APPENDIX I

EFFECTS EVALUATION CRITERIA AND RESULTS

Table I.1 Ratings for Evaluating Residual Water Quantity Impacts

Criteria	Classification	
Magnitude (Specific to the VEC and the impact)	Level 0	An effect on the Indicator/VEC that is less than quantifiable limits
	Level I	An effect on the Indicator/VEC that results in a change that is less than threshold value(s)
	Level II	An effect on the Indicator/VEC that results in a change that is greater than threshold value(s)
	Level III	An effect on the Indicator/VEC that results in a change that is five times greater than threshold value(s)
Extent The physical extent of the effect, relative to study area boundaries	Level I	The effect applies to less than 1 km of channel or occurs within a watershed less than 10 km^2 in size
	Level II	The effect applies to less than 10 km of channel or occurs in a watershed less than 100 km^2 in size
	Level III	The effect applies to more than 10 km of channel or occurs in a watershed greater than 100 km^2 in size
Duration The length of time over which a Project effect will occur	Level I	Short term (up to the end of construction of the Project, 4 years)
	Level II	Medium term (up to the end of Decommissioning of the Project, 28 years)
	Level III	Long term (beyond the life of the Project) or permanent
Frequency How often the effect occurs	Level I	Infrequent - rarely occurring
	Level II	Frequent - intermittently occurring
	Level III	Continuous
Reversibility The likelihood of the VEC to recover from the effect	Level I	Fully reversible after activity is complete
	Level II	Partially reversible after activity is complete
	Level III	Non-reversible after activity is complete
Qualifiers		
Certainty Limitations in the overall understanding of the ecosystem and ability to predict future conditions	High	Baseline data is comprehensive; predictions are based on quantitative data; effect relationship is well understood
	Medium	Intermediate degree of confidence between high and low
	Low	Baseline data are limited; predictions are based on qualitative data ; effect relationship is not well understood
Probability The likelihood that the predicted impact/residual effect will occur	Unlikely	Less than 20 % likelihood of occurrence
	Moderate	Between 20 and 60 % likelihood of occurrence
	Likely	Over 60 % likelihood of occurrence

Table I.2 Water Quantity 2014 Effects Assessment Summary

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level
Project Activity	**Direction and Nature of Interaction**	**2014 Activities**	**Magnitude**	**Extent**	**Duration**	**Frequency**	**Reversibility**		
Milne Port									
Water Withdrawal from Km 32 Lake (Milne Port Camp)	Reduction in Under-Ice Water Volume	Withdrawal volume as per approved Project.	Level I	Level I	Level II	Level III	Level I	Within FEIS predictions	3
	Reduction in Downstream Discharge	Withdrawal volume as per approved Project.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
Tote Road – No potential impacts related to water quantity.									
Mine Site									
MR-08: West Waste Rock Stockpile Diversion	Reduction in Downstream Discharge	No 2014 activities.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
MR-08: Open Pit Diversion	Reduction in Downstream Discharge		N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
MR-10: West Waste Rock Stockpile Diversion	Decrease in Downstream Discharge	No 2014 activities.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
MR-10: Open Pit Diversion	Reduction in Downstream Discharge		N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
MR-10: West Waste Rock Pond Treated Effluent Discharge	Increase in Downstream Discharge	No 2014 activities.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
MR-10: Effluent Discharge and West Waste Rock Stockpile and Open Pit Diversions	Combined Change in Discharge	No 2014 activities.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level
Project Activity	**Direction and Nature of Interaction**	**2014 Activities**	**Magnitude**	**Extent**	**Duration**	**Frequency**	**Reversibility**		
Camp Lake: Water Withdrawal	Reduction in Under-Ice Lake Volume	Withdrawal volume as per approved Project.	Level I	Level I	Level II	Level III	Level I	Within FEIS predictions	2
Camp Lake: Water Withdrawal	Reduction in Downstream Discharge		Level I	Level I	Level II	Level III	Level I	Within FEIS predictions	2
Camp Lake: Water Withdrawal and Upstream Water Quantity Effects	Combined Change in Discharge		Level I	Level I	Level III	Level III	Level I	Within FEIS predictions	2
MR-07: Waste Rock Stockpile Diversion	Decrease in Downstream Discharge	No 2014 activities.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
Tom River Watershed: Upstream Effects to Water Quantity	Change in Downstream Discharge		N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
MR-12: East Waste Rock Stockpile Diversion	Decrease in Downstream Discharge	Construction and installation of waste rock/open pit haul road, waste rock pad as per approved Project.	Level I	Level I	Level III	Level III	Level I	Within FEIS predictions	2
MR-12: Open Pit Diversion	Decrease in Downstream Discharge		Level I	Level I	Level III	Level III	Level III	Within FEIS predictions	2
MR-12: East Waste Rock Pond Treated Effluent Discharge	Increase in Downstream Discharge	Construction and installation of the drainage ditches and settling pond (MS-MRY-10) as per approved Project.	Level II	Level II	Level III	Level III	Level I	Within FEIS predictions	2
MR-12: Effluent Discharge and East Waste Rock Stockpile and Open Pit Diversions	Combined Change in Discharge	Construction and installation of the drainage ditches and settling pond (MS-MRY-10) as per the approved Project.	Level I	Level II	Level II	Level III	Level I	Within FEIS predictions	2

