncline distorted an existing structural fabric rather than the structural fabric over-printing the syncline. If this is the case, it implies that JSA will generally be striking sub-parallel to the main walls of the pit.

Rock Mass Quality - The UCS and RMR values for the Ore Body are spatially too variable to provide single values for the entire deposit. As such, design values were determined for each design sector. The UCS values assigned to the Ore Body generally ranged between 35 MPa for the Hematite dominated regions of the Fold Axis to 85 MPa for the main Ore interceptions in the North and South Limbs. The Fold Axis laboratory values were especially variable, due, in part, to the values being impacted by failures along the fabric of the rock. After more testing, it is expected that the current UCS values will prove to be conservative.

4.1.1.3 FW Rocks – Gneiss

Structural Fabric - From an engineering perspective, the FW Gneiss appears to be the most homogenous rock unit associated with Deposit No. 1. Locally the Gneiss does grades towards Schist with a better developed fabric and fabric parallel parting.

Presumably due to these types of variations, the stereographic summaries reveal variations in the intensity and dominance of JSA. JSA ranges from being the dominant joint-set in the North Limb, to the rock mass being nearly orthogonally jointed in the South Limb. While some of this could be due to sampling bias (even after a Terzaghi correction), it is likely that the Gneiss may range from semi-tabular to blocky depending on location. As with the Ore Body, the orientation of JSA appears to vary with position within the Deposit No. 1 syncline.

Rock Mass Quality - The UCS and RMR values from each hole were judged to be similar enough to combine. A fairly conservative fabric-impacted compressive strength of 50 MPa is assigned to this domain (approximately 45% of samples tested failed along pre-existing a weakness). For the majority of the pit, the design value for the Gneiss is RMR = 55 (FAIR).

In the Fold Axis region none of the four (4) geomechanical holes attempted in the region successfully reached the FW. As such, this region was assumed to have the same properties as the Ore Body (RMR=40). Note that the surface mapping results for the South Limb suggest higher rock mass qualities.

4.1.2 Depth of Permafrost

Estimating the depth of permafrost in the region of the proposed pit is important from a pit design and environmental permitting point of view due to the impact that it is expected to have on groundwater inflow. The zero (0) degree isotherm is estimated to be at 610 m (elevation - 161 m). While some variation over the region encompassing the pit can be expected, based on field studies it can be reasonably concluded that the pit might be entirely contained within permanently frozen ground.

4.1.3 Permafrost and Hydrogeological Conditions

The deep thermistor results suggest that the permafrost is approximately 600 m thick in the region of Deposit No. 1. In terms of the slope performance, it is anticipated that the primary impact of permafrost will be three-fold:

- Reduced Groundwater Flows - A net strengthening effect on the overall rock mass is expected due to limited groundwater inflows combined with a potential increase in the shear strength on some discontinuities.
- Ice Lenses - It is not expected that this will be a common occurrence within the orebody.
- Active Layer in Wall – a permafrost layer might appear seasonally within the wall of the pit. This might result in some water inflow and will expose this region to repeated frost action.

5 Mine Plan and Design

5.1 Mining Method

Mining method is a conventional truck and shovel operation using a CAT 992 front end loader as the primary loading unit loading a fleet of CAT 777 haul trucks. An additional two CAT 390 back-hoe excavators will used for supplemental loading requirements. Drilling will be performed by a combination of CAT MD6290 DTH production drills and Sandvik DX800 top hammer cab drills. The production equipment will be supported by dozers, graders, and water trucks.

5.1.1 Haul Road Construction

Current haul road will be eventually widened with a combination of cut and fill to provide a running surface equal to the width of three 777 haul trucks and berm and drainage ditch. The road will be built one half at a time to always allow for a minimum of single lane traffic with pull outs every 200m in areas where the final width has not yet been achieved. Eventually, the design might incorporate two runaway lanes; one positioned towards the bottom of the hill, and one at the midpoint. These lanes will be constructed with waste rock from the mining operation and will be in place prior to the end of 2015. Ditches on the hillside of the ramp will provide an additional safety measure for runaway in that trucks can put their right tires into the ditch and turn them on their side (opposite to driver).

5.2 Geotechnical Pit Slope Design Criteria

Based on the geotechnical investigations, the pit slope design criteria used for optimization and pit design are presented on the following table.

Azimuth	Slope Angle for Optimization	Inter Ramp Slope Angle for Pit Design	Bench Face Angle for Pit Design
0° - 236°	40°	45°	70°
236° - 267°	38°	40°	60°
267° - 325°	40°	42°	60°
325° - 360°	45°	45°	70°

The selected bench height of 15 m is the final height of each bench. The mining operation will be carried out by mining two 7.5 m benches blasted individually.

5.3 Mine Plan

The mine plan accounts for:

- Production schedules based on shipping requirements
- Minimum mining width based on the type and size of equipment
- Geotechnical pit slope design criteria

- Mine design parameters
- Blast design parameters
- The mining ramp is designed to provide two way traffic and grades typically 8% and 10% maximum.

The engineered cuts, which outline the 2014 mine plan, are shown in Appendix 1. It includes the monthly plan, beginning in September 2014, and the end of month topography.

5.4 WASTE MANAGEMENT PLAN

The proposed waste dump is located northwest of the pit as shown in Figure 7. The dump toe setback, from the pit rim, accounts for future pit expansions for the purpose of avoiding potential re-handle. Future segregation of potentially acid-generating (PAG) rock may be required dependent on the results of ongoing studies and investigations. Waste and mineralized rock could be categorized into potentially acid-generating (PAG) rock and clean waste.

Waste rock will be deposited in 5m lifts. The primary objective is safety of personnel and stability of the waste rock stockpile. However, these deposition methods will also enhance permafrost aggradations into the Waste Rock Stockpile. The design of the waste rock storage area is based on the conservative results from drilling and laboratory test work. The following criteria were used for the dump design and incorporate recommendations from previous studies:

- Setback distance of 100 m from resources pit shell crest.
- 2H:1V overall effective slopes
- 1.5H:1V individual bench slopes
- 15 m berms between benches
- 30 m final bench face height
- 150 m segments (5 benches)

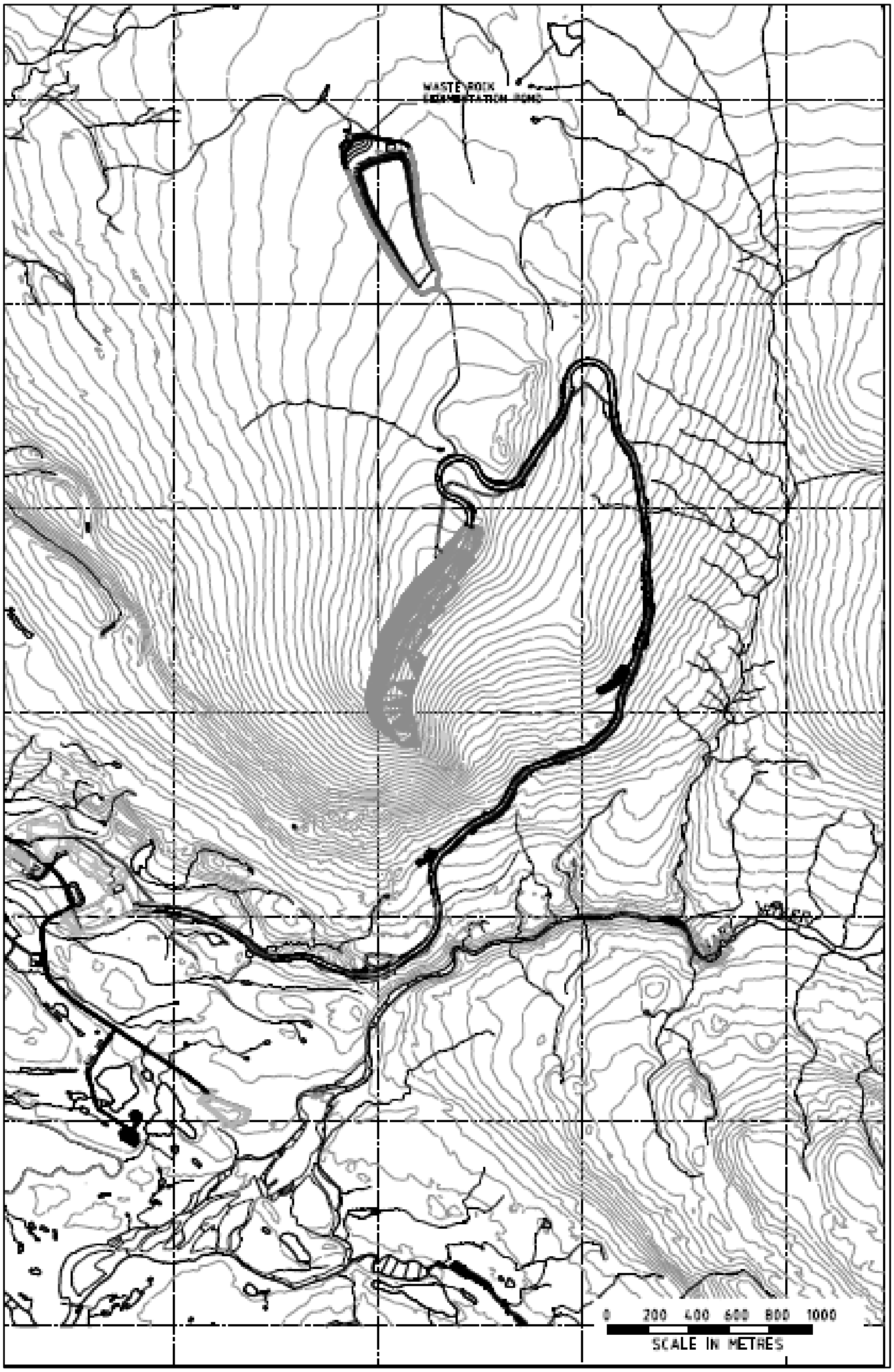


FIGURE 7 WASTE DUMP LOCATTION FOR FIRST 5 YEARS OF PRODUCTION

6 MINE TRAFFIC PATTERNS

6.1 PRIORITY FOR MINE TRAFFIC "RIGHT-OF-WAY"

1. All responding Emergency Vehicles
2. All other authorized vehicles responding to a "Code 1"
3. Explosive Vehicles when carrying explosives. This will be indicated by the use of a red flashing beacon that must be operational and turned on when explosives are present. Further, all signage shall be placed in a position where it is highly visible
4. Loaded Haul Trucks
5. Unloaded Haul Trucks
6. Other Mining Equipment
7. Buses
8. All other authorized vehicles

6.2 RADIO COMMUNICATION

- When in the mine area, personnel shall be on the designated "mine" radio channel at all times.
- Radio chatter must be kept to a minimum. The mine radio channel shall only be used for communicating activities which directly affect mine operations.
- Keep radio conversations short and concise. If more explanation is required ask the appropriate personnel to meet with you.

6.3 ENTERING THE MINE AREA (ALL AREAS)

- Access to the mine is restricted to personnel involved in legitimate work activities in the mine.
- All personnel, unless specified otherwise, are required to call the mine pit supervisor for permission to access the mine area.
- All personnel, unless specified otherwise, are required to call the mine pit supervisor when leaving the mine area. When re-entering the mine, permission must be granted again by the mine pit supervisor to access the mine area.
- Personnel not assigned to work in the mine, MUST be escorted to and from their work area from the daily blast sign.

