

APPENDIX 2C
ERP – ENVIRONMENTAL INTERACTION MATRICES

TABLE 2C-1	MILNE PORT (Change)
TABLE 2C-2	MILNE INLET TOTE ROAD (Change)
TABLE 2C-3	MINE SITE (Change)
TABLE 2C-4	RAILWAY (No Change)
TABLE 2C-5	STEENSBY DCFH (No Change)
TABLE 2C-6	SHIPPING (Change)
TABLE 2C-7	SOCIO-ECONOMIC COMPONENTS (Change)

TABLE 2C-1

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

EFFECTS INTERACTION MATRIX - MILNE PORT

[illegible]

Impact Ratings:

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TABLE 2C-2

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

EFFECTS INTERACTION MATRIX - MILNE INLET TOTE ROAD

	KEY INDICATORS	ATMOSPHERIC			TERRESTRIAL			FRESHWATER AQUATIC LIFE AND HABITAT			MARINE			SOCIO-ECONOMIC																	
		Air quality	Noise	Vibration	Sensitive Landforms	Soil	Vegetation health	Plants important to fruit, where they occur	Biodiversity	Peregrine falcon	Red-throated loon	Elder	Snow geese	Caribou	Hydrology	Water and sediment quality	Freshwater fish and fish habitat	Physical oceanography	Chemical oceanography	Sea ice	Port site marine habitat	Coastal fish communities	Ringed seal	Bowhead whale	Beluga whale	Narwhal	Walrus	Polar bear	Marine birds	Cultural resources (archaeological sites)	
	Tote Road - Facility or Activity																														
Construction	Items Assessed in FEIS																														
	Laydown areas (temporary): cleared land for storage of construction materials	0	0	0	1	2	2	2	2	0	1	1	1	0		1	1	1												2	
	Vegetation clearing/ stripping: for footprint of all facilities and roads	1	1	0	1	2	2	2	2	0	1	1	2	2		1	1	1												2	
	Aggregate sources/ borrow sites (permanent): drilling, blasting, extraction, hauling	2	2	2	2	2	2	2	2	1	2	2	2	2		1	2	1												2	
	Earth moving: excavation, drilling, grading, trenching, backfilling	2	2	2	2	2	2	2	2	0	1	1	1	1		1	1	1												2	
	Explosives storage and use (temporary): construction of a temporary facility, blasting	2	2	2	1	2	2	2	2	0	0	0	0	0		1	2	2				N/A								2	
	Equipment and vehicle use: heavy machinery and trucks	2	2	1	0	2	2	2	2	1	1	1	1	1		0	1	0												2	
	Construction of roads: including riparian clearing, dust suppression, and bridge and culvert installation	2	2	1	2	2	2	2	2	1	1	1	2	1		2	2	2												2	
	Road usage	2	2	1	1	1	1	1	1	1	1	1	1	2		2	1	2												1	
	Spills and emergency management	1	1	0	1	1	1	1	1	0	1	1	1	0		0	2	1												0	
	Hazardous materials handling and storage	1	1	0	1	1	1	1	1	0	0	0	0	0		0	2	0												0	
	Water use and management: ditching, ponding, berms, snow clearing and stockpiling	1	1	0	2	2	2	1	2	0	1	1	1	1		2	2	2												2	
	Additional Items Assessed in ERP Submission																														
	Additional upgrades to Tote Road	2	2	2	2	2	2	2	1	1	1	1	1	1		1	1	1													
Additional borrow sources and quarries used for material	2	2	2	2	2	2	2	1	1	1	1	1	1		1	2	1														
Operation	Items Assessed in FEIS																														
	Road usage	2	2	0	1	0	1	0	1	1	1	1	1	2		0	1	2												1	
	Spills and emergency management	0	0	0	0	1	0	0	0	0	1	1	1	0		0	2	0												0	
	Hazardous materials handling and storage	1	1	0	0	0	0	0	0	0	0	0	0	0		0	2	0												0	
	Water use and management including snow management and stockpiling	1	1	0	1	1	1	1	1	0	1	1	1	1		1	2	2													
Additional Items Assessed in ERP Submission																															
Haulage of iron ore along the Tote Road	1	1	0	1	1	1	1	1	1	1	1	1	1	1		0	1	1													
Decommissioning	Items Assessed in FEIS																														
	Facility/ road dismantling: including dismantling and removal of infrastructure, demolition, drainage restoration, excavation and backfilling/ plugging, waste management, and ground restoration	2	2	1	2	2	2	1	2	1	2	2	2	1		2	1	2												1	
	Additional Items Assessed in ERP Submission																														
none	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0														