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level
Project Activity	**Direction and Nature of Interaction**	**2014 Activities**	**Magnitude**	**Extent**	**Duration**	**Frequency**	**Reversibility**		
SDL Tributary 1: Open Pit Diversion	Decrease in Downstream Discharge	Mine site development as per the approved Project including: - Installation and commissioning of services buildings including: maintenance shop, warehouse, welding shop, workshop, wastewater treatment plant and washer buildings - Construction of the accommodations complex - Installation of power generation systems - Construction of the emulsion plant and improvement to the plant/landfill access road - Construction of the haul road to the open pit	Level II	Level I	Level III	Level III	Level III	Within FEIS predictions	2
SDL Tributary 1: Ore Stockpile Platform Diversion	Decrease in Downstream Discharge		Level II	Level I	Level II	Level III	Level I	Within FEIS predictions	2
SDL Tributary 1: Open Pit and Ore Stockpile Platform Diversions	Net Change in Downstream Discharge		Level II	Level I	Level II	Level III	Level I	Within FEIS predictions	2
SDL Tributary 9: Ore Stockpile Platform Diversions	Decrease in Downstream Discharge		Level II	Level I	Level II	Level III	Level I	Within FEIS predictions	2
SDL Tributary 12: Ore Stockpile Platform Diversions	Decrease in Downstream Discharge		Level II	Level I	Level II	Level III	Level I	Within FEIS predictions	2
MR-16: Open Pit Diversion	Decrease in Downstream Discharge		Level II	Level I	Level III	Level III	Level III	Within FEIS predictions	2
MR-16: Ore Stockpile Platform Diversions	Decrease in Downstream Discharge		Level I	Level I	Level II	Level III	Level I	Within FEIS predictions	2
MR-16: Open Pit and Ore Stockpile Platform Diversions	Combined Change in Downstream Discharge		Level II	Level I	Level II	Level II	Level I	Within FEIS predictions	2

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level
Project Activity	Direction and Nature of Interaction	2014 Activities	Magnitude	Extent	Duration	Frequency	Reversibility		
Mary River Watershed: Open Pit Diversion	Decrease in Downstream Discharge	No 2014 activities.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
Mary River Watershed: Waste Rock Stockpile Diversion	Decrease in Downstream Discharge		N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
Mary River Watershed: Diversion Around Ore Stockpile	Decrease in Downstream Discharge		N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
Mary River Watershed: Stockpile Effluent Discharge (Ore, Waste Rock and ROM)	Increase in Downstream Discharge	No stockpile or other effluent (Ore, Waste Rock and ROM) discharged to Mary River as per the approved Project.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
Mary River Watershed: Treated Sewage Effluent Discharge	Increase in Downstream Discharge in the Mary River	Treated sewage effluent discharged to land adjacent to Mary River beginning winter 2014 as per the approved Project.	Level 0	-	-	-	-	Within FEIS predictions	2
Mary River Watershed: Upstream Effects to Water Quantity from Open Pit Diversion, Waste Rock Stockpile Diversion, Ore Stockpile Effluent Discharge, and Sewage Effluent Discharge	Change in Downstream Discharge	A small volume of treated sewage effluent was discharged to Mary River, with negligible impacts to downstream water quantity as per the approved Project.	Level 0	-	-	-	-	Within FEIS predictions	2