6.4 TRAVELLING IN THE MINE

- The safe following distance when travelling behind a haul truck is 7Om. This distance must be adhered to at all times.
- During periods of inclement weather ice, snow, and blowing snow it will be necessary to increase the following distance especially on inclines.
- Unless authorization is given, no vehicle will be allowed to park on an active haul road.

- If your vehicle breaks down on a haul road pull over as far as safely possible, illuminate the 4-way flashers and immediately notify the Mine Supervisor and haul truck operators.
- When approaching equipment that is parked, the safe routes shall be followed. Never park in the blind spots of equipment.
- Obey all speed limits. The posted speed limit for roads in the mine area is maximum 50km/hr.
- Reminder: Speed limits are subject to road and weather conditions and it is every employee's responsibility to operate their vehicle in a safe manner.

6.5 PASSING HAUL TRUCKS

- A light vehicle cannot pass a haul truck loaded or empty under any circumstance while it is travelling, no matter how slow the operator may be going.
- In order to overtake a haul truck, the haul truck must be stopped and have the 4-way flashers illuminated, indicating it is okay to safely pass. Clear radio confirmation must be given by the haul truck driver for the light vehicle to pass.
- Hand signals and other non-verbal communication are not an acceptable means to indicate a light vehicle may pass.
- If you are unable to reach the operator by way of the 2-way radio then approach slowly at a safe distance as the operator may be on the ground checking the truck and unaware of your approach. After confirmation of the operator's location you may verbally determine if it is safe to pass.
- It is the haul truck operator's responsibility in the case of an emergency to pull over a safely and quickly as possible to allow responding emergency vehicles to pass should it be required.

6.6 PRIMARY CRUSHER ACCESS ROAD

- During crushing periods: "Through Traffic" is from the pit via the pit and mine road to the primary crusher and vice versa.

6.7 NIGHT OPERATIONS

- The mine operation has 10 light plants available which will be used along the tote road, the pit and the waste dump

6.8 STOP AND YIELD LOCATIONS

- Please refer to Figure 8 showing the haul road going from the camp to the mine.

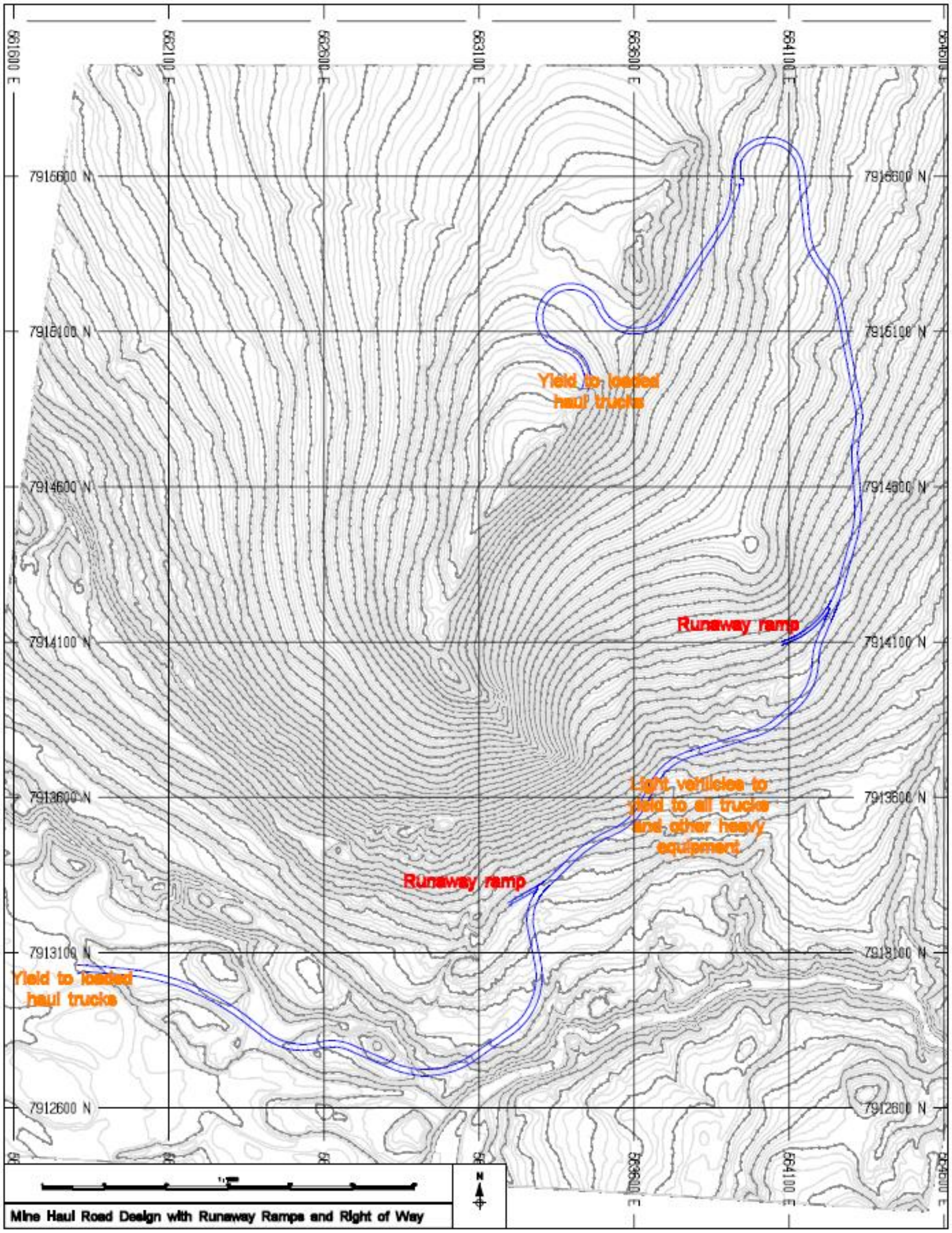


FIGURE 8 STOP AND YIELD LOCATIONS

7 MINE INFRASTRUCTURE AND SERVICES

7.1 MATERIAL HANDLING

The mineralized material and waste will be hauled out of the pit with the off-highway equipment fleets listed previously. The material deemed as waste rock will be transported to the waste dump, located northwest of the open pit. The ROM will be delivered nearby the primary crusher. Crushing and screening will be performed prior to stockpiling and then hauling to Milne Inlet.

7.1.1 CRUSHING, SCREENING AND STOCKPILING AT MARY RIVER SITE

The crushing and screening plant is designed to operate 300 days per annum, with an operating availability of 75%. The plant is equipped with a jaw crusher, one cone crusher, one primary screen and one secondary screen. After crushing and screening, the product is conveyed to storage piles through a system of belt conveyors and radial stackers, where it is reclaimed and loaded on to haul trucks.

The crushing and screening plant is situated approximately 6.5km south of the open-pit mine. The primary and secondary screens are located adjacent to each other approximately 240m southwest of the primary crusher. The secondary crusher is located approximately 90m northeast of the primary and secondary screens. From the primary and secondary screens, the product is conveyed approximately 174m northwest to the stockpiling area. The product is reclaimed from the stockpiles using frontend loaders and loaded on the haul trucks in close proximity to the stockpiles.

7.1.2 STOCKPILE RECLAIM AT MARY RIVER

Front end loaders are used to reclaim the lump and fine material from their respective stockpiles and load 134t highway trucks with two (2) trailers. The trucks are able to position themselves in close proximity to the stockpiles to minimize loader tramming time. Based on the shipping requirement and an assumed 300 hauling days per year to the port, a minimum loading rate of 420tph is required. The loaded haul trucks are weighed on a truck scale prior to leaving the Mine Site for production and inventory control.

7.1.3 ROAD HAULAGE

Road haulage is achieved by a fleet of highway trucks consisting of a 600 HP tri-drive tractor and two identical side-tipping trailers with a combined payload of 134t. The trucks and trailers are custom designed for the arctic conditions. The truck and trailer combination is a proven design in Arctic conditions over a similar haul distance.

7.1.4 STOCKPILING AT MILNE PORT

The 134 t haul trucks equipped with side dump trailers dump directly on the ground. Front end loaders are used to transport the dumped ore to portable feeders which transfer the ore to telescopic portable radial stackers which in turn deposit the ore in the stockpiles. There are three sets of portable feeders and portable radial stackers, each with a capacity of 1,500tph. The feeders and stackers are diesel powered.

Due to the short and variable shipping season (60 – 90 days/season) 3.0Mt is stockpiled at the port. There are three longitudinal stockpiles at the port. Two longitudinal stockpiles contain lump iron ore and hold 1,500,000 and 750,000 tonnes respectively. The other longitudinal stockpile contains fine iron ore and holds 750,000 tonnes. The longitudinal piles are located adjacent to each other in two rows with each row separated into two piles.

The lump and fine iron ore stockpiles are constructed using the three sets of portable feeders and radial stackers. The haul trucks dump in close proximity to the portable feeders and radial stackers. The portable feeders and radial stackers are fed by front end loaders and deposit the ore in a kidney shape in the stockpiles. Building of the stockpiles commences at one end and the portable feeders and radial stackers are required to retreat 6.5m once per day, building subsequent kidneys as they retreat.

7.2 DEWATERING

A pumping network will be installed to pump water run-off from the open pit. Pumped water will be directed through a water treatment system comprising settling/polishing ponds prior to its release into the environment.

7.3 EXPLOSIVES AND DETONATORS

Detonators and explosives will be stored and prepared in approved explosives magazines and plant. They will be located at a safe distance from the mining operations, and managed by DynoNobel, a specialized supplier/contractor.

APPENDIX 1

1. END OF YEAR MAP 2014
2. END OF YEAR MAP 2015
3. END OF YEAR MAP 2016
4. END OF YEAR MAP 2017
5. END OF YEAR MAP 2018
6. END OF YEAR MAP 2019

