Project Memo

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TO: Concerned Parties FROM: R. MacCrimmon and K. Skebo

Baffinland Iron Mines
Mary River Project

Steensby Inlet Marine Structures - Construction Methodology

1. Ore Dock

- determine, prepare and install environmental mitigation measures required for suspended sediment control around construction areas such as silt-curtains
- determine, prepare and install environmental mitigation measures required for underwater noise reduction in the marine environment such as air bubble curtains
  - If required, warning noise generators will be installed.
- develop and Install network of monitoring buoys with appropriate sensors and data capture capability
- dredge overburden to - 23 m Chart Datum (CD) to bedrock at the ore dock and place material in designated areas on land
- excavate rock to elevation -24 m CD at the ore dock location and place material in designated areas.
  - Wildlife monitor(s) will be present at all times during blasting operations to ensure the safety of marine mammals.
  - Re-use any dredged material as fill where practical.
- prepare bed (mattress) of crushed rock under the footprint of the ore dock, surface at -23 m CD
- prepare anchor points, float in prefabricated dock elements and sink in place onto the mattress
- fill the placed elements with ballast material such as rock or other suitable granular material
- fill land side area of the dock to provide a link to the mainland for the conveyor supports
- if necessary, complete details such as rails, lighting, berthing and mooring equipment (bollards, fenders, ladders, etc.)
- install and commission the equipment including but not limited to conveyors and shiploaders
- complete dredging and rock excavation adjacent to the ore dock as necessary for navigation

- install scour protection adjacent to the ore dock
- remove any environmental mitigation measures.

2. Knoll (a Highspot Approximately 500 m North of the Ore Dock)

- determine, prepare and install environmental mitigation measures for suspended sediment control around construction areas such as silt - and air curtains
- complete dredging and rock excavation to elevations -23 m CD
- place dredge material in designated areas
- remove any environmental mitigation measures.

3. Freight Dock

- determine, prepare and install environmental mitigation measures for suspended sediment control around construction areas such as a silt-curtain
- dredge material to a depth that allows for a sound wharf structure to be constructed
- place dredged material in the designated areas
- install sheet piled wharf structure and required environmental control measures (e.g. storm water piping system including oil water separators, water tight fueling system connection chamber, etc) for use during operations
- remove onshore rock to construct dock staging area and, if suitable, use for engineering fill behind the dock
- remove any environmental mitigation measures
- place concrete slabs at the face of the wharf to create 30 m wide stroke
- finish area behind the concrete slab with gravel topping
- place railway line to dock face
- if necessary, install bollards, fenders, ladders, navigational lights on dock corners, guard rail, lights, office building, fencing and fuel line system.

4. Mainland to Island Link - Causeway

- determine, prepare and install environmental mitigation measures (if required) for suspended sediment control around construction areas such as silt curtains
- quarry onshore rock and transport to causeway
- place and push rockfill from mainland to island to create causeway
- place appropriate rock materials
- remove any environmental mitigation measures (if required).

5. Construction Docks (Steensby and Milne)

- place blasting mats on shore
- beach floating barges on the blasting mats
- place rockfill ramp to barge
- place anchors and / or spuds to hold floating barges in place.

RAM, KS:VML