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level
Project Activity	Direction and Nature of Interaction	2014 Activities	Magnitude	Extent	Duration	Frequency	Reversibility		
Mary River Watershed: Upstream Effects to Water Quantity from Open Pit Diversion, Waste Rock Stockpile Diversion, Ore Stockpile Effluent Discharge, Sewage Effluent Discharge and MR-16 Water Quantity Effects	Change in Downstream Discharge	Site development activities diversions were minimal and kept surface waters within the original watershed drainages. Minimal effects to Mary River watershed downstream water quantity as per approved Project.	Level 0	-	-	-	-	Within FEIS predictions	2

NOTE:
1. LEVEL OF CONFIDENCE: (1) LOW, (2) MEDIUM, (3) HIGH.

Table I.3 Significance Ratings for Evaluating Residual Water and Sediment Quality Effects

Criteria	Classification	
Magnitude	Negligible	Concentrations of indicator(s) predicted to be less than threshold value(s)
	Level I	Concentrations of indicator(s) predicted to be above but within an order of magnitude of threshold value(s) (1 to 10x the threshold)
	Level II	Concentrations of Indicators predicted to be exceed threshold value(s) by an order of magnitude or greater (10 to 100x the threshold)
	Level III	Concentrations of Indicators predicted to be exceed threshold value(s) by more than two orders of magnitude (greater than 100x the threshold)
Extent The physical extent of the effect, relative to study area boundaries	Level I	Confined to the LSA
	Level II	Beyond the LSA and within the RSA
	Level III	Beyond the RSA
Duration The length of time over which a Project effect will occur	Level I	Short term (effect lasts for up to 4 years)
	Level II	Medium term (up to 25 years, for the life of the Project)
	Level III	Long term (beyond the life of the Project) or permanent
Frequency How often the effect occurs	Level I	Infrequent - rarely occurring
	Level II	Intermittent - occasionally occurring
	Level III	Continuous
Reversibility The likelihood of the VEC to recover from the effect	Level I	Fully reversible after activity is complete
	Level II	Partially reversible after activity is complete
	Level III	Non-reversible after activity is complete

Table I.4 Freshwater Water and Sediment Quality 2014 Effects Assessment Summary

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level [1]
Project Activity	**Direction and Nature of Interaction**	**2014 Activities**	**Magnitude**	**Extent**	**Duration**	**Frequency**	**Reversibility**		
Aqueous Non-Point Source Emissions									
SWSQ-1 Ground preparation & earthworks	Negative Water quality (pH, TSS, metals, nutrients and hydrocarbons)	Construction phase activities as per approved Project and were within the FEIS predictions including preparation for construction of buildings, laydown areas, access roads and other site infrastructure. Improvements to the Tote Road.	Level II	Level I	Level II	Level I	Level I	Within FEIS predictions	2
SWSQ-2 Site Water Management	Negative Water quality (pH, TSS, metals, nutrients and hydrocarbons)	Erosion control measures associate with construction phase development activities as per approved Project and were within the FEIS predictions.	Level II	Level I	Level I	Level I	Level II	Within FEIS predictions	2
SWSQ-3 Laydown Areas	Negative Water quality (pH, TSS, metals, nutrients and hydrocarbons)	Construction phase development of laydown areas as per approved Project and were within the FEIS predictions.	Level II	Level I	Level I	Level I	Level I	Within FEIS predictions	1
SWSQ-4 Explosives	Negative Water quality (pH, TSS, metals, nutrients and hydrocarbons)	Explosives use in development of quarries as per approved Project and were within the FEIS predictions: - Mine Site: QMR2, D1Q1, D1Q2 - Tote Road: Q7, Q11, Q19	Level II	Level I	Level II	Level II	Level I	Within FEIS predictions	2
SWSQ-5 Quarries and Borrow Areas	Negative Water quality (pH, TSS, metals, nutrients and hydrocarbons)	Development of quarries and borrow areas as per approved Project and were within the FEIS predictions: - Mine Site: QMR2, D1Q1, D1Q2 - Tote Road: Q7, Q11, Q19, P1, KM 97, KM 98, KM ½, and KM 103/104.	Level II	Level I	Level II	Level II (increase)	Level I	Within FEIS predictions	2