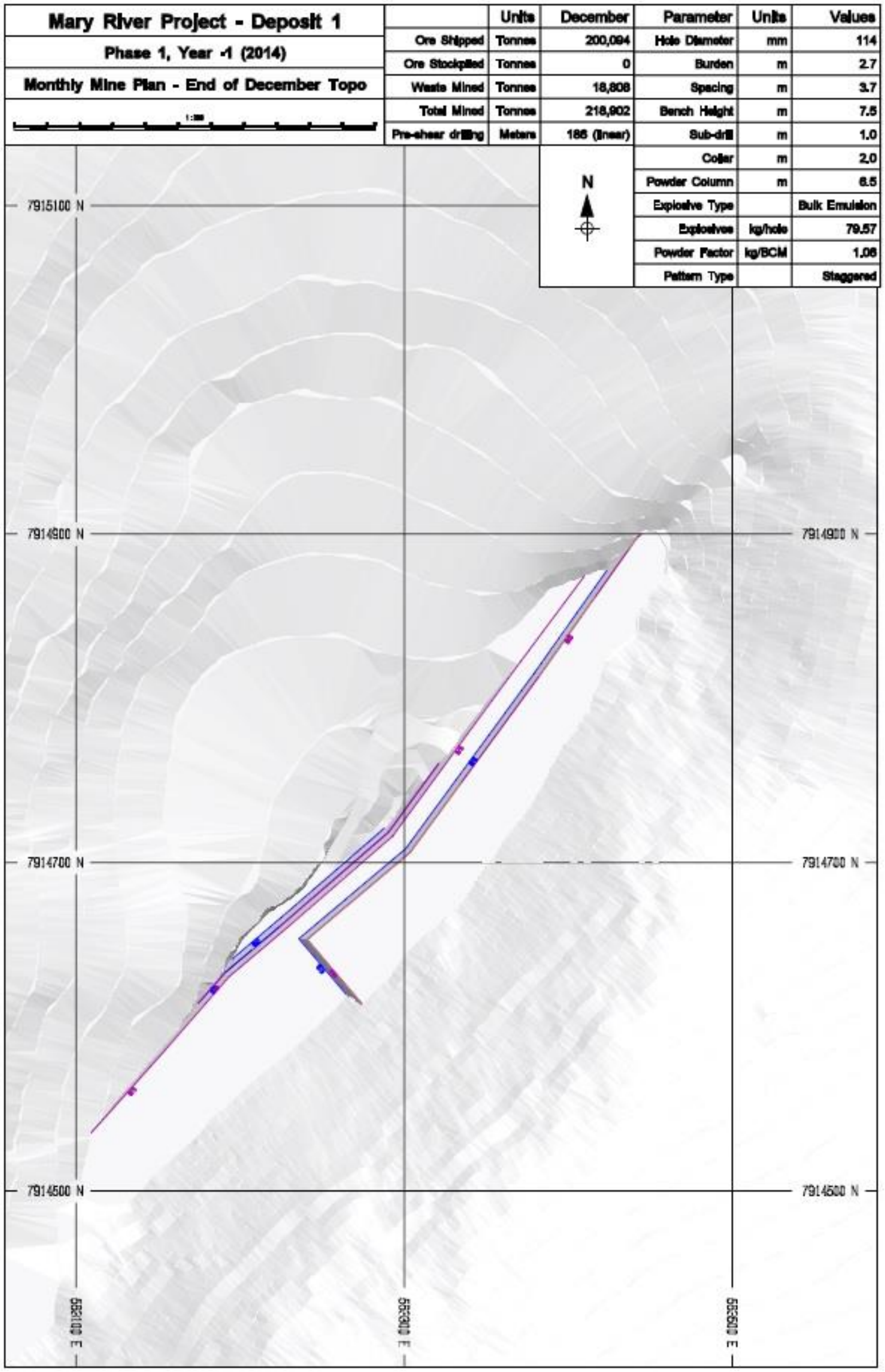


FIGURE 9 DECEMBER 2014, END OF MONTH TOPOGRAPHY

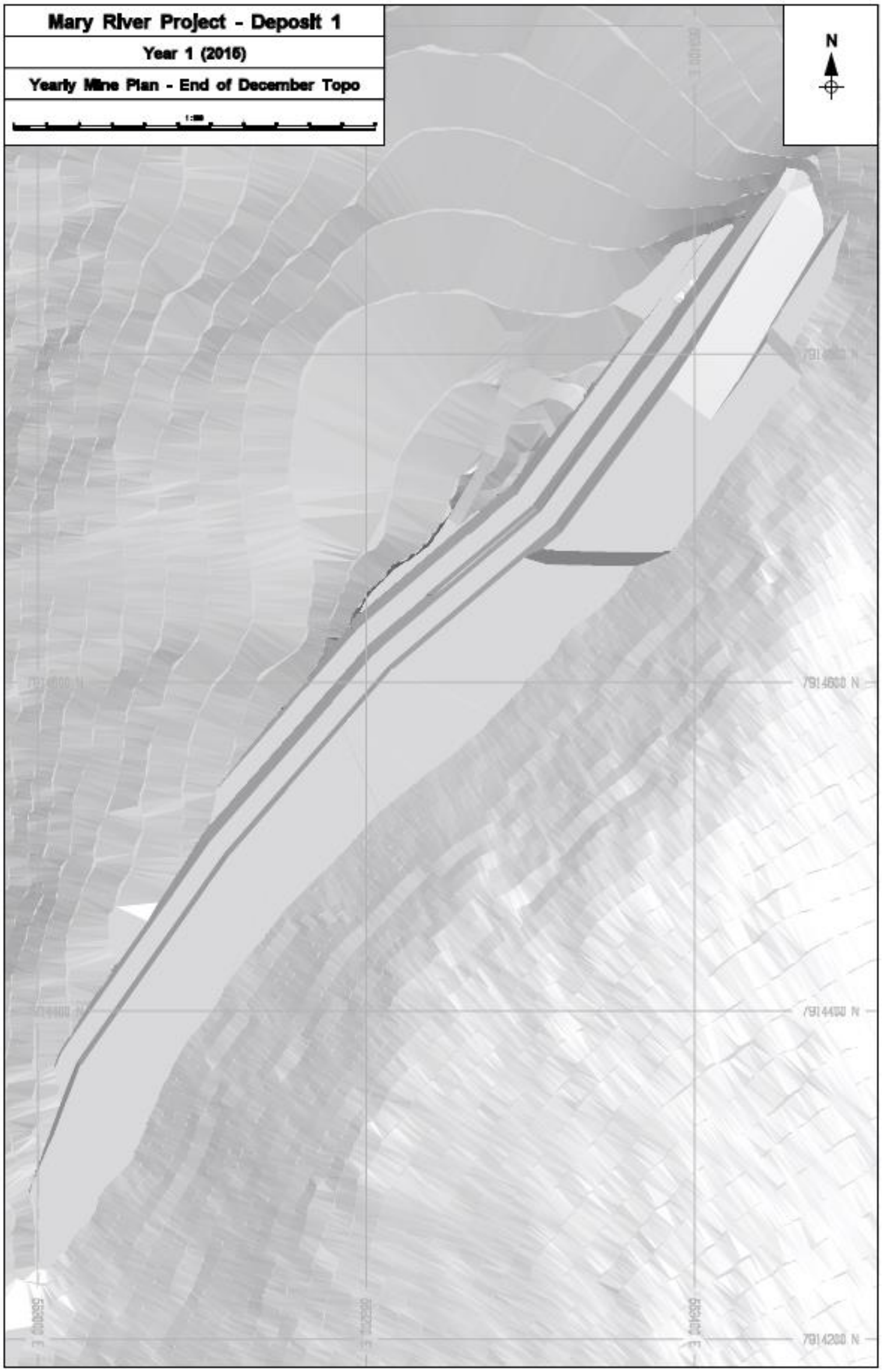


FIGURE 10 DECEMBER 2015, END OF MONTH TOPOGRAPHY

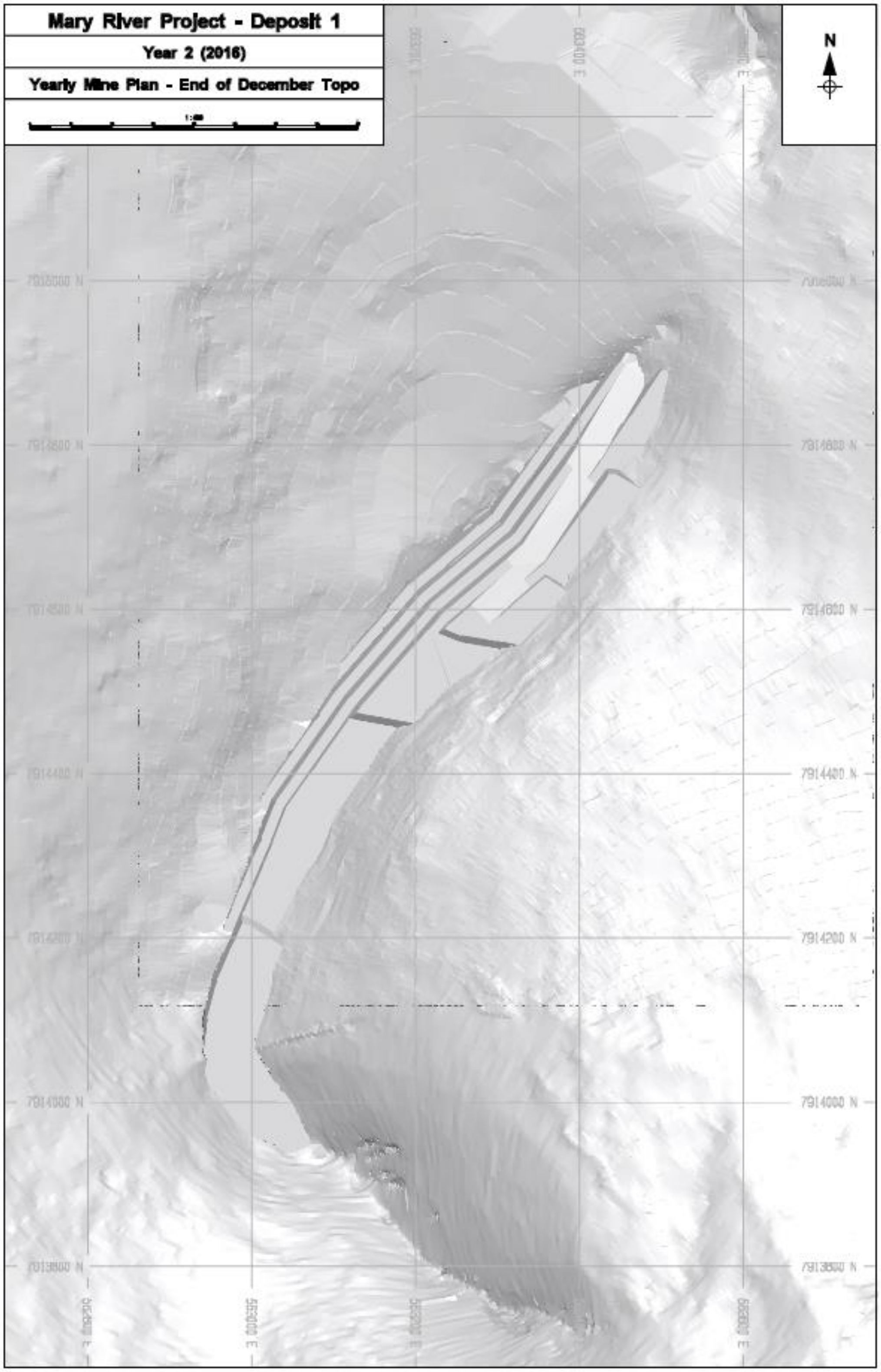


FIGURE 11 DECEMBER 2016, END OF MONTH TOPOGRAPHY.

