Appendix E -
Omitted Sections for Deferred Steensby Port and Railway Corridor Construction

The following Sections pertaining to Construction and Operation Activities at Steensby Port and along the Railway Corridor have been omitted from the Surface Water and Aquatic Ecosystems Management Plan, *issued* March 31, 2014 and have been provided in this Appendix, as listed in the preceding revision (Rev. 01), *issued* September 6, 2013. Figures referenced in the following Sections have also been omitted from the updated Plan.

5.3.3 Surface Water Runoff Estimation – Steensby Port

Streamflow estimates presented in this section are based on site data collected during 2006 to 2008 and 2010 field seasons and regional data collected by Water Survey of Canada (WSC). A mean annual unit runoff for the Steensby Port area of 7.5 L/s/km2 was estimated based on hydrologic conditions (e.g. elevation, lake area, latitude, aspect etc.) at Steensby Port compared to hydrologic conditions at the monitored sites. The monthly flow distribution was estimated from flow records measured at streamflow gauging station BR137 during 2008 and 2010. Given this, surface water runoff rates were estimated for three watersheds in the Steensby Port area. These estimates are presented on Table 5-3 and the catchment areas are shown on Figure 5.4 in Appendix C. The runoff values indicate that runoff is negligible from November to May and runoff volumes are relatively high from June to September due to the high proportion of lakes in the area, which attenuate runoff patterns.

Table 5-3: Steensby Port Area – Estimated Catchment Runoff Rates

Catchment No.			SI-01	SI-02	SI-03
Catchment Area (km2)			13.68	21.77	1.99
Mean Annual Unit Runoff (l/s/km2)	7.6				
	Runoff Distribution	Unit Runoff Rate	Runoff Rate		
	(%MAUR)	(l/s/km2)	(m3/s)	(m3/s)	(m3/s)
January	0%	0.0	0.00	0.00	0.00
February	0%	0.0	0.00	0.00	0.00
March	0%	0.0	0.00	0.00	0.00
April	0%	0.0	0.00	0.00	0.00
May	0%	0.0	0.00	0.00	0.00
June	550%	41.8	0.57	0.91	0.08
July	310%	23.6	0.32	0.51	0.05
August	235%	17.9	0.24	0.39	0.04
September	100%	7.6	0.10	0.17	0.02
October	0%	0.0	0.00	0.00	0.00
November	0%	0.0	0.00	0.00	0.00
December	0%	0.0	0.00	0.00	0.00

Note:

1. The above runoff distribution was derived using data collected at hydrometric monitoring station H5. The distribution applies only to watersheds near Steensby Inlet with drainage areas less than 100 km2.

2. The above mean annual unit runoff was derived from data collected at hydrometric monitoring station BR137, located at the outlet of 10km Lake near Steensby.

5.3.4 Catchment Areas for the Milne Port Tote Road

Figure 5.6 in Appendix C presents the watershed catchment areas along the Milne Port Tote Road.

5.3.5 Catchment Areas for the Proposed Railway Corridor

Figure 5.5 in Appendix C presents the watershed catchment areas for the proposed railway corridor.

5.3.6 Water Supply

The project fresh water requirements are detailed in the Freshwater Supply, Sewage and Wastewater Management Plan.

6.4 Railway Construction

Figure 1.1 of the Borrow Pit and Quarry Management Plan presents the alignment of the railway along with locations of potential borrow sites and quarries, and, the location of the railway construction camps. The creek and river crossings subject to an authorization under the Fisheries Act or, an approval under the Navigable Waters Protection Act have been identified. The associated potential loss of fish habitat is the subject of Baffinland's Fish Habitat Compensation Plan (Appendix 10D-7). No construction is planned along the rail alignment during 2013.

6.4.1 Railway Construction Camps

Construction camps will be established along the railway alignment, one near the major crossing of Cockburn Lake and the other north of Cockburn Lake mid-way to Ravn River. These camps will have an occupancy ranging in the order of 100 to 200 people. Consideration is being given to locating two smaller construction camps at key bridge locations. A partial list of the facilities required for the construction and operation phases is presented in Table 6-3.