S:\Baffinland\ERP Drafts\Volume 2 - Consultation, Regulatory Framework\Appendices\Appendix 2C\ERP - Tables 2C-1 to 2C7 Effects Interactions Matrices May 23 CK.xls\2C-2 Tote Road
10-Jun-13

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TABLE 2C-3
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT
EFFECTS INTERACTION MATRIX - MINE SITE

		KEY INDICATORS		ATMOSPHERIC		TERRESTRIAL		FRESHWATER AQUATIC LIFE AND HABITAT		MARINE		SOCIO-ECONOMIC																		
		Air quality	Noise	Vibration	Sensitive Landforms	Soil	Vegetation health	Plants important to Inuit, where they occur	Biodiversity	Peregrine falcon	Red-throated loon	Elder	Snow geese	Caribou	Hydrology	Water and sediment quality	Freshwater fish and fish habitat	Physical oceanography	Chemical oceanography	Sea ice	Port site marine habitat	Coastal fish communities	Ringed seal	Bowhead whale	Beluga whale	Narwhal	Walrus	Polar bear	Marine birds	Cultural resources (archaeological sites)
Mine Site - Facility or Activity																														
Construction	Items Assessed in FEIS																													
	Open pit mining: stripping, excavation, drilling, blasting, heavy machinery.	2	2	1	0	2	2	2	2	2	1	1	1	2		2	2	2											0	
	Ore crushing; grading, construction of facility.	2	2	1	0	2	2	2	2	1	1	1	1	1		0	2	0											0	
	Waste rock management facilities: earth moving, heavy machinery use, grading.	2	2	1	0	2	2	2	2	1	1	1	1	1		2	2	2											0	
	Laydown areas (temporary): cleared land for storage of construction materials.	1	1	0	1	2	2	2	2	1	1	1	1	1		1	1	1											0	
	Camp and related facilities (permanent): construction of Project buildings.	1	1	1	0	2	2	2	2	1	1	1	1	2		2	2	1											1	
	Aggregate sources/ borrow sites (permanent): drilling, blasting, extraction, hauling.	2	2	2	2	2	2	2	2	1	1	1	1	2		1	2	1											0	
	Airstrip (permanent): land clearing, blasting, installation of lights.	1	1	1	1	2	2	2	2	1	1	1	2	2		1	1	1											0	
	Communications systems (permanent): installation of towers.	1	1	0	1	2	2	1	2	1	1	1	1	1		0	1	1											0	
	Fuel storage and distribution (permanent): construction of bermed facility, operation of trucks.	1	1	0	2	2	1	1	1	1	1	1	1	0		0	2	1											0	
	Concrete production (temporary): facility, production, waste.	1	1	0	0	2	1	1	1	0	1	1	1	0		2	2	2											0	
	Equipment and vehicle use: heavy machinery and trucks.	2	2	1	0	2	2	2	2	1	1	1	1	2		0	1	0			N/A								1	
	Vegetation clearing/ stripping: for footprint of all facilities and roads.	1	1	0	1	2	2	2	2	1	2	2	2	2		1	1	1											1	
	Explosives storage and use (temporary): construction of a temporary facility, blasting.	2	2	2	1	2	2	2	2	0	0	0	0	0		0	2	2											0	
	Earth moving: excavation, drilling, grading, trenching, backfilling.	2	2	2	2	2	2	2	2	1	2	2	2	1		1	1	1											0	
	Spills and emergency management	1	1	0	1	1	1	1	1	0	1	1	1	0		0	2	1											0.2	
	Waste management: garbage and sewage waste facilities.	2	1	1	2	2	2	2	2	0	0	0	0	0		1	2	2											0	