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level (1)
Project Activity	Direction and Nature of Interaction	2014 Activities	Magnitude	Extent	Duration	Frequency	Reversibility		
SWSQ-6 Tunnelling and Rock Cuts	Negative Water quality (pH, TSS, metals, nutrients - ammonia, brine and hydrocarbons)	No 2014 activities.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
SWSQ-7 Camps and Fuel Management	Negative Water quality (pH, TSS, metals, nutrients and hydrocarbons)	Management of camps and fuel as per approved Project and were within the FEIS predictions.	Level I	Level I	Level I	Level II	Level II	Within FEIS predictions	2
SWSQ-8 Water Use and Management	Negative Water quality (pH, TSS, metals, nutrients and hydrocarbons)	Water use and management for construction phase activities as per approved Project and were within the FEIS predictions.	Level I	Level I	Level III	Level II	Level I	Within FEIS predictions	2
SWSQ-9 Airstrips and Airstrip Use	Negative TSS and Petroleum Hydrocarbons	Air strip upgrades, including extending the airstrip, installation of an aerodrome office, field electrical center, airfield lighting and visual aids, as well as power generation and fuel supply systems as per approved Project and were within the FEIS predictions.	Level II	Level I	Level I	Level III	Level I	Within FEIS predictions	2

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level (1)
Project Activity	**Direction and Nature of Interaction**	**2014 Activities**	**Magnitude**	**Extent**	**Duration**	**Frequency**	**Reversibility**		
Aqueous Point Source Discharges									
SWSQ-10 West Waste Rock Stormwater Discharge to Camp Lake and Tributaries	Negative Water quality (pH, TSS, metals, ammonia, nitrite)	No 2014 activities.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
SWSQ-11 Waste Rock and Ore Stormwater Discharge to Mary River	Negative Water quality (pH, TSS, metals, ammonia, nitrite)	Surface drainage management as per approved Project and were within the FEIS predictions. Environmental monitoring via SNP and CREMP.	Level I	Level I	Level II	Level II	Level II	Within FEIS predictions	3
SWSQ-12 Exploration Drilling Runoff to Mary River	Negative Water quality (pH, TSS, chlorides)	No 2014 activities.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
SWSQ-13 Pit Lake and Waste Rock Discharges to Mary River in Post-closure	Negative Water quality (pH, TSS, metals)	No 2014 activities.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
SWSQ-14 Exploration Camp WWTF Effluent Discharge to Sheardown Lake	Negative Water quality (pH, TSS, BOD, nutrients, ammonia)	Treated sewage effluent from the existing exploration camp WWTF discharged to Mary River via Sheardown Lake.	Level I	Level I	Level II	Level II	Level I	Within FEIS predictions	2

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level (1)
Project Activity	Direction and Nature of Interaction	2014 Activities	Magnitude	Extent	Duration	Frequency	Reversibility		
SWSQ-15 Mine Site WWTF Effluent Discharge to Mary River	Negative Water quality (pH, TSS, BOD, nutrients, ammonia)	Treated sewage effluent discharged to Mary River from land via the new WWTF (main Mine Site accommodation complex).	Level I	Level I	Level II	Level II	Level I	Within FEIS predictions	2

NOTES:

1. LEVEL OF CONFIDENCE: (1) LOW, (2) MEDIUM, (3) HIGH.

Table I.5 Criteria for Determination of the Magnitude of Effect of Changes in Water Quality on Arctic Char Health and Condition

Level	Descriptor	Criteria[1,2,3]
Not Assessed (Level 0)	Negligible	Water quality change within CCME PAL guidelines or other water quality thresholds
Level I	Low	Water quality change 1-10 times the CCME PAL guidelines or other water quality thresholds
Level II	Medium	Water quality change 10-100 times the CCME PAL guidelines or other water quality thresholds
Level III	High	Water quality change >100 the CCME PAL guidelines or other water quality thresholds

NOTES:

1. MAGNITUDE OF EFFECT MODIFIED BASED ON ECOLOGICAL FACTORS/SCIENTIFIC JUDGEMENT.
2. OTHER PUBLISHED WATER QUALITY GUIDELINES OR THRESHOLDS WERE APPLIED FOR PARAMETERS FOR WHICH THERE ARE NO CCME PAL WATER QUALITY GUIDELINES.
3. INCLUDES SITE-SPECIFIC WATER QUALITY OBJECTIVES FOR ALUMINUM, CHROMIUM, COPPER, AND IRON.

Table I.6 Criteria for Determination of the Magnitude of Effect of Changes in Sediment Quality on Arctic Char Health and Condition

Level	Descriptor	Criteria[1,2]
Not Assessed (Level 0)	Negligible	Sediment quality change within sediment quality guidelines (Ontario LEL and CCME ISQG)
Level I	Low	Sediment quality change greater than CCME ISQG or Ontario LEL but less than CCME PEL or Ontario SEL
Level II	Medium	Sediment quality change 1-10 times than CCME PEL or Ontario SEL
Level III	High	Sediment quality change >10 times than CCME PEL or Ontario SEL

NOTES:

1. MAGNITUDE OF EFFECT MODIFIED BASED ON ECOLOGICAL FACTORS/SCIENTIFIC JUDGEMENT.
2. OTHER PUBLISHED SEDIMENT QUALITY GUIDELINES OR THRESHOLDS WERE APPLIED FOR PARAMETERS FOR WHICH THERE ARE NO CCME PAL SEDIMENT QUALITY GUIDELINES.

Table I.7 Criteria for Determination of the Magnitude of Effect on Arctic Char Habitat

Level	Descriptor	Criteria[1]
Not Assessed (Level 0)	Negligible	Negligible: <1 % reduction in productive capacity
Level I	Low	Low: 1-10 % reduction in productive capacity
Level II	Medium	Moderate: 10-20 % reduction in productive capacity
Level III	High	>20 % reduction in productive capacity

NOTE:

1. MAGNITUDE OF EFFECT MODIFIED BASED ON ECOLOGICAL CONTEXT/SCIENTIFIC JUDGEMENT.

Table I.8 Criteria for Determination of the Magnitude of Effect on Direct Mortality of Arctic Char

Level	Descriptor	Criteria [1]
Not assessed further	Negligible	Sedimentation rate < 1 mm/year (Fudge and Bodaly, 1984)
Level III	High	Sedimentation rate > 1 mm/year (Fudge and Bodaly, 1984)

NOTE:
1. MAGNITUDE OF EFFECT MODIFIED BASED ON ECOLOGICAL FACTORS/SCIENTIFIC JUDGEMENT.