Table 6-3: List of Facilities for Railway

Temporary (Construction Phase)	Permanent (Operation Phase)
• Construction access roads	• Railway embankment
• Quarries and borrow sources	• Train loading and unloading facilities
• Construction camps	• Communication systems
• Refuelling depots at camps and quarries	• Tunnels, bridges
• Explosives magazines	• Rail sidings

6.4.2 Mitigation Measures

The Railway Camp Sites are not expected to have significant areas of disturbed soils and as such should not have sediment and erosion issues. The sites will be regularly monitored (Table 10-1). Where mitigation measures are required to control sediment and erosion they are selected and installed as previously discussed in Section 4.0, Mitigation Measures.

A minimum 100-metre naturally-vegetated buffer shall be maintained between the high-water mark of any fish-bearing water bodies and any permanent quarries with potential for acid rock drainage or metal leaching except where authorized by the authority having jurisdiction.

6.4.3 Railway Route and Tunnel

The railway will be constructed from Steensby Port by first building the construction access road, then establishing construction camps to facilitate construction of the railway from multiple faces. The location of proposed quarries, construction camps and the construction access road is shown on Figure 1.1 of the Borrow Pit and Quarry

Management Plan (Appendix 10D-6). A list of the facilities required for the construction and operation phases is presented in Table 6-3.

6.4.4 Water Crossings

A number of crossing structures are required along the route, including large bridges, smaller single-span bridges and culverts.

A hydraulic design study was carried out to assess suitable hydraulic design criteria for culverts and bridges in order to avoid flooding of the railway infrastructure or any unexpected damage to the adjacent ground (Dillon, 2008b). Culvert capacities and bridge locations were assessed using a river hydraulics analysis software package assuming an appropriate return period (as determined in the associated Hydrology Design Brief (Dillon, 2008c)) with an allowance made for ice accumulation.

The identification of appropriate engineering options for each crossing was carried out using a systematic decision making process to evaluate each of the 214 crossings presented in the Mary River Development Proposal (Baffinland, 2008). This process took into account engineering and environmental factors at each crossing location. Screening and detailed evaluations were performed to aid in determining the optimum site-specific crossing at each location (i.e., culvert or bridge). Decision-making criteria which were used included: potential impacts to freshwater aquatics, hydraulic conditions, ease of construction and cost.

A preliminary assignment of crossing structures for each drainage crossing along the railway has been completed. At the majority of locations corrugated steel pipe (CSP) culverts will be used. Alternatively, corrugated structural plate pipe (CSPP) culverts will be used, as required. Corrosion protection will be provided using rip rap.

In addition to major bridges, several shorter bridges will be required over smaller watercourses. These short bridges will likely be simple single-span structures. Standard arctic foundation construction techniques similar to those used in northern Canadian mining and infrastructure projects, such as embedding piles in bedrock or the use of ad-freeze piles, have been assumed. Additional geotechnical investigation is planned to facilitate the final foundation designs to be developed in the detailed design phase. Special consideration, especially for foundations, will also be given to the potential effects of climate change, which could increase the depth of the permafrost active layer.

Culverts have been designed in accordance with AREMA. Corrugated steel pipe is recommended for ease of construction and to avoid any major maintenance needs. In general, a minimum of 1-m cover shall be provided above all culverts.

Conceptual drawings of 24 bridges for the Mine Site, Cockburn Lake, Ravn River and BR-137 (un-named) watercourses are included in the EIS Volume 3, Project Description (Appendix C5). Several shorter bridges will be required over smaller watercourses and the majority of drainages to be crossed using culverts. Typical open deck single span bridges and culvert designs in thaw-stable and thaw-sensitive ground are also included.

6.4.5 Spoil Deposits for Railway

Spoil material excavated during the construction of the railway will be placed in deposits. This spoil material will consist of materials unsuitable for construction (i.e., silty and ice rich soils). The Spoil Deposits will be located and constructed with the following considerations:

Located in natural depressions or in spent quarries or borrow areas.

Located a minimum of 31m from all water bodies.

Constructed sufficiently far from the railway and road alignments to avoid changing the thermal regime of these structures.