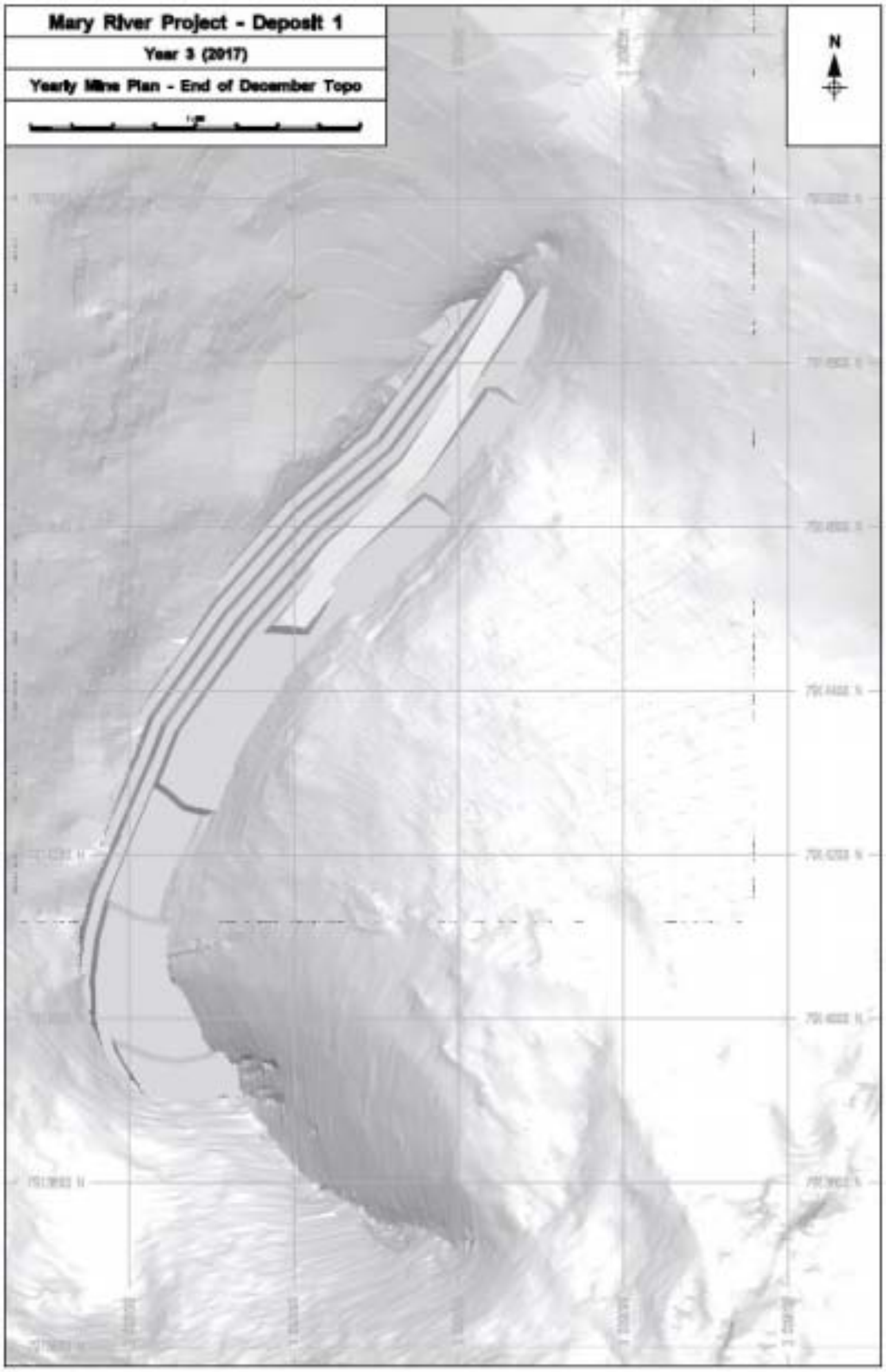


FIGURE 12 DECEMBER 2017, END OF MONTH TOPOGRAPHY.

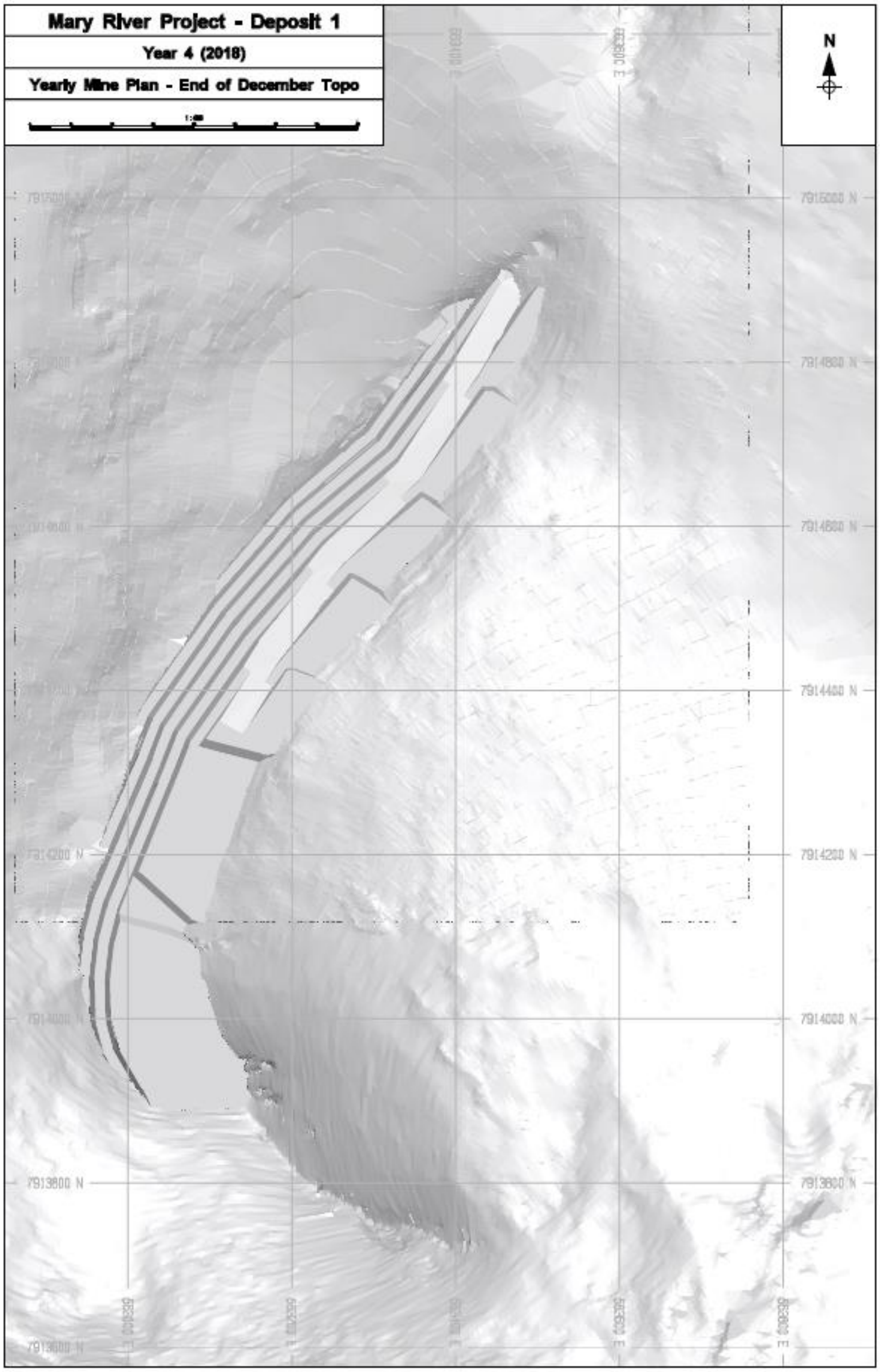


FIGURE 13 DECEMBER 2018, END OF MONTH TOPOGRAPHY.

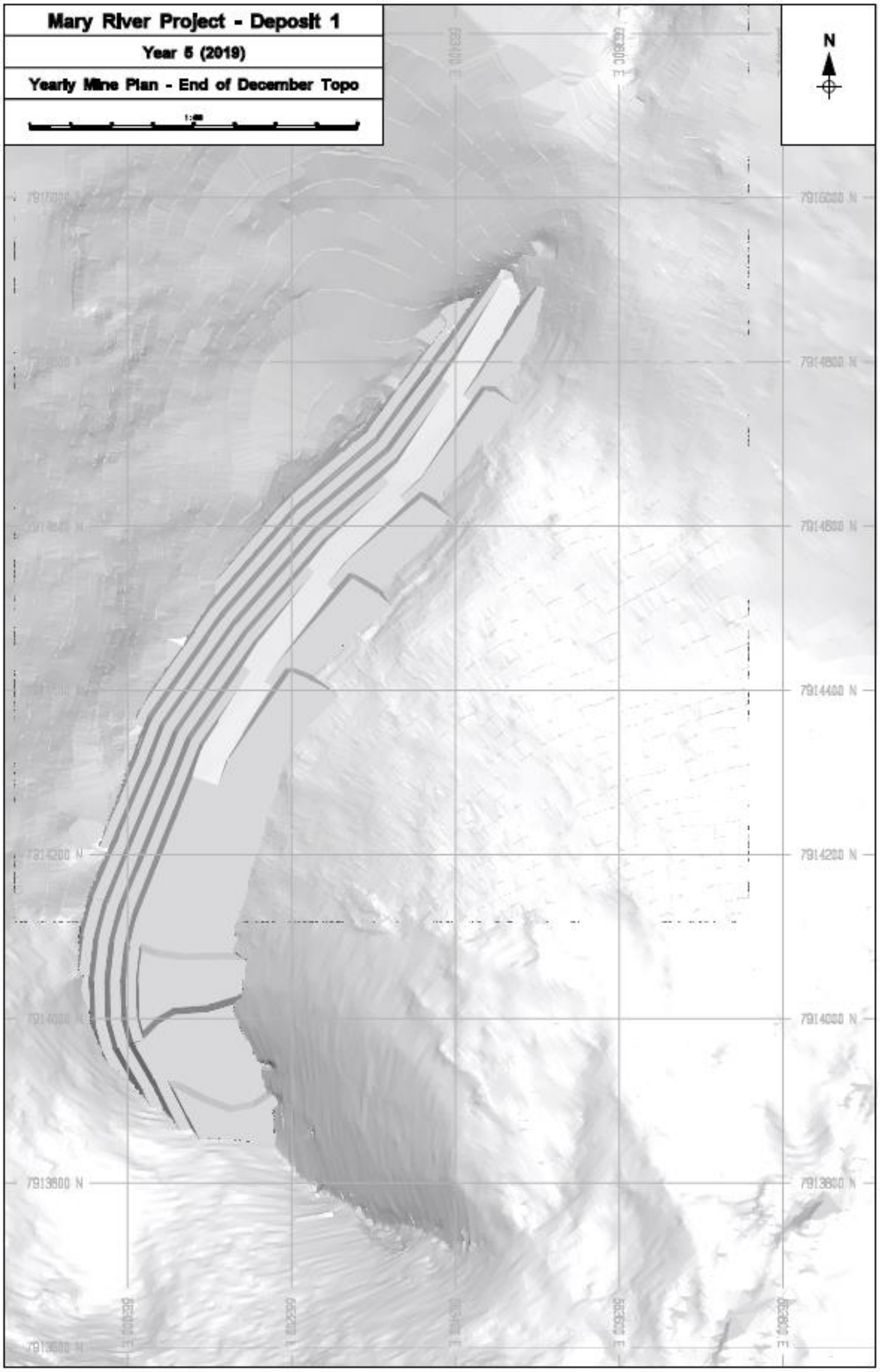


FIGURE 14 DECEMBER 2019, END OF MONTH TOPOGRAPHY..