Table I.9 Freshwater Biota and Habitat Effects 2014 Assessment Summary

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level [1,2]
Project Activity	**Direction and Nature of Interaction**	**2014 Key Issue and Activities**	**Magnitude**	**Extent**	**Duration**	**Frequency**	**Reversibility**		
Milne Port									
Effects of Non-Point Sources on Water Quality	Negative Effect on Water and Sediment Quality and Arctic Char health and condition	**Arctic Char health and condition** Surface water management/drainage to Phillips Creek and Milne Inlet as per the approved Project and were within FEIS predictions (see Note 2).	Level I	Level I	Level II	Level I	Level II	Within FEIS predictions	2
Effects of Fugitive Dust on Water Quality During Construction	Negative Effect on Water and Sediment Quality and Arctic Char health and condition	**Arctic Char health and condition** Construction phase activities including construction of laydown areas, installation of buildings, power generating stations, fuel storage tanks, waste containment areas, and waste disposal land farming as per the approved Project and were within FEIS predictions (see Note 2).	Level I	Level I	Level I	Level III	Level I	Within FEIS predictions	2
All linkages	Negative effect on Productive Capacity of Arctic Char Habitat	**Effects on Arctic Char habitat** Construction phase activities as per the approved Project and were within FEIS predictions (see Note 2).	N/A	N/A	N/A	N/A	N/A	FEIS predictions: No Residual Effects	3
All linkages	Direct mortality of Arctic Char	**Effects on Arctic Char habitat** Construction phase activities as per the approved Project and were within FEIS predictions (see Note 2).	N/A	N/A	N/A	N/A	N/A	FEIS predictions: No Residual Effects	3

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level (1,2)
Project Activity	**Direction and Nature of Interaction**	**2014 Key Issue and Activities**	**Magnitude**	**Extent**	**Duration**	**Frequency**	**Reversibility**		
Tote Road									
Effects of Non-Point Sources on Water Quality	Negative Effect on Water and Sediment Quality and Arctic Char health and condition	**Arctic Char health and condition** Construction phase activities including upgrades and maintenance of Tote Road, alignment corrections, installation of culverts/bridges, maintenance of erosion control devices and quarry/borrow activities as per the approved Project and were within FEIS predictions (see Note 2).	Level I	Level I	Level II	Level I	Level II	Within FEIS predictions	2
Effects of Fugitive Dust on Water Quality During Construction	Negative Effect on Water and Sediment Quality and Arctic Char health and condition	**Arctic Char health and condition** Construction phase activities including upgrades and maintenance of Tote Road, alignment corrections, traffic associated with material haulage and quarry/borrow activities as per the approved Project and were within FEIS predictions (see Note 2).	Level I	Level I	Level I	Level III	Level I	Within FEIS predictions	2
All linkages	Negative effect on Productive Capacity of Arctic Char Habitat	**Effects on Arctic Char habitat** Construction phase activities as per the approved Project and were within FEIS prediction (see Note 2).	N/A	N/A	N/A	N/A	N/A	FEIS predictions: No Residual Effects	3
All linkages	Direct mortality of Arctic Char	**Effects on Arctic Char habitat** Construction phase activities as per the approved Project and were within FEIS predictions (see Note 2).	N/A	N/A	N/A	N/A	N/A	FEIS predictions: No Residual Effects	3

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level (1,2)
Project Activity	**Direction and Nature of Interaction**	**2014 Key Issue and Activities**	**Magnitude**	**Extent**	**Duration**	**Frequency**	**Reversibility**		
Mine Site									
Ore and Waste Rock Dust Generation and Dispersion: water quality changes	Negative Effect on Water and Sediment Quality and Arctic Char health and condition	**Arctic Char health and condition** Construction and installation of the waste rock haul road, waste rock pad, crusher pad, ore stockpile pad area and quarry development activities as per the approved Project and within FEIS predictions (see Note 2).	Level I	Level I	Level II	Level II	Level II	Within FEIS predictions	2
Ore and Waste Rock Dust Generation and Dispersion: sediment quality changes	Negative Effect on Water and Sediment Quality and Arctic Char health and condition	**Arctic Char health and condition** Construction and installation of the waste rock haul road, waste rock pad, crusher pad, ore stockpile pad area and quarry development activities as per the approved Project and were within FEIS predictions (see Note 2).	Level II	Level I	Level III	Level III	Level II	Within FEIS predictions	2
Discharge of West Waste Rock Stockpile Runoff to Camp Lake Tributary 1	Negative Effect on Water Quality (TSS, metals, nutrients, and Petroleum Hydrocarbons) in Camp Lake Tributary 1 and Camp Lake	Arctic Char health and condition West waste rock pile not constructed, there were no 2014 activities.	N/A	N/A	N/A	N/A	N/A	Effect did not occur	NA
Discharge of East Waste Rock, Ore Stockpile Runoff and Pit Water/Run of Mine Stockpile to the Mary River	Negative Effect on Water Quality (TSS, metals, nutrients, and Petroleum Hydrocarbons) in the Mary River	**Arctic Char health and condition** East waste rock pile constructed, SNP monitoring conducted as per the approved Project and were within FEIS predictions (see Note 2).	Level I	Level I	Level III	Level III	Level II	Within FEIS predictions	2