6.4.6 Surface Water Direction and Quantity

The catchment areas for the Railway Route are shown on Figure 5.5 of the Appendix. The surface water along the corridor is ultimately directed to Cockburn River, Cockburn Lake, Ravn River and Angajurjualuk Lake. Specific surface water runoff quantities were not calculated for the transportation corridor due to the large catchment area and the minimal quantity of water required.

6.4.7 Mitigation Measures

Sediment and erosion control measures may be required and will be installed as per Section 4.0, Mitigation Measures. The site will be regularly monitored (Table 10-1). The stockpiles of spoil material will be located a minimum of 30 m from the normal high water mark of water bodies.

Fuel required will be transported in fuel drums or double walled day tanks. Drip pans are used under the tanks to prevent spills.

All bridges and culverts crossings have been designed for an appropriate hydraulic event return period with allowance made for ice accumulation.

For all construction works requiring the use of explosives in or near water, Baffinland and its EPCM contractor will adhere to the Guidelines for Use of Explosives In or Near Canadian Fisheries Waters.

For each stream/river crossing an assessment is made regarding the potential loss of fish habitat. Some of these crossings will result in the Harmful Alteration, Disruption or Destruction (HADD) of fish habitat under Section 35(2) of the Fisheries Act, and an authorization will be sought from the Department of Fisheries and Oceans. HADDs are expected at a portion of the watercourse crossings, for water intake and sewage outfalls. The compensation plan for the HADD is the subject of the Fish Habitat Compensation Plan.

A minimum 100-metre naturally-vegetated buffer shall be maintained between the high-water mark of any fish-bearing water bodies and any permanent quarries with potential for acid rock drainage or metal leaching except where authorized by the authority having jurisdiction.

6.4.8 Borrow Pits and Quarries Required for the Railway Construction

Locations of the potential borrow sites and rock quarries are shown in the “Quarry Management Plan” for the railway (Appendix 3B, Attachment 6). As stated in the EPP and the Borrow Pit and Quarry Management Plan, the following guidelines will be applied for sourcing borrow material and quarries:

- Surficial borrow materials will be obtained by stripping and excavation of the active layer.
- Processing of borrow materials will be limited to screening using a grizzly and segregation of material into temporary stockpiles.
- Excavation will not occur within 31 m of a watercourse, and seasonal drainage ways will be re-established during pit development.
- Rock quarries may be developed for various construction purposes.
- Rock will be obtained through drilling and blasting, and crushing if necessary.

- Quarrying will not occur within 31 m of a watercourse, and drainage will be re-established during quarry development.

Acid rock drainage (ARD) and metal leaching (ML) tests have been conducted on rock samples, with results indicating that, due to the physical environment and the geochemistry of the rock, ARD and ML are very unlikely to occur from quarry materials. If samples from any quarry indicate a potential to generate ARD then that quarry will not be developed.

6.5 Steensby Port

The Steensby Port and the locations of potential borrow pits and quarry sites are shown in the Type 'A' Water License application , Attachment 9 (FEIS, Appendix 3B) in the drawing titled 'Steensby Inlet Temporary Works Site Layout', Doc. No. H337697-4690-10-014-0001. An overview of the facilities required for the construction and operation phases is presented in Table 6-4. Although additional facilities may be added or decommissioned throughout the life of the Project, relevant mitigation measures will be incorporated as required in the design, construction and operation of such facilities. No construction work is planned during 2013.

Table 6-4: Overview of Facilities at Steensby Port

• Construction docks • Quarry and borrow sites, and related access roads • Concrete batch plant(s) • Bulk fuel storage and distribution facilities • Power plan • Construction workshops and maintenance shops • Warehouses/stores • Temporary power generators • Laydown areas/freight storage • Parking areas for construction fleet • Temporary fuel storage (iso-containers) • Explosives plant and magazines • Airstrip • Construction worker accommodation and related facilities	• Ore stockpiling facilities • Ore, freight and tug docks • Ship loading and unloading facilities • Cargo (container) handling facilities • Permanent worker accommodations • Rail shops and maintenance infrastructure • Buildings and offices • Communication systems • Site roads • Causeway • Laydown areas/freight storage • Water supply facilities • Waste management facilities • Navigational aids (shipping lane and port)