APPENDIX 2

7. MINE SITE LAYOUT
8. MINE SITE INFRASTRUCTURE
9. MILNE PORT SITE LAYOUT
10. MILNE PORT INFRASTRUCTURE

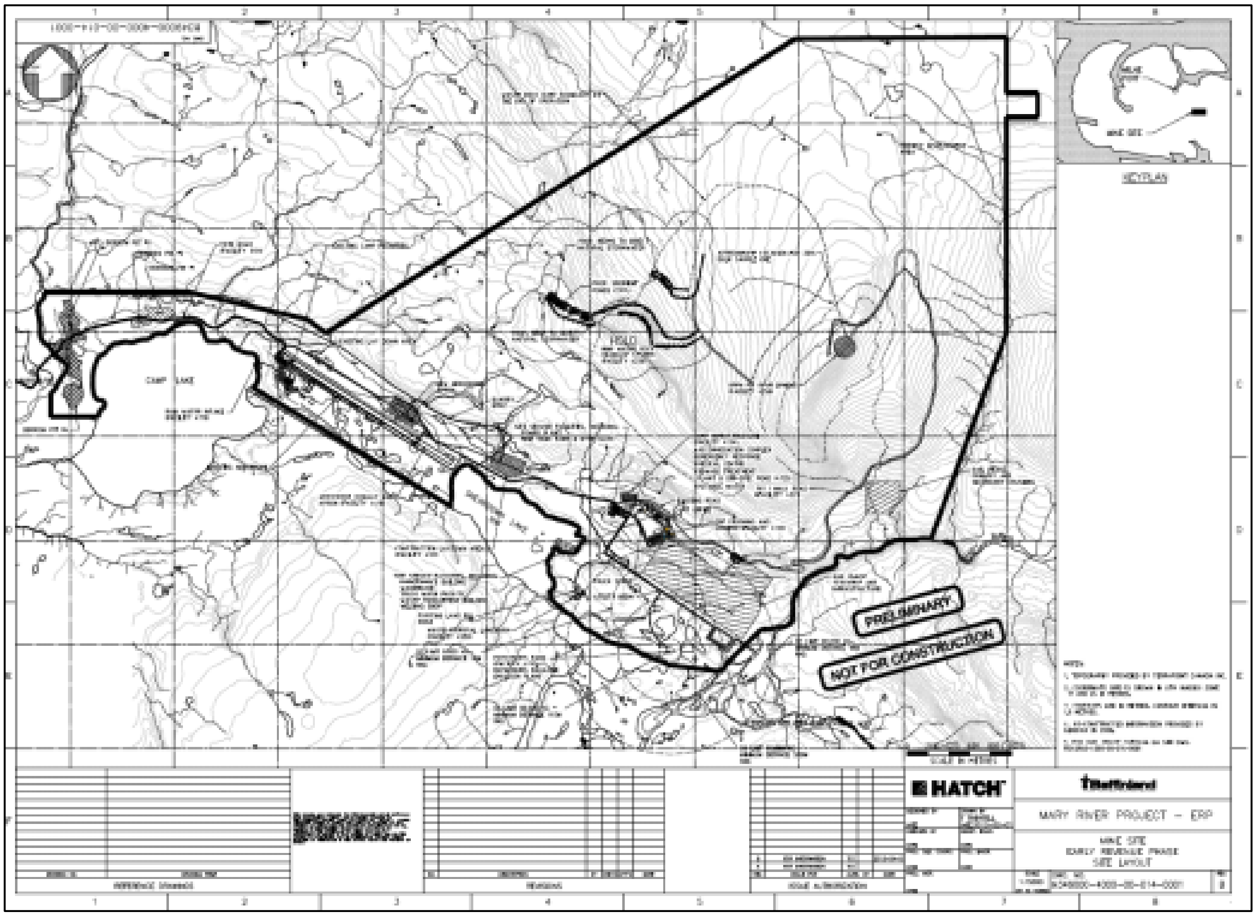


FIGURE 15 MINE SITE LAYOUT.

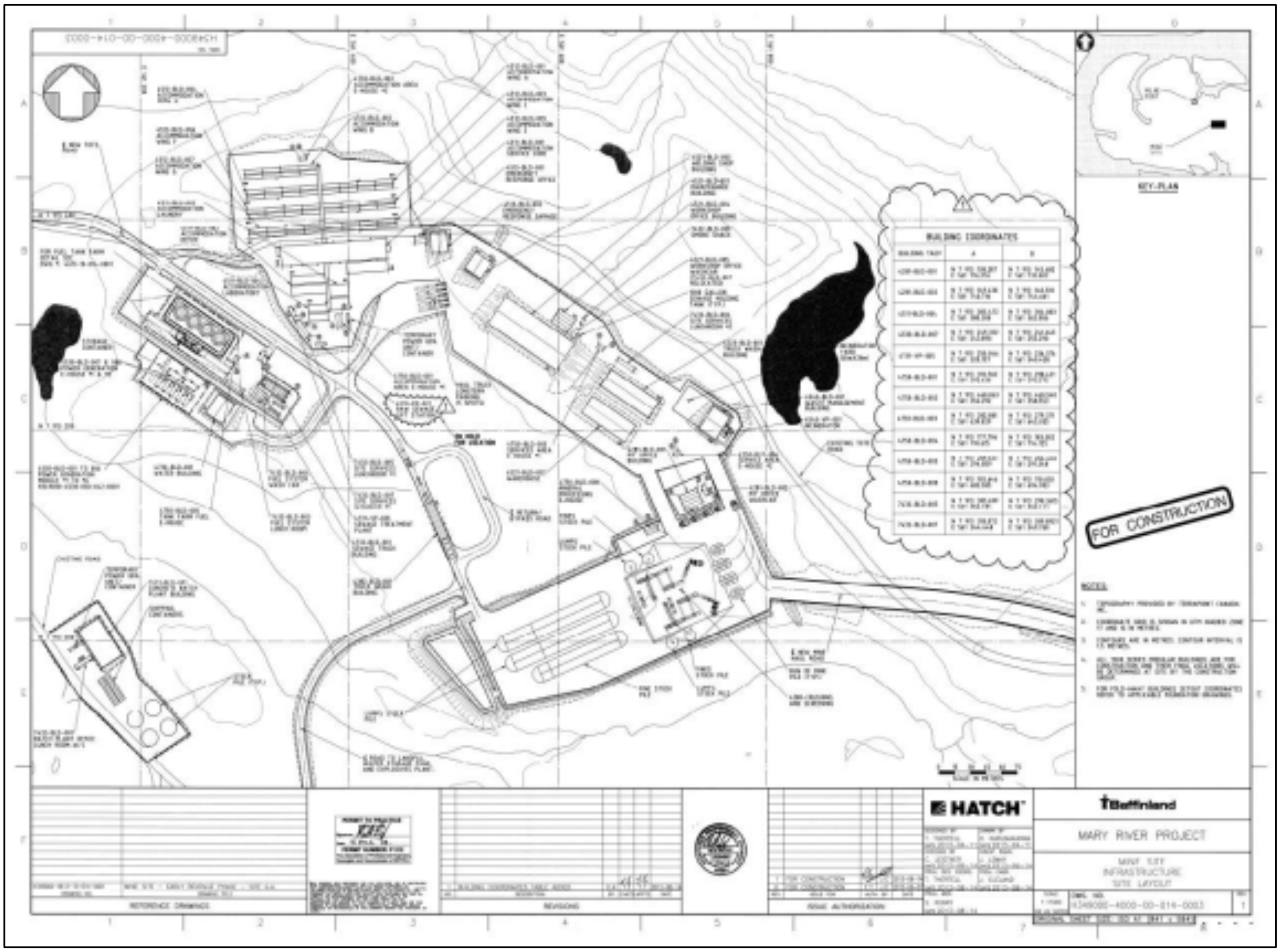


FIGURE 16 MINE SITE INFRASTRUCTURE.

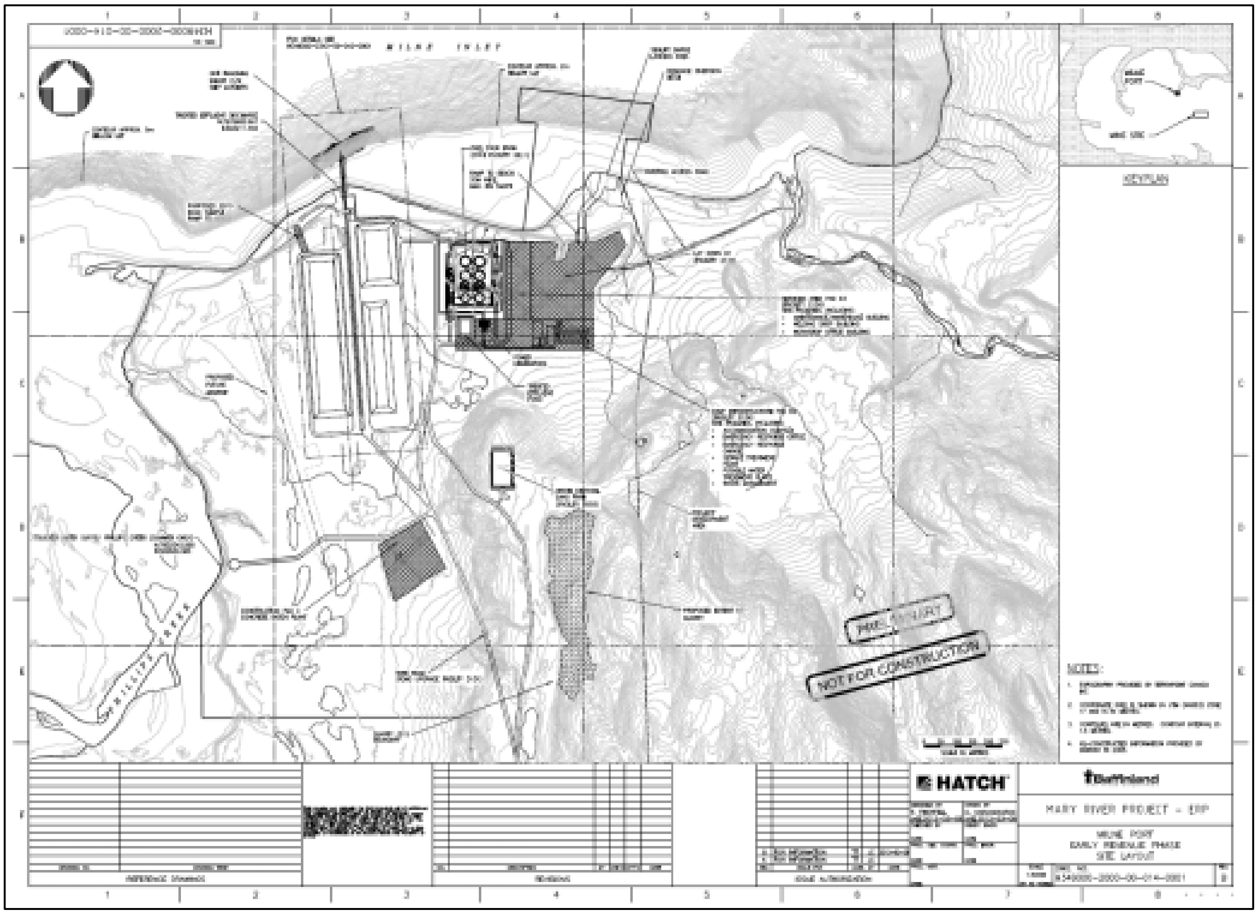


FIGURE 17 MILNE PORT SITE LAYOUT.