	Hazardous materials handling and storage	1	1	0	1	1	1	1	1	0	0	0	0	0		0	2	0											0	
	Construction of roads: land clearing and road installation, water body crossings.	2	2	1	2	2	2	2	2	1	2	2	2	2		2	2	2											0	
	Power generation and distribution: installation of surface structures, land clearing.	2	2	1	2	2	2	2	2	1	1	1	1	1		0	1	0											0	
	Water use and management: ditching, ponding, berms, snow clearing and stockpiling.	1	1	0	2	2	2	2	2	0	1	1	1	1		2	2	2											0	
	Additional Items Assessed in ERP Submission																													
	None - All ERP activities are within scope of Mine Site development.	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0												0
Operation	Items Assessed in FEIS																													
	Camp and related facilities.	2	2	0	1	0	1	0	0	1	2	2	2	2		2	2	1											0	
	Open pit mining.	2	2	0	1	1	1	0	1	2	1	1	1	2		2	2	2											0	
	Ore stockpiles and transport.	2	2	0	2	2	2	1	0	1	1	1	1	1		2	2	2											0	
	Ore crushing.	1	2	0	0	2	2	1	0	1	1	1	1	1		0	1	0											0	
	Airstrip.	1	1	0	0	0	1	0	0	1	1	1	2	1		0	1	0											0	
	Communications systems.	0	0	0	0	0	0	0	0	1	1	1	2	1		0	1	0											0	
	Fuel storage and distribution.	0	0	0	0	0	0	0	0	1	1	1	1	0		0	2	0											0	
	Equipment, vehicle and aircraft use.	2	2	0	1	0	1	0	0	1	1	1	1	2		0	1	0											0	
	Barge and ship traffic.	2	2	0	0	0	0	0	0	0	0	0	0	1		0	0	0											0	
	Waste and wastewater management.	2	1	0	0	2	1	0	0	0	0	0	0	0		2	2	2											0	
	Spills and emergency management.	0	0	0	0	1	1	0	1	0	1	1	1	0		0	2	0											0	
	Hazardous materials handling and storage.	1	1	0	0	1	1	1	1	0	0	0	0	0		0	2	0											0	
Road usage.	2	2	1	1	1	1	1	1	1	1	1	1	2		0	1	0											0		
Power generation and distribution.	2	2	0	0	0	0	0	0	1	1	1	1	0		0	1	0											0		
Water use and management including snow management and stockpiling.	1	1	0	1	1	1	0	1	0	0	0	0	1		1	2	2											0		
Additional Items Assessed in ERP Submission																														
Loading of ore into trucks.	1	1	0	0	0	0	0	0	0	0	0	0	0		2	2	2												0	
Larger maintenance facility for maintenance of truck fleet.	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0												0	
Increase in water consumption during operation.	0	0	0	0	0	0	0	0	0	0	0	0	0		2	2	2												0	
Increase in treated sewage disposal at the Mary river.	0	0	0	0	0	0	0	0	0	0	0	0	0		2	2	2												0	
Decommissioning	Items Assessed in FEIS																													
	Mine site facilities: including open pit closure, waste rock storage facility restoration, dismantling and removal of infrastructure, drainage restoration, backfilling/plugging, waste management, ground restoration and revegetation.	2	2	1	2	1	1	1	1	1	2	2	2	1		1	1	1			N/A								1	
	Additional Items Assessed in ERP Submission																													
None	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0													

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TABLE 2C-6
BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT
EFFECTS INTERACTION MATRIX - SHIPPING