Runoff from areas of intense vehicular activities is susceptible to contamination from small spills/leakage from machinery and equipment. As a general rule, the mitigations measures identified in Section 4.0 will divert non contaminated runoff away from these areas. During the design and site preparation, efforts will be made to channel runoff from these areas to polishing ponds which will enable monitoring of runoff quality prior to discharge to the receiving environment. The discharge will be equipped with the appropriate erosion prevention measures and adequate silt containment structures as outlined in Section 4.0. Fuel storage, explosives storage, and hazardous substances storage will be confined within impermeable bermed structures (lined with geomembrane). Runoff from these contained areas will be collected in a sump and treated if required prior to release to the receiving environment.

6.5.1 Steensby Port Docks Construction

Construction Docks

To provide rapid and efficient unloading of a large volume of equipment and materials at Steensby Port early in the construction phase, two construction docks will be installed during the open water season in Year 1 of construction. One dock will be situated on the island to facilitate construction of the ore dock and ore handling systems, and the other on the mainland to support all other construction activities at Steensby Port.

The docks will be constructed by placing a concrete caisson out into the water, and backfilling a ramp or causeway to the caisson. Concrete caissons will have been mobilized to Steensby Port during the previous open water season. A level pad will be prepared for the caissons by placing aggregate, the caissons will be moved into place and ballasted (backfilled) with local aggregate. The ramp to the caissons will be constructed by placing and compacting local aggregate (refer to FEIS Volume 3, Project Description for construction dock details).

The docks will allow barges and shallow draft ships to go dockside and mobile handling equipment and cranes to operate from the dock. At the end of construction, the ballast will be removed from the caissons and the caissons removed for re-use at another location or disposal. The ramp will be left in place permanently, adding structure to the seabed and improving fish habitat.

Ore Dock

The ore dock will consist of a dock structure on discrete caissons. The dock will be constructed by blasting and dredging level pads for each of the caissons, placing and backfilling the caissons, and completing the dock superstructure. The levelling of the seabed at the -25 m contour will be carried out through blasting and dredging. Dredged materials are likely to be contained on barges until used as backfill. Concrete caissons will be floated into place and then backfilled with dredged and excavated materials as well as local aggregate.

In-water blasting will be carried out by an experienced contractor following a blasting plan to be developed and filed with the Department of Fisheries and Oceans, meeting their published overpressure guideline of 100 kPa.

Freight Dock

A freight dock to support the Project during the operation phase will be constructed. The freight dock will allow for the safe and efficient unloading of the large volumes of fuel, ammonium nitrate to manufacture explosives, and other consumables and replacement equipment to be delivered each year of operations.

The freight dock will be constructed by installing a row of four caissons for the dock face and backfilling behind the caissons to provide a large dock for turnaround of equipment. The dock will be constructed by placing fill to form level pads for each of the caissons, placing and backfilling the caissons with locally quarried aggregate, and completing the dock superstructure and backfilling the land side. Unlike the ore dock, construction of the freight dock will not involve underwater blasting.

The dock will have a minimum draft of -13 m below the low water level. In addition to a large working area for vehicles and cranes for off-loading, a fuel off-loading manifold will be located on the dock to allow for dock to shore fuel transfers.

Mitigation measures for dock construction

Construction of the docks will necessitate piling, installation of casing and backfilling. Detailed construction methods will be established by the EPCM contractor and the contractor undertaking the construction of the docks.

During construction of the docks, for all works requiring the use of explosives (blasting) in or near water bodies, the "Guidelines for Use of Explosives In or Near Canadian Fisheries Water, 1998" will be followed. For any locations where the guidelines cannot be conformed with, the DFO will be consulted prior to commencing blasting.

Bubble curtains may also be used to attenuate the noise generated during blasting and piling.

During dock construction (piling, backfilling), silt curtain may be used to prevent the dispersion of sediments in marine waters.

6.5.2 Crossing to Island

A causeway structure will be constructed to provide the necessary link between the ore dock, stockpiles and ship loading facilities on Steensby Island, and all other infrastructure on the mainland. The crossing structure will support conveyors that will move ore from the railway car dumper to the ore stockpiles on the island. The structure will also allow for the movement of vehicles between the island and the mainland.