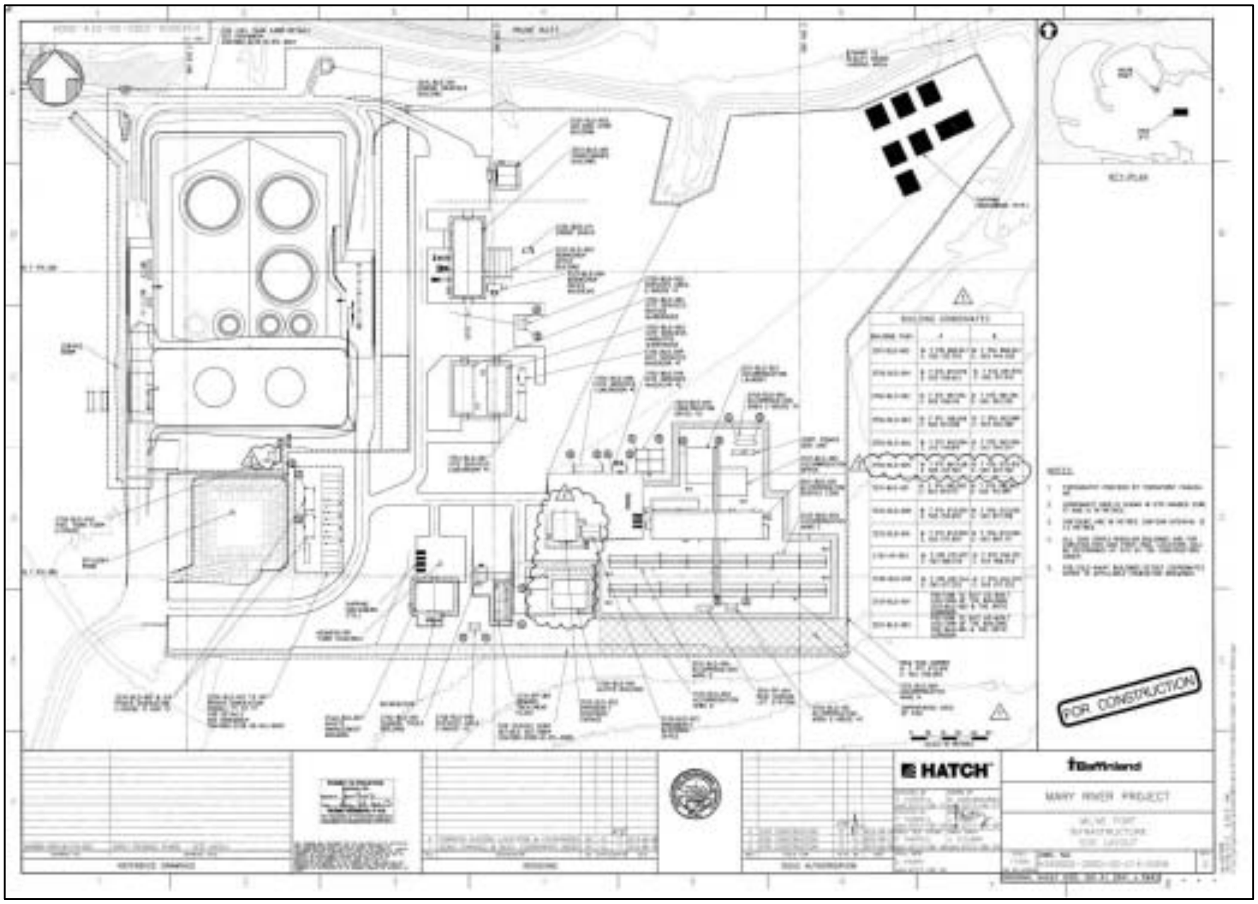


FIGURE 18 MILNE PORT INFRASTRUCTURE.

EARLY REVENUE PHASE

ADDENDUM TO
FINAL ENVIRONMENTAL IMPACT STATEMENT

VOLUME 3
PROJECT DESCRIPTION

TABLE OF CONTENTS

List of Tables

List of Figures

List of Appendices

References

1. NIRB Project Certificate No. 005, December 28, 2012
2. Baffinland, Final Environmental Assessment Report for the Mary River Project, February 2012.
3. Baffinland, Letter to NIRB, January 13, 2013
4. Baffinland, Draft Environmental Assessment Report for the Mary River Project, December 2011.
5. NWB, Type A Water Licence Baffinland, Mary River Project, Early Revenue Phase (ERP) Staged Project Submission Report, December 24, 2012
6. GH Waahl, R. Gharapetian, Mary River Deposit No. 1 – Resource and Mine Planning Report, Mary River Project Iron Ore Project, Northern Baffin Island, October 2009

SECTION 1.0 EARLY REVENUE PHASE (ERP) – SCOPE DESCRIPTION

All material, equipment and supplies required for the construction of the Mine Site and the northern portion of the railway will be delivered at Milne Port and transported to the Mine Site over an upgraded Tote Road. Therefore, the development of Milne Port (freight dock, laydown areas, expanded camp and sewage treatment facilities, maintenance shops and warehouses) and the upgrade of the Tote Road (limited realignment, replacement of culverts, addition of bridges) are an integral part of the Approved Project and were included in the scope of the Final Environmental Impact Assessment (FEIS) submitted for Project Certificate No. 005.

The Early Revenue Phase (ERP) introduces the following additional activities that were not assessed in the FEIS of the Approved Project:

1. Mine Site
    a. Loading of ore into trucks; and
    b. Truck fleet (for haulage of ore).
2. Tote Road
    a. Haulage of ore along the Tote Road.

    Note that the upgrades to the Tote Road were assessed for the Approved Project. Technical details and descriptions provided in this Volume related to these upgrades are presented for information purposes.
3. Milne Port:
    a. Ore stockpiling and loading onto ships.
4. Marine Shipping
    a. Ore carrier loading at Milne Port; and
    b. Ore carrier shipping volume and timing.

1.1 <u>Execution Plan</u>

Construction of additional facilities required for the ERP will commence once the Project Certificate No. 005 is amended by the NIRB (expected in Q1 2014). Construction of the ERP facilities will be completed by the end of Q1 2015 except for final commissioning of the ship loader, which cannot occur until mid-July when ore shipping begins in the open water season of 2015. Approximately 2 Mt of iron ore will be shipped in 2015 with 3.5 Mt/a shipped thereafter. A summary execution schedule is shown in Figure 3-1.1.

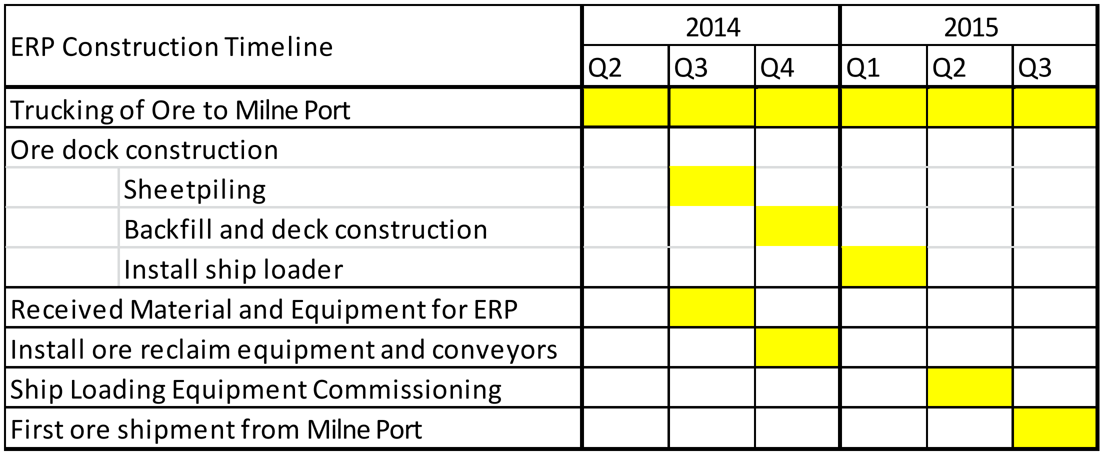


Figure 3-1.1 Summary Execution Schedule

1.2 Transition to Approved Project Execution Phase

As Baffinland noted January 2013, in a correspondence with the NIRB, a decision was made to move the project forward in a phased approach due to the current economic climate in the world. It is Baffinland's intention to obtain all the necessary permits required to commence construction of the main project once the global economic climate improves.

Baffinland is moving forward with the application to amend the Project Certificate to allow for an Early Revenue Phase (ERP) and recognizes that the ERP scope of work needs to undergo an Environmental Assessment Review Process. At this time, Baffinland cannot predict with certainty the length of time that the ERP will continue; however, it remains the goal of the Company to pursue the full scope of the project as outlined in the FEIS, once the global economy has improved.

For the purpose of the EIS, it is assumed that financing for the Approved Project Execution Phase (Project Certificate No. 005) will become available to begin engineering in 2014 and for full scale mobilization at all Project sites in 2015. Construction of the Approved Project, which begins with site capture activities at Milne Port in 2013, will be completed in five years to enable first ore shipment from Steensby Port in Q4 2019. It is assumed that the road haulage operation (ERP) will continue as rail production commences.

1.2.1 Project Organization

The same Project Team organizational structure will apply through the ERP and into the Approved Project, although the number of BIM and Contractor staff would be higher during the latter phase due to its much larger scale and complexity.

1.2.2 Key Issues, Key Tasks

The ERP operation will be designed, planned, executed and operated in a manner that does not interfere with the Approved Project construction or operation. Facilities constructed and operated for the ERP that interfere with the construction and operation of the larger Approved Project will be dismantled or replaced as required to meet the needs of the large project construction schedule.

Similarly, the contracting strategy for the ERP will be developed in a manner that will not hinder the Approved Project contracting strategy, execution or operation. For reference, the 2013 Work Plan related to the Approved Project is shown in Appendix 3A.

SECTION 2.0 EARLY REVENUE PHASE – PROJECT DESCRIPTION

Individual scope items of the ERP are described in the following subsections. Appendix 3B presents the key facts summary for the ERP Project and the transition period to the larger Approved Project. Figure 3-2.1 presents a simplified flow diagram for the ERP.