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level (1,2)
Project Activity	Direction and Nature of Interaction	2014 Key Issue and Activities	Magnitude	Extent	Duration	Frequency	Reversibility		
Exploration drilling Releases to the Mary River	Negative Effect on Water Quality (TSS, metals, nutrients and Petroleum Hydrocarbons) in the Mary River	**Arctic Char health and condition** Exploration drilling not conducted near the Mary River in 2014	N/A	N/A	N/A	N/A	N/A	Effect did not occur	N/A
Aqueous Non-Point Sources	Negative Effect on Water Quality (TSS, metals, nitrogenous compounds and Petroleum Hydrocarbons) throughout the LSA	**Arctic Char health and condition** Construction phase activities as per the approved Project and were within FEIS predictions (see Note 2).	Level I	Level I	Level II	Level I	Level II	Within FEIS predictions	2
Sedimentation of habitat	Alteration in Arctic Char spawning habitat	**Effects on Arctic Char habitat** Construction and installation of the waste rock haul road, waste rock pad, crusher pad, ore stockpile pad area and quarry development activities. Lake sedimentation monitoring program results were within FEIS predictions.	Level I	Level I	Level II	Level III	Level I	Within FEIS predictions	2
Project footprints in Arctic Char habitat	Direct loss of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities were completed as per the approved Project and were within FEIS predictions (see Note 2).	Level I	Level I	Level II	Level III	Level I	Within FEIS predictions	2
Water diversion: Camp Lake Tributary 1	Change in wetted area of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities including development of quarry QMR2 and mine site infrastructure did not appear to affect Camp Lake Tributary 1 discharge volumes and were within FEIS predictions (see Note 2).	Level I	Level I	Level III	Level III	Level II	Within FEIS predictions	2

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level (1,2)
Project Activity	Direction and Nature of Interaction	2014 Key Issue and Activities	Magnitude	Extent	Duration	Frequency	Reversibility		
Water diversion: Camp Lake Tributary 2	Change in wetted area of Arctic Char habitat	**Effects on Arctic Char habitat** Water diversion from Camp Lake Tributary 2 did not occur in 2014.	N/A	N/A	N/A	N/A	N/A	Within FEIS predictions	N/A
Effects on lower trophic level biota: Camp Lake Tributary 1	Negative effect on productive capacity of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities including development of quarry QMR2 and mine site infrastructure did not appear to affect Camp Lake Tributary 1 LTL biota and were within FEIS predictions.	Level II	Level I	Level III	Level III	Level II	Within FEIS predictions	2
Effects on lower trophic level biota: Camp Lake Tributary 2	Negative effect on productive capacity of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities including improvements to the Tote Road did not appear to affect Camp Lake Tributary 2 LTL biota and were within FEIS predictions.	Level I	Level I	Level III	Level III	Level II	Within FEIS predictions	2
Effects on lower trophic level biota: Other Camp Lake Tributaries	Negative effect on productive capacity of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities including improvements to the Tote Road and development of borrow sites on the west side of Camp Lake did not appear to affect other Camp Lake Tributary LTL biota and are within FEIS predictions.	Level I	Level I	Level II	Level III	Level II	Within FEIS predictions	2
Effects on Lower Trophic Level Biota: Camp Lake	Negative effect on productive capacity of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities were completed as per the approved Project did not appear to affect the LTL biota in Camp Lake and were within FEIS predictions.	Level II	Level I	Level III	Level III	Level II	Within FEIS predictions	2
Water diversion: Sheardown Lake Tributary 1	Change in wetted area of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities including development of mine site infrastructure did not appear to affect SDLT-1 discharge volumes and were within FEIS predictions (see Note 2).	Level I	Level I	Level III	Level III	Level II	Within FEIS predictions	2