The causeway will be built from both directions by placing blasted rock that is appropriately sized to withstand ice loading. Construction of the causeway will take place during the open water season, and no blasting will be required during its construction.

6.5.3 Contaminated Snow Pond and Contaminated Soil Landfarm

Lined ponds will be constructed to receive snow contaminated by accidental fuel and oil spills. Water will be collected from this pond during the summer month and treated, as required, to removal contaminants (refer to Appendix 10D-3, Fresh Water Supply, Sewage and Wastewater Management Plan, Oily water treatment).

A contaminated soil landfarm facility will be constructed to receive and treat hydrocarbon contaminated soils. Treated soils that meet appropriate criteria will be used as landfill cover material or other acceptable purposes.

6.5.4 Surface Water Direction and Quantity

The catchment areas for the Steensby Port are shown on Figure 5.4 of Appendix C. The surface water at the site ultimately reports to Steensby Port. The estimated surface water runoff quantities are shown on Table 4-3.

6.5.5 Mitigation Measures

Where appropriate, the environmental protection measures implemented during construction will be retained for the useful life of the facilities (until closure). Several sedimentation pond and drainage structures will be installed at the on-set of construction. During the operation period, the Steensby Port is not expected to have significant areas of disturbed soils and as such should not have sediment and erosion issues. The site is regularly monitored (Table 10-1). If mitigation measures are required to control sediment and erosion they are selected and installed as previously discussed Section 4.0, Mitigation Measures.

Shallow groundwater monitoring stations will be established downstream of major infrastructure (i.e., landfill, landfarm, etc.) to draw samples from the subsurface ~ 2 meter deep active zone to ensure that groundwater has not been impacted. Samples will be taken from the monitoring stations once a year during the period of greatest active zone thickness (late August). Standard well installation monitoring and sampling methods will be followed.

6.6 Bulk Fuel Storage Areas

During construction and operation, the handling and storage of fuel is one of the highest risks of potential impact to the receiving environment. The following section provides a brief overview of the bulk fuel facilities. Detailed

requirements for management of the bulk fuel depots are presented in the Emergency Response Plan, the Milne Port OPEP and the Steensby Port OPEP.

6.6.1 Description

Milne Port Fuel Delivery during Construction

Tankers of 10 to 20 ML capacity will enter Milne Inlet during the open water shipping season and fill the tank farm by the floating hose method. The ship to shore fuel transfer operation is subject of the Milne Port OPEP (Appendix 10C-2).

Milne Port Fuel Storage and Distribution

The existing 8 ML bladder fuel storage facility will be decommissioned and replaced with a new tank farm.

Local fuel use will be dispensed at the tank farm, and remote work sites along the road such as borrow areas will likely be serviced by positioning 20,000 L double-walled iso-containers with contained dispensing areas. Fuel will be transported to the Mine Site by 30,000 L capacity truck tankers over the Milne Inlet Tote Road.

Additional lined storage capacity will be added, if required, to contain additional bulk lubricating oils and antifreeze delivered by sealift.

Mine Site Fuel Storage and Distribution

The existing bladder farm will be decommissioned. A new tank farm will be constructed. The tank farms will be equipped with an engineered containment system lined with geosynthetic liners. Day-to-day refuelling of vehicles will be carried out at a fuel filling depot. Aircraft and the equipment in the pit will be refuelled using a fuel truck.

A separate diesel storage tank and dispensing facility will be provided for the mining equipment located at the mining area. Fuel trucks will be used to transport diesel fuel from the main tank farm to the mine storage tank.

Various diesel fuel day tanks ranging in size from 1,000 L to 40,000 L will be located across the mine site as required, such as the power plant, boilers, mine dry, water intake pump house, incinerator, and explosives emulsion plant. With the exception of remote locations such as the water pump house and explosives plant, the diesel day tanks will be supplied by the fuel distribution pipeline from the tank farm.

Jet fuel required for turbine engine aircraft and helicopters will be stored in a storage tank, located within a lined containment area.