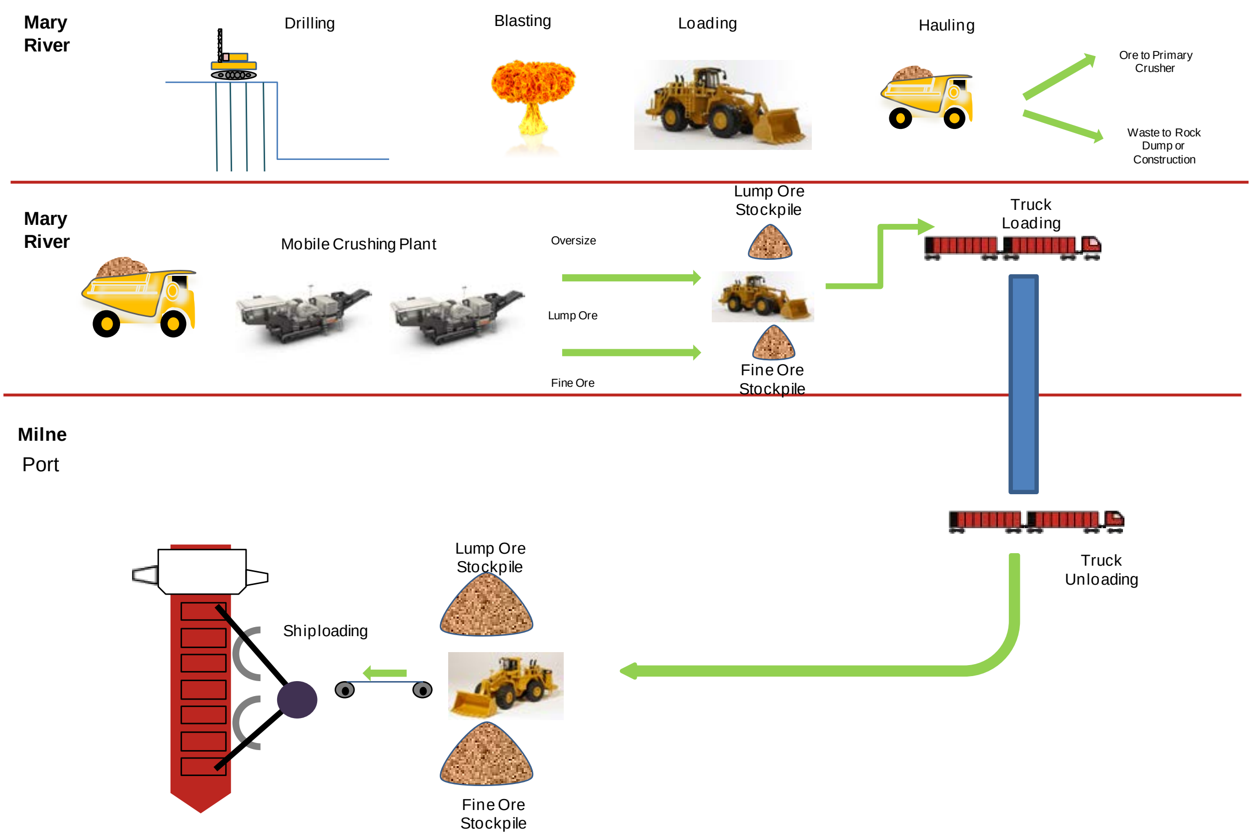


Figure 3-2.1 ERP Simplified Flow Diagram

2.1 Mining Plan and Equipment

For the ERP, the pit will be designed with 7.5 m benches mined in two lifts using a 5 m^3 excavator and a 10 m^3 front end loader to load a fleet of 90 t haul trucks. This activity will also require associated drills and support equipment. As Baffinland embarks on the Approved Project Phase, much larger mining equipment including drills, trucks and shovels will be used.

The mining plan for the ERP will focus in an area of the open-pit with a low stripping rate. Further production details are included in Table 3-2.1 (ore and waste rock production schedule). It is expected that the ERP will produce for five years on its own, after which time production from the Approved Project (18 Mt/a) will start and augment ERP production.

The ERP will produce at a rate of 3.5 Mt/a. However, it will be necessary to complete final commissioning of the ship loader at the beginning of the first open water shipping season such that first year ore shipping will be lower, 2 Mt/a. The ERP shipping profile is shown in Figure 3-2.2 in relation to the Approved Project. Additional details of the mining operation are provided in Section 4 of the ERP Project Description.

Table 3-2.1 Production Profile - Early Revenue Phase and Ramp-up of Approved Project

	Unit	2014	2015	2016	2017	2018	2019	2020	2021	2022 onwards
Ore mined	'000 t, dry	400	2,673	3,500	3,500	3,500	4,800	20,000	21,500	21,500
Waste mined	'000 t, dry	28	535	824	824	824	1,324	11,824	10,524	35,824
Material mined	'000 t, dry	428	3,208	4,324	4,324	4,324	6,124	31,824	32,024	57,324
Strip Ratio		0.1	0.2	0.2	0.2	0.2	0.3	0.6	0.5	1.7
Iron Ore Grade	%	66.2%	66.2%	66.2%	66.2%	66.2%	66.2%	65.8%	65.3%	64.9%
Ore Shipped	000 t, dry	-	2,000	3,500	3,500	3,500	4,373	21,500	21,500	21,500
Lump	000 t, dry	300	2,005	2,625	2,625	2,625	3,600	15,000	16,125	16,125
Fines	000 t, dry	100	668	875	875	875	1,200	5,000	5,375	5,375

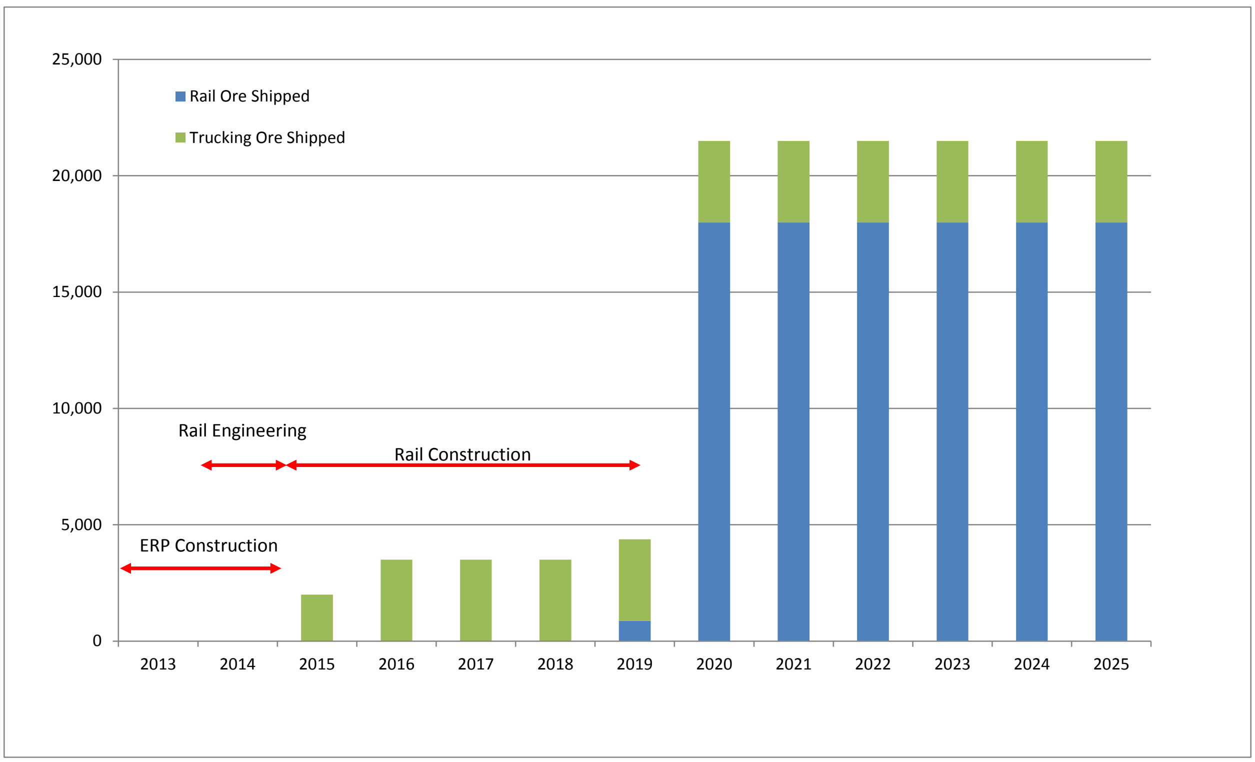


Figure 3-2.2 Annual Product Shipped (tonnes)

2.1.1 <u>Long Term Mine Pit Development</u>

The development of Deposit 1 is relatively straightforward and involves mining a hill crest, with waste being hauled to the west and north largely with flat and uphill hauls. Ore will be delivered to the primary crusher south of the deposit via an ex-pit east main haul road.

A significant volume of ore will be hauled downhill. The mine plans call for conventional open-pit mining methods utilizing 7.5 m benches.

Two products will be produced, lump and fines, with fines being material smaller than 6.3 mm. Initial bulk tests indicate that a ratio of 75 %:25 % lump to fines can be expected on average. Ore will be crushed and screened following delivery to the primary crusher and subsequently transported to customers without further processing.

Pre-Production Work

Because the ore body outcrops extensively there is no pre-stripping to speak of. Primary objectives of the pre-production period will be haul road construction for access to the crusher and waste rock dumps from the top of the pit. The haul road is designed as cut and fill to balance the fill with the cut material. All rock is to be sourced from within the pit, and roads are to be constructed from the top down, primarily using Baffinland mine production equipment.

Rock outcrops are to be taken advantage of but dozers will be required to clear off overburden so that only clean rock is used for road construction. Pioneering drills will also be required to establish drill pads/benches for the mine production drills.

Approximately 150,000 m^3 of rock drilling, blasting, and dozing is required for pioneering and bench preparation for waste and ore.

Pit Design

The pit design, cut sequencing, deposit formation, and site topography all provide for what should be a particularly efficient and flexible operation. ERP mining will occur on the outcrop and there will be no physical “mine pit” until the larger scale operation of the Approved Project is well underway.

For the ERP, the primary crusher will be located south of the deposit and ore will be hauled initially downhill from the north and top of the deposit on the east main haul road. The deposit outcrops with strip ratios below 0.5:1 for the initial years of operation and the topography will allow mine operators to access ore by building jump roads to the east ore haul ramp at multiple points. The general configuration of the mine pit, haul road and waste rock dump is presented in Figure 3-2.3.

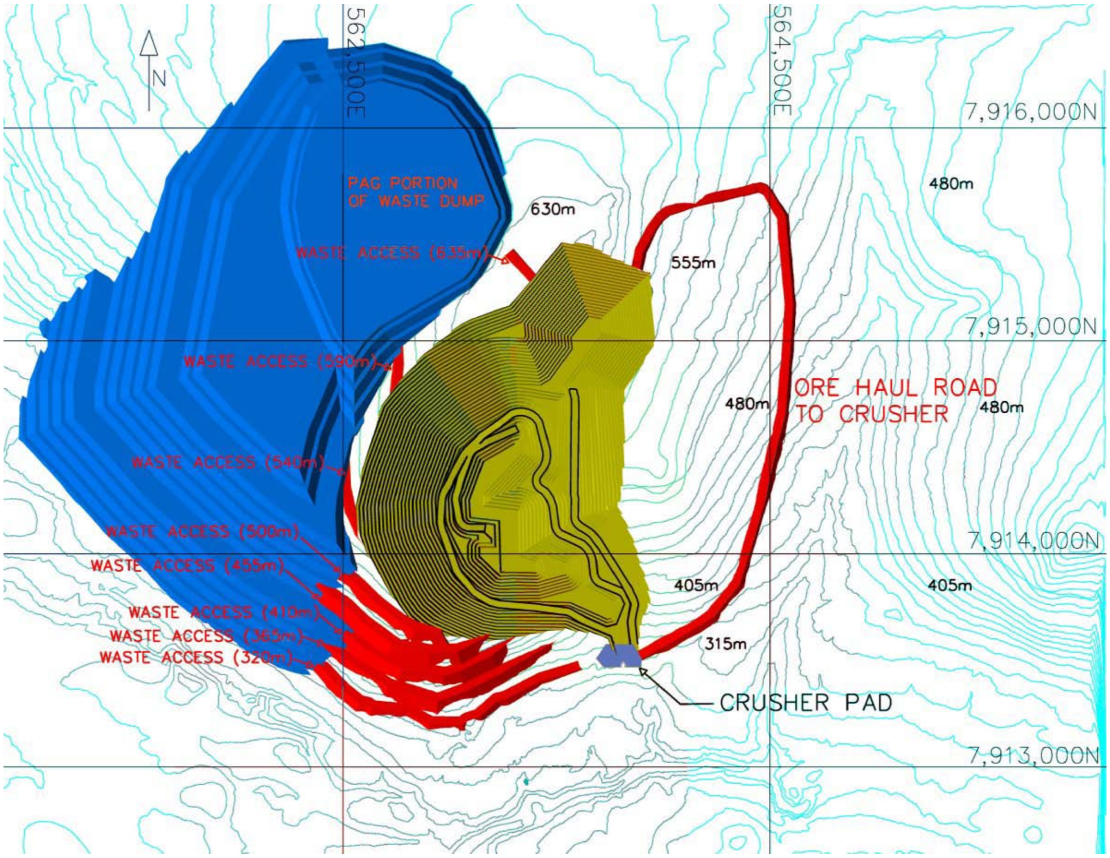


Figure 3-2.3 General Layout and Development of Deposit 1 Pit

2.1.2 Waste Rock Stockpile Planning

The Waste Rock Stockpile design has sufficient capacity to stockpile the entire volume of waste produced by the mine plan. Investigations into the possible occurrence and/or volume of potentially acid generating (PAG) waste rock are ongoing. However, for the purposes of producing a comprehensive waste dump design, Baffinland incorporated the estimated tonnage and sequencing as tabulated in the mine plan in the "Mary River Deposit 1 Resources and Mine Planning Report, October 2009" by Wahl and Gharapetian[6].