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level (1,2)
Project Activity	**Direction and Nature of Interaction**	**2014 Key Issue and Activities**	**Magnitude**	**Extent**	**Duration**	**Frequency**	**Reversibility**		
Water diversion: Sheardown Lake Tributary 9	Change in wetted area of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities including construction of the emulsion plant did not likely affect SDLT-9 discharge volumes and are within FEIS predictions (see Note 2).	Level I	Level I	Level II	Level III	Level I	Within FEIS predictions	2
Water diversion: Sheardown Lake Tributary 12	Change in wetted area of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities including construction of the emulsion plant, operation of the landfill site and upgrades to the access roads did not likely affect SDLT-12 discharge volumes and are within FEIS predictions (see Note 2).	Level I	Level I	Level II	Level III	Level I	Within FEIS predictions	2
Effects on lower trophic level biota: Sheardown Lake Tributaries 1, 9, and 12	Negative effect on productive capacity of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities were completed as per the approved Project did not appear to affect the LTL biota in SDLT-1, SDLT-9, or SDLT-12 and were within FEIS predictions.	Level I	Level I	Level III	Level III	Level II	Within FEIS predictions	2
Effects on lower trophic level biota: Other Sheardown Lake Tributaries	Negative effect on productive capacity of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities were completed as per the approved Project did not likely affect the LTL biota in other Sheardown Lake tributaries. Effects were within FEIS predictions.	Level I	Level I	Level II	Level III	Level II	Within FEIS predictions	2
Effects on Lower Trophic Level Biota: Sheardown Lake	Negative effect on productive capacity of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities were completed as per the approved Project did not affect the LTL biota in Sheardown Lake as shown in the monitoring results and were within the FEIS predictions.	Level II	Level I	Level III	Level III	Level II	Within FEIS predictions	2

Potential Impacts			Evaluation Criteria					Conclusions	Confidence Level (1,2)
Project Activity	Direction and Nature of Interaction	2014 Key Issue and Activities	Magnitude	Extent	Duration	Frequency	Reversibility		
Effects on Lower Trophic Level Biota: Mary River	Negative effect on productive capacity of Arctic Char habitat	**Effects on Arctic Char habitat** Construction phase activities were completed as per the approved Project did not affect the LTL biota in Mary River as shown in the monitoring results, and were within the FEIS predictions.	Level I	Level I	Level III	Level III	Level II	Within FEIS predictions	2
All linkages	Direct mortality of Arctic Char	**Effects on Arctic Char mortality** Construction phase activities were completed as per the approved Project and were within FEIS predictions (see Note 2).	N/A	N/A	N/A	N/A	N/A	FEIS predictions: No Residual Effects	3

NOTES:

1. LEVEL OF CONFIDENCE: (1) LOW, (2) MEDIUM, (3) HIGH.
2. THE 2014 ARCTIC CHAR MONITORING PROGRAM COLLECTED ADDITIONAL BASELINE DATA, AND DOES NOT SUPPORT THE ASSESSMENT OF PROJECT-RELATED EFFECTS. THE 2014 CONSTRUCTION PHASE ACTIVITIES HAVE OCCURRED AS PLANNED AND ARE WITHIN THE FEIS PREDICTIONS. CONFIDENCE LEVELS OF THE ABOVE EVALUATIONS HAVE BEEN ADJUSTED ACCORDINGLY TO REFLECT THE UNDERSTANDING OF POTENTIAL EFFECTS FROM CONSTRUCTION PHASE ACTIVITIES, AND THE BASELINE KNOWLEDGE OF ARCTIC CHAR HEALTH, CONDITION AND HABITAT WITHIN THE LSA.