Bulk antifreeze and heating glycol fluids will be stored in the power plant and maintenance complex. The storage capacities will be based on the anticipated consumption required for a minimum operating period of 12 months. The annual antifreeze quota will be stored in the same area as the lubricant storage tanks, based upon the following estimated requirements:

- Antifreeze (coolant) tank
- Power plant glycol initial fill of heat recovery and distribution systems.
- Building heating circuit.

The premixed glycol solution will be transported to the port by sea and then by rail to the mine where the system will be filled directly.

Lubricating oils for the power plant and maintenance shop will be stored in bulk tanks ranging in size from 12,000 L to 200,000 L. Waste oil will be collected in a common sump linked to a receiving tank from which it will be pumped to the above waste oil storage tanks. Every year, the waste oil will be sent back to the supplier for recycling. Approximately 1 ML of used lubricating oil will be produced annually, with approximately 440,000 L used for fuelling the secondary chamber of the incinerators and the remainder being shipped back south to a refinery for recycling.

A dedicated bulk fuel storage facility will store and dispense Aircraft fuel to fixed wing aircraft and helicopters. De-icing facilities, provided at the airstrip, will consist of a portable discharge pump for the application of de-icing fluid from 200 L drums. De-icing will be carried out to the side of the runway, with propylene glycol, a biodegradable fluid which requires no treatment. Alternately, aircraft may be refuelled directly from a mobile fuelling truck.

Fuel Transport to Mine Site for Operation Phase

Fuel will be re-supplied to the Mine Site using a fleet of tanker trucks capable of self-loading and discharging. The Mine Site tank farm will be re-supplied from the tank farm at Steensby Port; railway fuel cars will transport fuel to the mine on a weekly basis. A fuel unloading facility will be provided to facilitate quick unloading of diesel rail tankers, five at a time. This unloading facility will be mounted on a concrete spill containment pad equipped with a collection sump to contain fuel spills.

Fuel tanker cars will be used to transport fuel, and most freight will be transported in containers to facilitate handling from ship to shore to rail.

Railway Construction Phase - Fuel Storage and Distribution

The primary fuel storage supporting railway construction will be the large tank farms at the Mine Site and Steensby Port. Smaller temporary tank farms, consisting of multiple 20,000 L capacity double-walled iso-containers, will be established at construction camps, quarries and major bridge sites. These smaller tank farms will be re-supplied using tanker trucks. Equipment at the railway construction camps will be refueled using smaller fuel trucks.

Steensby Port Fuel Storage and Distribution

A large volume of fuel will be required at Steensby Port early in the construction phase. The development of fuel storage capacity at the port site will occur in stages.

Fuel will be brought in double-walled skid mounted 100,000 L capacity ISO tanks until the permanent tank farm is constructed and operational. Temporary storage for fuel will consist 2 ML in double-walled 100,000 L capacity ISO tanks. Secondary storage during this period, at quarries and other work areas, will consist of 20,000 L double-walled storage tanks.

The permanent tank farm will consist of four 40 ML capacity steel tanks. A pipeline will be installed from the tank farm to the permanent freight dock to allow for dockside fuel deliveries. Before the freight dock is constructed, the tank farm will be re-supplied from tankers using the floating hose fuel transfer method.

Ore carriers will not be re-fuelled at Steensby Port, and fuel will be delivered to the freight dock as part of normal operations. One 7.5 ML storage tank will nevertheless be located on Steensby Island to supply the tugs and ice management vessels. Fuel will be delivered to this table by truck from the main tank farm.

The main tank farm fuel system will distribute fuel to the following locations:

- Power plant
- Heavy and light equipment fuel pumps
- Heating boiler building
- Railcar fuel loading station.

In addition to the main tank farm, a number of day tanks will be required within the port site, ranging in size from 2,000 to 50,000 L in capacity and located in- and outside of the power plant, boiler building, at fuel dispensing stations for light vehicles, and the incinerator.

6.6.2 Mitigation Measures

Temporary and permanent storage facilities will be erected within a bermed and impermeable lined containment area in compliance with applicable regulations and best management practices. These containment areas will have a capacity of 110% of the largest tank. The design of tank farms is consistent with the document entitled "Design Rationale for Fuel Storage and Distribution Facilities" published by the Department of Public Works of the North West Territories. The lining within the bermed area is an impervious HDPE liner membrane.