To facilitate efficient dump construction operations and to comply with typical hard-rock dump construction methods, final bench face heights will be in 7.5 m lifts. During construction higher dump heights may be considered to allow for long flat hauls, which are inherently operationally safer and more efficient than hauling on ramp grades.

Haul ramps for the waste stockpile will be similar in design to those within the pit and will be approximately 20 m wide at maximum 10 % grades. During the life of the waste rock stockpile, lifts will be accessed by temporary internal waste dump ramps constructed as required. The north end, PAG cell and Non-PAG cell, will be accessible from the in-pit ramp system and ex-pit ramp access roads/ramps.

2.1.3 Waste Rock Management Plan

Construction and operation of the waste rock stockpile is subject to the terms and conditions imposed by the Project Certificate No. 005, the pending Type A Water Licence and the pending Qikiqtani Inuit Association (QIA) commercial lease. The terms and conditions of the pending Type A Water Licence require Baffinland to submit an updated Waste Rock Management Plan prior to commencement of the mining operation. This revised Waste Rock Management Plan will include an update of the on-going geochemical waste rock characterization program.

Construction of the waste rock stockpile will begin during the ERP phase of the project. Waste rock not used for construction of the mine haul road will be discarded at this stockpile. As presented during the pending Type A Water Licence hearings and described in the approved Waste Rock Management Plan, surface water collection systems consisting of collection channels, diversion channels and settlement ponds will be implemented as part of the waste dump water management system. In addition to sediment control, these collection systems will minimize the introduction of water into the waste dump foundations, where standing water may adversely affect the thermal regime and, therefore, dump stability.

Runoff water quality will be monitored. As authorized under the pending Type A Water Licence, discharge from the sedimentation pond will be channeled to the Camp Lake Tributary and to Mary River. A comprehensive Aquatic Effects Monitoring Plan (AEMP) framework has been submitted to the Nunavut Water Board (NWB) for approval. The AEMP is designed to detect project-related impacts at temporal and spatial scales that are ecologically relevant (i.e., on a basin spatial scale). The program targets flows, general water and sediment quality, primary productivity (phytoplankton) and benthic community structure of the streams/lakes impacted by project activities. The implementation of the AEMP will enable Baffinland to validate the environmental effects predictions of the FEIS.

2.1.4 Mine Haul Road

For the ERP, the existing mine haul road will be upgraded using waste rock obtained from the open-pit as part of the open-pit development prior to the start of mining production. Otherwise, the waste rock from the open-pit development would be trucked to the waste dump and not serve any useful purpose. Only non-acid generating waste rock will be used for the haul road construction.

The total estimated length of the Haul Road is approximately 10 km from the open-pit to the primary crusher and the waste dump areas.

- Design Criteria:
  - Width three times the width of haul trucks (20 m);
  - Design speed: 50 km/h;
  - Maximum gradient: 10 %; and
  - Runaway lanes as required.

The Mine Haul Road will be constructed with a minimum granular fill thickness of 1.5 m. The road structure will consist of 300 mm surface course of Granular A, overlying a 300 mm layer of base fill, overlying a 900 mm layer of sub-base rock fill. Road structure will be reviewed upon completion of the geotechnical work for detailed design.

2.1.5 Crushing/Screening/Stockpiling at Mine Site

Two mobile, self-contained crushing units will be used for primary and secondary ore crushing and screening at the Mine Site. This equipment will not require concrete foundations or structural steel feed bins, except that a sacrificial ore pad will be prepared as a base for the ore stockpiling. The use of mobile crushing facilities will minimize interference with the eventual construction of the permanent facilities required for the Approved Project.

These mobile crushing/screening plants without a building enclosure are similar in concept to those used in the 2008 bulk sample by Baffinland and similar to those that will be used in the quarries for the Tote Road upgrade and the Approved Project.

The mobile crushing/screening units are designed to operate year round. The crusher trains will be equipped with one jaw crusher, one cone crusher, one primary screen and one secondary screen. After crushing and screening, the product will be reclaimed and loaded into tractor/trailer units for haulage to Milne Port.

The crushing and screening assembly will be located approximately 2.5 km south of the open-pit mine and connected by a 7 km road. The lump product (< 31.5 mm/>6.3 mm) and fines product (<6.3 mm) will discharge onto the lump collection conveyor and fines collection conveyor, respectively, for transfer to the local stockpiling area. Figure 3-2.4 presents a photograph of the mobile crushing train.

Figure 3-2.4 Example of Mobile Crusher Train

2.1.6 Stockpiling at Mary River

The lump/fine split is estimated to be approximately 75 %/25 % (±10 %). There will be minimal stockpiles at the Mine Site, consisting of up to seven days hauling requirements.

2.1.7 Stockpile Reclaim and Truck Loading at Mary River

Front end loaders will be used to reclaim the lump and fine material from their respective stockpiles and load approximately 150 t haul trucks with two trailers. The trucks will be positioned close to the stockpiles to minimize loader tramming time. Based on the 3.5 Mt/a shipping requirement and an assumed 330 hauling days per year to the port, a minimum loading rate of 420 tph is required. Thirty-five days are assumed lost for weather and road maintenance. The loaded haul trucks will be weighed on a truck scale prior to leaving the Mine Site for production control.

2.1.8 Road Haulage Equipment

The fleet of highway trucks will consist of a 600 HP tri-drive tractor and two identical side-tipping trailers with a combined payload of approximately 150 t. The trucks and trailers assembly will be custom conditions. Based on the simulation study, the truck cycle time between the Mine and the Milne Port will be approximately 280 minutes. A total of 20 road haulage trucks will be required to be in operation to deliver 3.5 Mt/a in the 330 operating days per year. The haul period will allow road maintenance activities during the spring freshet in May/June plus any lost days due to poor visibility during high winds and drifting snow during the winter.

The truck and trailer combination is a proven design in Arctic conditions over a similar haul distance. Figure 3-2.5 presents photographs of the ore trucks.

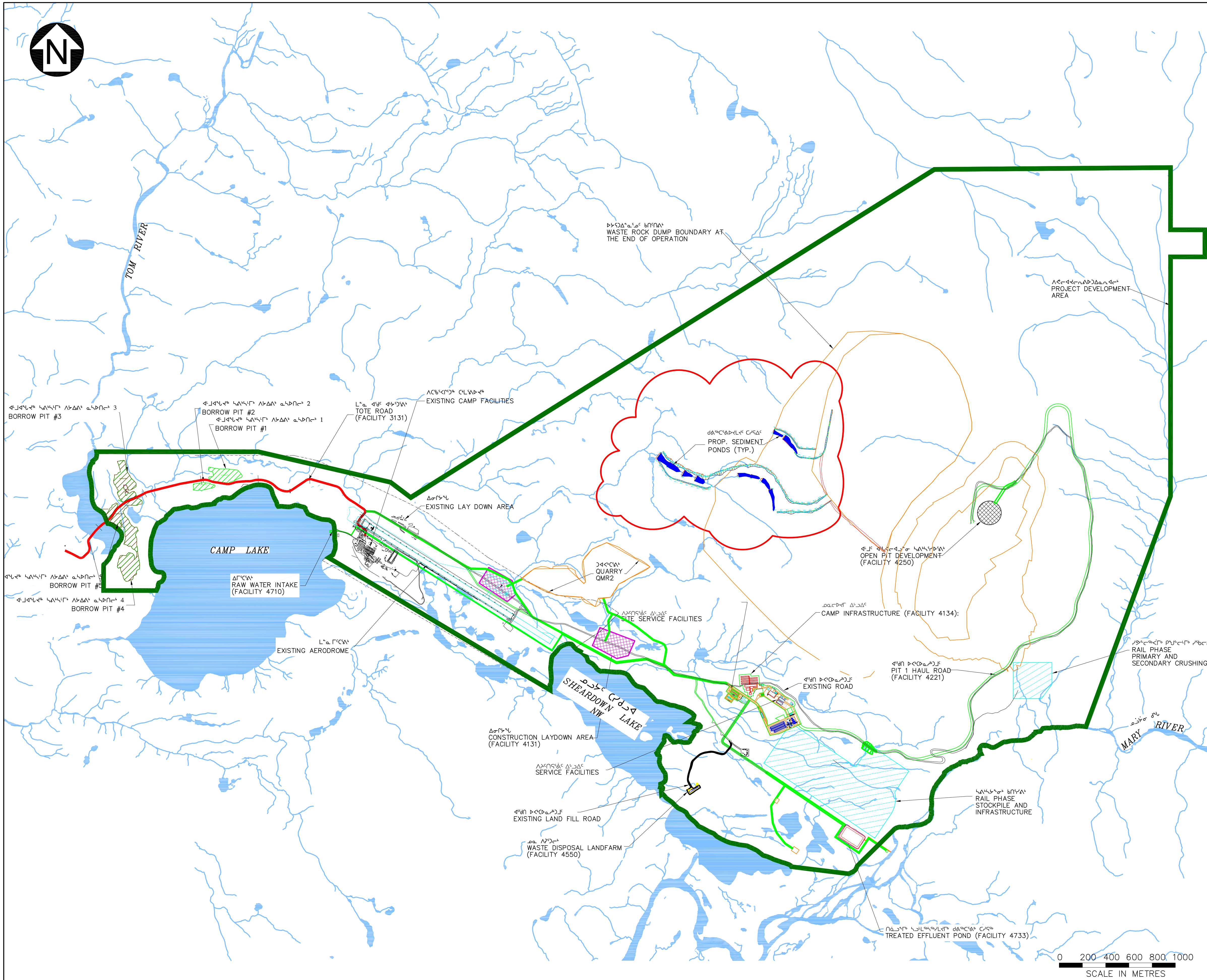
Figure 3-2.5 Examples of Ore Trucks

2.1.9 <u>Mine Site Development</u>

Figure 3-2.6 presents the site layout for the Mine Site for the ERP, while Figure 3-2.7 presents the Mine Site layout for the Approved Project. As stated above, the execution of the ERP is designed to complement the planned construction of the Approved Project facilities.

Keys project facts for the Mine Site are presented in Appendix 3B.

Site drainage and surface water management for the Mine Site for the ERP stage of the Project is addressed in the updated "Surface Water and Aquatic Ecosystems Management Plan" submitted to the Nunavut Water Board in support of the pending Type A Water Licence.



BAFFINALND IRON MINES CORPORATION

MARY RIVER PROJECT

End of 2015 Mine Site Layout - Transition to Approved Project

Baffinland

REF NO. BL ERP_Vol3_CAD_004

FIGURE 3-2.6

REV 0