	KEY INDICATORS																														
	ATMOSPHERIC																														
	Air quality	Noise	Vibration	TERRESTRIAL												FRESHWATER AQUATIC LIFE AND HABITAT												MARINE			
				Sensitive Landforms	Soil	Vegetation health, wildlife habitat	Plants important to Inuit, where they occur	Biodiversity	Peregrine falcon	Red-throated loon	Elder	Snow geese	Caribou	Hydrology	Water and sediment quality	Freshwater fish and fish habitat	Physical oceanography	Chemical oceanography	Sea ice	Port site marine habitat	Coastal fish communities	Ringed seal	Bowhead whale	Beluga whale	Narwhal	Walrus	Polar bear	Marine birds	SOCIO-ECONOMIC	Archaeological and cultural historic sites	
	Shipping - Facility or Activity																														
Construction	Items Assessed in FEIS																														
	Sealift of equipment and materials to site.																														
	barges to Milne Port (open water only)	1	2	0	0	0	0	0	0	2	2	2	0		0	0	0	0	2	0	2	2	2	2	2	2	2	2	1	0	
	barges to Steensby Inlet port (open water only)	1	2	0	0	0	0	0	0	0	2	2	2	0		0	0	0	0	2	0	2	2	2	2	2	2	2	2	1	0
	Additional Items Assessed in ERP Submission																														
	none																														
Operation	Items Assessed in FEIS																														
	Ore shipment off-site to smelters.												0																		
	ships from Milne Port (open water)	2	2	0	0	0	0	0	0	2	2	1	0		0	0	0	0	2	0	2	2	2	2	2	2	2	2	1	0	
	ships from Steensby Port (open water)	2	2	0	0	0	0	0	0	2	2	1	0		0	0	0	0	2	0	2	2	2	2	2	2	2	2	1	0	
	icebreaking ships from Steensby Inlet (winter)	2	2	0	0	0	0	0	0	0	0	0	1		0	0	0	0	2	0	2	2	2	2	2	2	2	2	1	0	
	Additional Items Assessed in ERP Submission																														
	Ore carriers from - shipping from Milne Port																														
	2	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	2	2	2	2	2	2	2	2	2	2			
Additional Items Assessed in ERP Submission																															
none																															
Decommissioning	Items Assessed in FEIS																														
	Sealift removal of equipment and materials.	1	1	0	0	0	0	0	0	2	2	2	1		0	0	0	0	2	0	2	2	2	2	2	2	2	2	1	0	
	Additional Items Assessed in ERP Submission																														
	none																														

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TABLE 2C-7

BAFFINLAND IRON MINES CORPORATION
MARY RIVER PROJECT

INTERACTION MATRIX - SOCIO-ECONOMIC COMPONENTS

Project Component	SOCIO-ECONOMIC	Population Demographics	Education & Training	Livelihood and Employment	Economic development & self-reliance	Human Health & Well-Being	Community Infrastructure & Public Service	Cultural Resources (archaeology)	Resources and Land Use	Cultural Well-being	Contracting & business opportunities	Benefits, Royalty & Taxation	Governance & Leadership
Jobs													
Employment		2	2	2	2	2	2	0	2	1	1	0	0
Payment of wages and salary		1	2	2	2	2	1	0	2	1	2	0	0
Training													
Orientation and training		0	2	0	2	1	1	0	0	1	0	0	0
Procurement													
Procurement of goods and services from RSA/LSA		1	0	0	2	0	0	0	0	1	2	0	0
Project Construction and Operations													
Milne Port		0	0	0	0	0	0	2	2	0	0	0	0
Milne Inlet Tote Road		0	0	0	0	0	1	2	2	0	0	0	0
Mine Site		0	0	0	0	0	0	2	2	0	0	0	0
Railway		0	0	0	0	0	0	2	2	0	0	0	0
Steensby Port		0	0	0	0	0	0	2	2	0	0	0	0
Shipping		0	0	0	1	0	0	2	2	0	0	0	0
Temporary closure		0	0	1	1	0	0	1	1	1	0	0	0
Final closure		0	0	1	1	0	0	2	2	0	0	0	0
Payment of taxes and royalties													
Payments to government		1	0	0	2	0	1	0	0	0	0	2	1
Payments to private organizations (NTI, QIA)		1	0	0	2	0	0	0	0	0	0	1	0

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