Refuelling stations are equipped with a lined and bermed area to contain minor spills or leaks during refuelling. The liner (e.g., 40 mm hypolon liner or equivalent) is protected by sand bedding. Vehicles and mobile equipment drive onto this bedding for refuelling. All fuel transfer is done by pumps.

Smaller temporary tank farms and secondary storage consisting of multiple 20,000 L capacity double-walled iso-containers will be established at construction camps, quarries and major bridge sites. These smaller tank farms will be re-supplied using tanker trucks. Equipment at the railway construction fronts will be refuelled using smaller fuel trucks.

For each method of fuel storage and transfer, specific procedures related to fuel storage and transfer will be developed, and proper containment and emergency response equipment will be provided to meet or exceed regulatory requirements (Refer to EPP procedures, Appendix 10B). The Emergency and Spill Response Plan will govern land-based operations, and a Transport Canada approved Oil Handling Facility (OHF) Plan (Milne Port OPEP and Steensby Port OPEP) will govern ship to shore fuel transfers.

6.9 Ore Stockpile at Steensby Port

Ore will be transported to Steensby Port for shipment. The Mine Site and Steensby Port will have significant ore stockpiles (refer to EIS volume 3, Project Description). The locations of these stockpiles along with the water management structures associated with them are presented in the Type 'A' Water License application, Attachment 9 in the drawings numbers H337697-4210-10-014-0009 (Mine Site Proposed Drainage Works), and H337697-4610-07-042-0003 (Steensby Inlet Environmental Monitoring Plan Site Layout – Appendix 3B, FEIS).

At each location, the runoff from the ore stockpile will be routed to sedimentation pond prior to discharge to the receiving environment. The discharge will be subject to water quality as established in later sections of this management plan.

7.5 Railway Route

The railway will be used to transport iron ore from the mine site to the port located at Steensby Port, it will be approximately 150 km long. The basic design is for a heavy haul mineral railway, although the line will also carry some mixed general freight traffic to supply the mining operation. The proposed railway system will consist of:

- Rail line and embankment - including tunnels, bridges and sidings
- Crossings - across watercourses and drainages
- Yards and terminals - including rail loop, coupling and turn-around
- Supporting facilities - including maintenance and emergency facilities
- Train - including locomotives (engines) and cars
- Cargo
- Signalling and telecommunications.

7.5.1 Mitigation Measures

The railway corridor will be inspected weekly. Necessary repair to the railway bed, bridges, streams and creek crossings will be scheduled as required.

10.1 Routine Inspections

Routine inspections and water license monitoring is outlined in the table below.

Table 10-1: Routine Inspection and Monitoring

Site	Routine Inspection
Steensby Port facilities Rail camp locations	- Water management systems - Sediment and erosion control structures - Evidence of hydrocarbon staining or leaks from containment devices - Full-time supervision of fuel transfer operations - Water intakes - Flow meter readings - Rutting by vehicles
Railway Construction Road Railway	- Sediment and erosion control structures - Fuel leaks - Drip Pans and Equipment condition - Any rutting by vehicles
Spoil Deposit locations Tunnelling locations	- Sediment and erosion control structures - Evidence of hydrocarbon staining or leaks from containment devices - Fuel leaks - Drip Pans and Equipment condition - Rutting by vehicles
Borrow sites and rock quarries	- Evidence of hydrocarbon staining or leaks from containment devices - Full-time supervision of fuel transfer operations - Sediment and erosion control structures - Drip Pans and Equipment condition
Steensby Port	- Primary containment structure - Evidence of hydrocarbon staining or leaks from containment devices - Equipment condition - Spill kit
Steensby Port	- Primary containment structure - Access and security - Equipment condition - Rutting by vehicles

Site	Routine Inspection
The effects of the project on the permafrost along the railway and other project affected areas shall be monitored the integrity of the permafrost. Preventative measures will be undertaken to ensure that the integrity of the permafrost is maintained.	

The following Figures have been omitted from Surface Water and Aquatic Ecosystems Management Plan, *issued* March 31, 2014.

Figure 6 - Steensby Port Water Balance - Construction

Figure 7 - Steensby Port Water Balance – Operation